ZyXEL

Success Story

Majestic Grande Hotel Bangkok Deploys ZyXEL Hospitality Solution

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ZyXEL's Wireless LAN Controllers and Managed Switches provide simple network system management that effectively improve overall stability and allow quick tracing of problem causes with the centralized management system.

Overview

Customer Name
Majestic Grande Hotel, Thailand

Customer Industry
Hospitality

Challenges
• Service quality
• Wi-Fi access
• Network security
• Centralized management

Solution
• ZyXEL Hospitality Wireless and Wired Solutions: XGS-4526, GS2200-24/24P, NXC5200, NWA5160N

Benefits
• Hotel's image is improved by the stable, accessible Internet service
• Protecting customers from malicious attacks, restricting unwanted applications
• Bandwidth can be distributed efficiently according to customer needs to prevent bandwidth abuse

Challenges

The old wired/wireless LAN networks of the Majestic Grande Hotel are of HomePNA (HPNA) that provides accessibility through phone lines. The access points in the wireless network are lacking supervision, management and maintenance to cause difficulty identifying the devices. Guests sometimes need to change rooms because they could not access Internet; this results in customer complaint and dissatisfaction. Another challenge is that the Majestic Grande Hotel does not have enough IT staff to maintain the system while a centralized management mechanism is required as well. As price and performance are prerequisites, availability of after-sales service is also important should any problem happen. The hotel also has to consider the flexibility of supported devices for future installation of additional equipment to stay in parallel with business growth.

Background

The Majestic Grande Hotel is a 26-storey, 4-star hotel located in the Ploenchit area—heart of the City of Bangkok. The hotel provides 251 rooms for guests mostly from Europe and other Asian countries. The hotel has a restaurant, a conference room as well as business and leisure facilities to serve guest needs.

The old hotel LAN serving customers was a HomePNA (HPNA) that could be accessed through phone lines in the rooms, and it connected to the HPNA Modem to transform telephone signals to provide the in-room Internet service. For wireless services, it required another HPNA. The access points used were from a variety of brands to deliver wireless Internet access without supervision, management or maintenance. Therefore, maintenance was extremely difficult since any failed device could not be identified easily and that caused guest complaint. In the past, the problem happened every day; guests sometimes would have to change rooms because Internet was not available in the ones they just checked in. As a result, the hotel realized that a decent management system for their wired and wireless networks is essential to prevent, diagnose and resolve problems quickly.

However, a centralized management is required since the hotel did not have enough staff to maintain the entire system. Additionally, the hotel must consider the price, performance as well as after-sales service for guaranteed availability; and the hotel also had to consider the flexibility of the supported devices for future installation of additional equipment to grow with the business.

Solutions

The selected equipment for providing Internet access was divided into two main solutions—Wired LAN and Wireless LAN. Designed for providing Internet services to guests' portable computers (notebooks), the wired LAN solution connects the LAN cables to the LAN ports in the rooms; the devices consist of a total of 12 units of GS2200-24 24-port GbE L2 Managed Switch installed on the 42U racks located at the 10th and the 20th floors. The units distribute the wired LAN signal to the rooms with a total of 256 ports. The 12 units of GS2200-24 connected to the Core Switch XGS-4526 in one switch to one port setup to prevent the bandwidth bottleneck, which is likely to occur if a single uplink connection setup were used.

The wireless LAN solution consists of an NXC5200 Wireless LAN Controller serving as a control device for Internet applications via the Wireless LAN, and it controls Access Points by permission checking (Authentication) performed on an external database stored in a server called ZyRADIUS, a ZyXEL self-developed software, to manage the users and their Internet connection time. The ZyRADIUS is connected to the XGS-4526 24-port GbE L3 Switch with 10 GbE Uplink serving as the Core Switch and then connect to GS2200-24P 24-port GbE L2 Managed PoE Switch in 1-to-1 setup as the wired LAN. The NWA5160N Wireless Access Point supports power supply via the LAN cable (PoE) along with data transmission at the same time, and then connects to the PoE Switch GS2200-24P powering the Access Points.

Benefits

The major benefit of the completely deployed wireless and wired solutions is that the image of the hotel has been improved as Wi-Fi hotspots are provided, especially in areas where the Internet services are highly needed, such as the restaurant and the leisure zone. The ZyXEL Wireless Controller provides new features including Firewall, Anti-Virus and IDP to protect the entire wireless network from attacks and irregularities, while it also restricts the usage of unwanted applications like BitTorrent downloads since they may cause insufficient bandwidth for all customers. Another important function is Bandwidth Management —it allocates bandwidth or Internet connection speeds for individual users and effectively reduces the problem of insufficient bandwidth.

Product Used

XGS-4526
24-port GbE L3 Switch with 10 GbE Uplink

- IPv4/IPv6 routing
- L3 advanced routing protocols, OSPF, DVMRP, VRRP and ECMP
- Optional modular 10 Gigabit Ethernet support
- Multilayer-aware (L2/L3/L4) ACL for security protection and traffic optimization
- Guest VLAN
- IGMP Snooping v1, v2, v3, MVR
- sFlow, CPU protection
- RSTP, MSTP, MRSTP, VRRP

GS2200-24/24P
24-port GbE L2 Switch

- Comprehensive L2 switching features
- 56 Gbps non-blocking switch fabric
- 4 dual-personality (RJ-45/SFP) GbE interfaces
- Port security and enhanced 802.1X port authentication
- MAC freeze and intrusion lock
- 8 IEEE 802.1p hardware priority queues
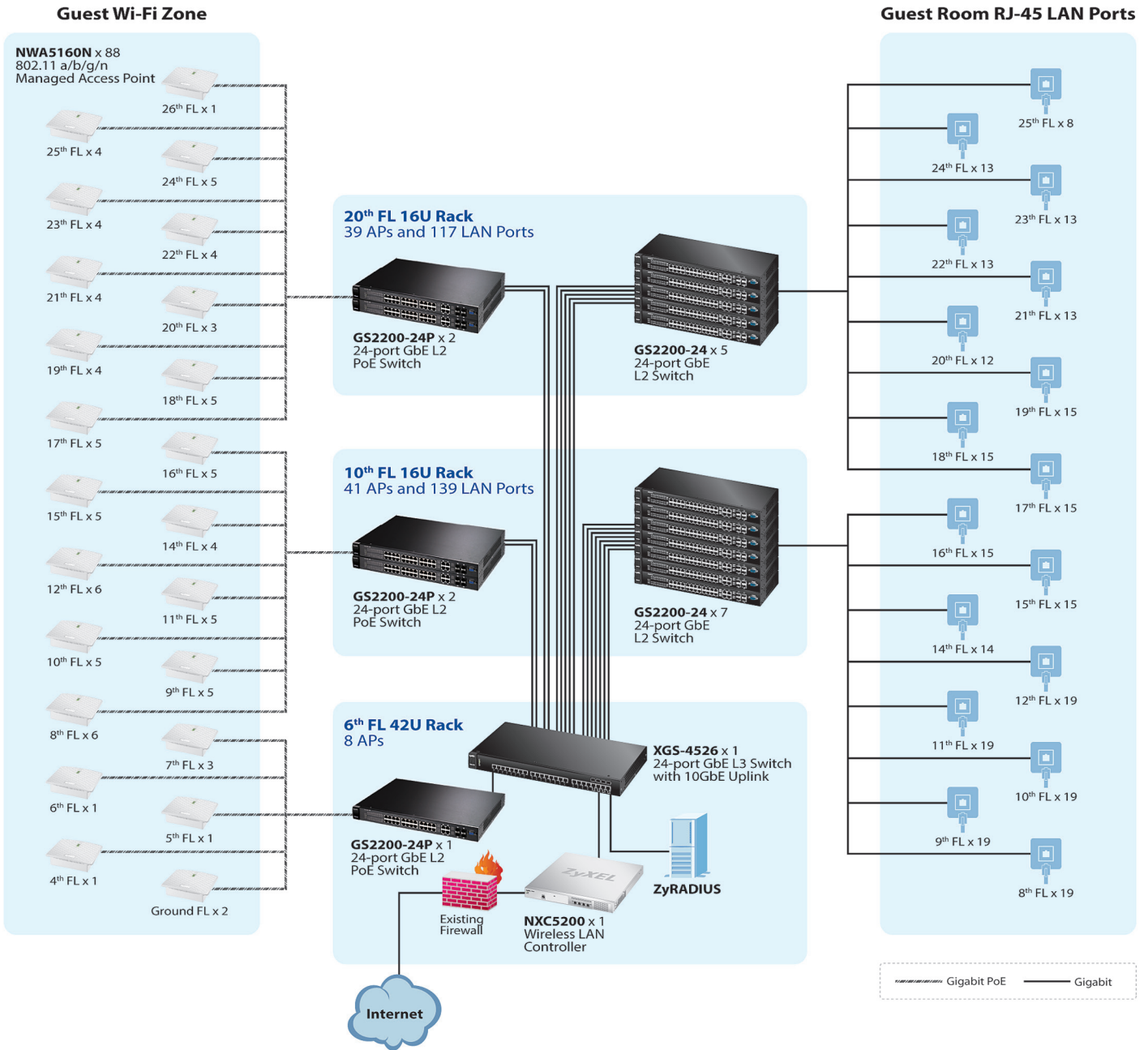- WFQ, WRR and SPQ

NXC5200
Wireless LAN Controller

- 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

NWA5160N
802.11 a/b/g/n Managed Access Point

- Advanced IEEE 802.11 a/b/g/n technology
- Centralized management and high scalability
- Advanced RF management for optimized Wi-Fi performance
- Enterprise-grade security for the wireless network edge
- Flexible traffic forwarding with tunnel and distributed modes

Diagram

Guest Wi-Fi Zone

Guest Room RJ-45 LAN Ports

NWA5160N x 88
802.11 a/b/g/n
Managed Access Point

26th FL x 1
25th FL x 4
24th FL x 5
23rd FL x 4
22nd FL x 4
21st FL x 4
20th FL x 3
19th FL x 4
18th FL x 5
17th FL x 5
16th FL x 5
15th FL x 5
14th FL x 4
12th FL x 6
11th FL x 5
10th FL x 5
9th FL x 5
8th FL x 6
7th FL x 3
6th FL x 1
5th FL x 1
4th FL x 1
Ground FL x 2

20th FL 16U Rack
39 APs and 117 LAN Ports

GS2200-24P x 2
24-port GbE L2
PoE Switch

GS2200-24 x 5
24-port GbE
L2 Switch

10th FL 16U Rack
41 APs and 139 LAN Ports

GS2200-24P x 2
24-port GbE L2
PoE Switch

GS2200-24 x 7
24-port GbE
L2 Switch

6th FL 42U Rack
8 APs

XGS-4526 x 1
24-port GbE L3 Switch
with 10GbE Uplink

GS2200-24P x 1
24-port GbE L2
PoE Switch

Existing
Firewall

NXC5200 x 1
Wireless LAN
Controller

ZyRADIUS

Internet

25th FL x 8
24th FL x 13
23rd FL x 13
22nd FL x 13
21st FL x 13
20th FL x 12
19th FL x 15
18th FL x 15
17th FL x 15
16th FL x 15
15th FL x 15
14th FL x 14
12th FL x 19
11th FL x 19
10th FL x 19
9th FL x 19
8th FL x 19

Gigabit PoE   Gigabit

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 undergone many transformations in the fast-paced networking industry. Today, ZyXEL is one of the few companies in the world capable of offering complete networking solutions of Telco, SME/Enterprise, and Digital Home for a wide range of deployment scenarios. Telco solutions include wired and wireless access network equipments, networking customer premises equipments, and Carrier Switches. SME and Enterprise solutions include Unified Security Gateway, LAN Switches, WLAN, and IP telephony. Digital Home solutions include network connectivity devices and multimedia solutions.

The company has 3200 employees and distributors in 70 countries, reaching more than 150 regional markets. The ZyXEL Communications Corp. includes 33 subsidiaries and sales offices and two research and development centers worldwide. For more information, visit the company's Website, http://www.zyxel.com.