

## Delivering a Safe, Mobile Learning Environment beyond Classrooms



Solution Guide

**Education**





## Table of Contents

Overview	4
Solutions	6
Basic Connectivity in Common Areas	6
Mobility and Bandwidth	8
Behavior Protection	10
Guest Internet Access	12
Scenarios	14
Scenario I: Schools with under 250 users	14
Scenario II: Schools with up to 250 users	15
Scenario III: Schools with up to 500 users	16
Scenario IV: Schools with up to 1000 users	17
Scenario V: Schools with over 1000 users	18
Products at a Glance	19

## Overview

The pervasive use of laptop computers and mobile devices in academic institutions has created a unique opportunity to dramatically improve the quality of teaching and learning. The integration of new interactive tools such as blogs, YouTube and other useful sites has created new teaching paradigms that expand the learning opportunities to all students.

In order to enhance teaching and learning quality, schools and universities need to provide better services and equipment to students, teachers, researchers and the administrative staff. In practice, one of the ways to make an educational environment competitive is to incorporate complete Internet connectivity into the campus; then the demand for unlimited learning resources can be satisfied through both wired and wireless deployments for every laptop, tablet or smartphone to easily access the resources wherever they are.

Although Internet learning brings considerable opportunities, there is still undesirable Web content such as pornography, gambling, drugs, cyber-bullying and other offensive material that can be easily accessed by students, exposing them to inappropriate and harmful content on a daily basis. Schools must not only control access but also protect students from these threats.

To address the demand, ZyXEL's Education Solution offers a comprehensive product portfolio featuring wired networks with Gigabit backbone and Power over Ethernet (PoE) switching, along with wireless connectivity utilizing the latest 802.11 a/b/g/n system. The solution has been designed to provide an infrastructure for Internet connectivity with a security appliance for better management and protection. All these benefits will enable a better learning environment for the students.

# Solution Benefits

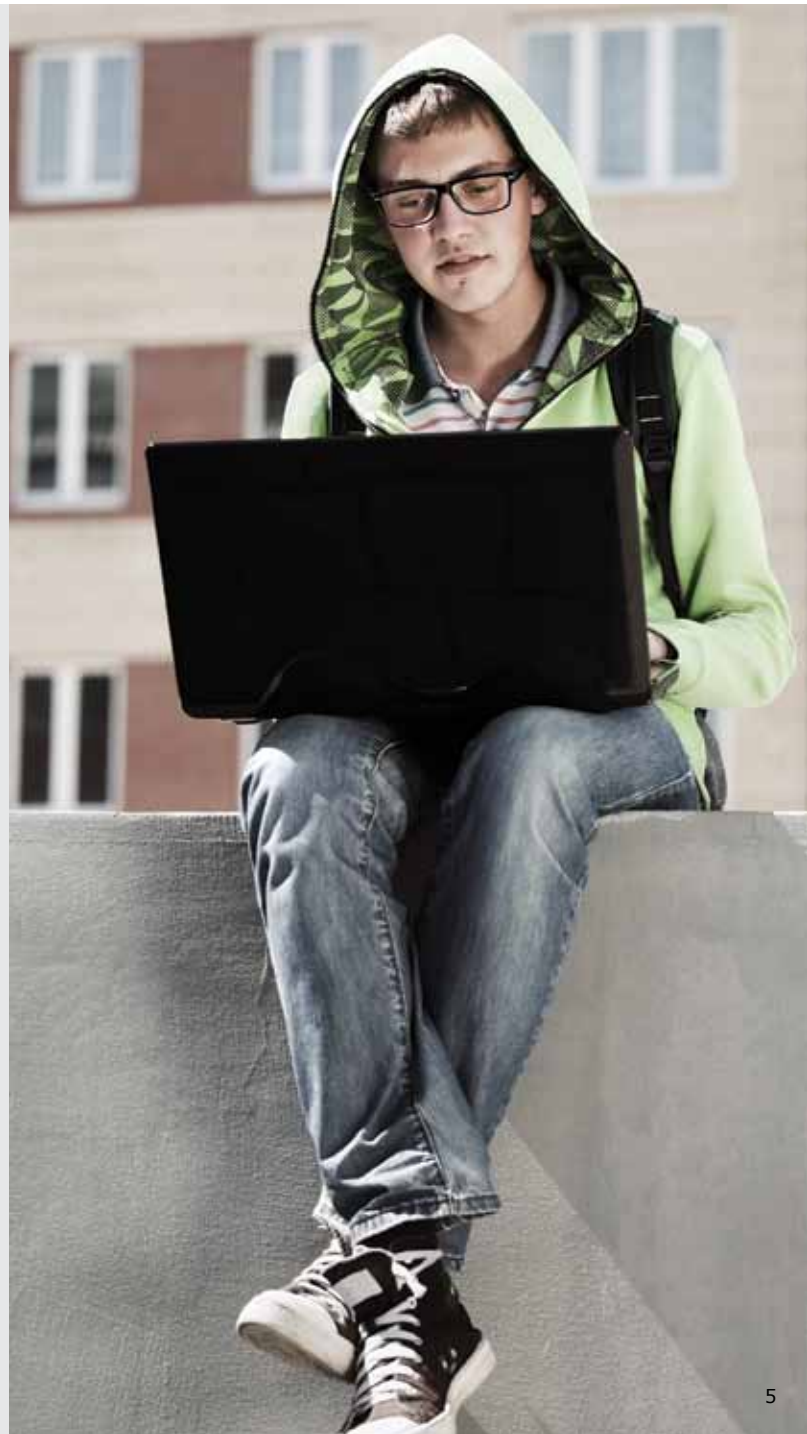
ZyXEL's Solution for Educational Institutions is a complete product portfolio from a single vendor to build and maintain convenient, efficient academic network infrastructures. The Solution offers not only easy-to-use WLANs that leverage the existing infrastructure to provide superior scalability and investment protection, but also Ethernet switches with outstanding performance, availability and resilience to ensure that the network resources are always available to minimize network downtime. In addition, the robust network security features such as behavior control and malware protection also guarantee regulation compliance and secure learning environments for all users.

## Benefits for Customers

- Building a flexible learning environment with improved teaching quality for students and teachers to access the Internet from anywhere within the campus
- Delivering a reliable, secure and fast network that enables schools to focus on educating students
- Protecting student from inappropriate Web content such as pornography, cyber-bullying, gambling and drugs
- Improving school competitiveness for students to maintain desirable grades taking advantage of the unlimited learning resources
- Enriching the education experience by incorporating innovative, proven technology into affordable customized solutions that are easy to use and manage

## Benefits for Education Resellers

- Taking advantage of education markets with high growth potential
- Upselling opportunities thanks to the increasing demand for connectivity and security
- ZyXEL provides complete educational solutions and product portfolios
- Comprehensive training and marketing support from ZyXEL local support and consultancy direct from the manufacturer.
- Comprehensive warranty



# Basic Connectivity in Common Areas

In order to provide access to critical information and network-based applications, key campus buildings such as common areas, classrooms, and libraries require more network connections for the increased “Bring your own device” trend amongst pupils and members of staff. Another challenge on campus is the constant addition of classrooms and university buildings that require network access.

## Solution

The basic solution for educational institutions is to adopt Local Area Networking (LAN) using Ethernet switches or Wireless LAN (WLAN) solutions as their network infrastructure depending on their budget and physical environment. For instance, wireless would be much more suitable to deploy within older buildings and temporary classrooms due to the issues involved in hard wiring cables such as cost, time and access availability.

Wireless connectivity is a major choice in new or extended network deployments. The NWA1121-NI is ZyXEL's 11n-generation of SNMP-managed Business WLAN Access Point (AP) with data rates of up to 300 Mbps. The PoE support (802.3af) makes NWA1121-NI an ideal solution for various wireless applications and deployments, while different operating modes allow this model to provide the highest flexibility in different WLAN service structure configurations. The NWA1120-NI is also optimized with TX Beamforming and MLD to further extend the coverage.

Experience with always-on, easy-to-use connectivity is a good way to give students more learning satisfaction. ZyXEL provides an adaptive wired and wireless solution that not only easily integrates with the existing architectures, but also scales nicely to meet the network demands of educational institutions.



## Performance-related Solution's Features

- Connectivity in key areas: public areas, classrooms and libraries
- WLAN standards: 802.11 b/g at 54 Mbps or 802.11n at 300 Mbps
- Standard-based PoE, IEEE 802.3af compliant
- SNMP management and WiFi-certified security
- Meets growing student demand for campus IT facilities with faster data speed
- Unobtrusive smoke detector style AP

## Application Benefits

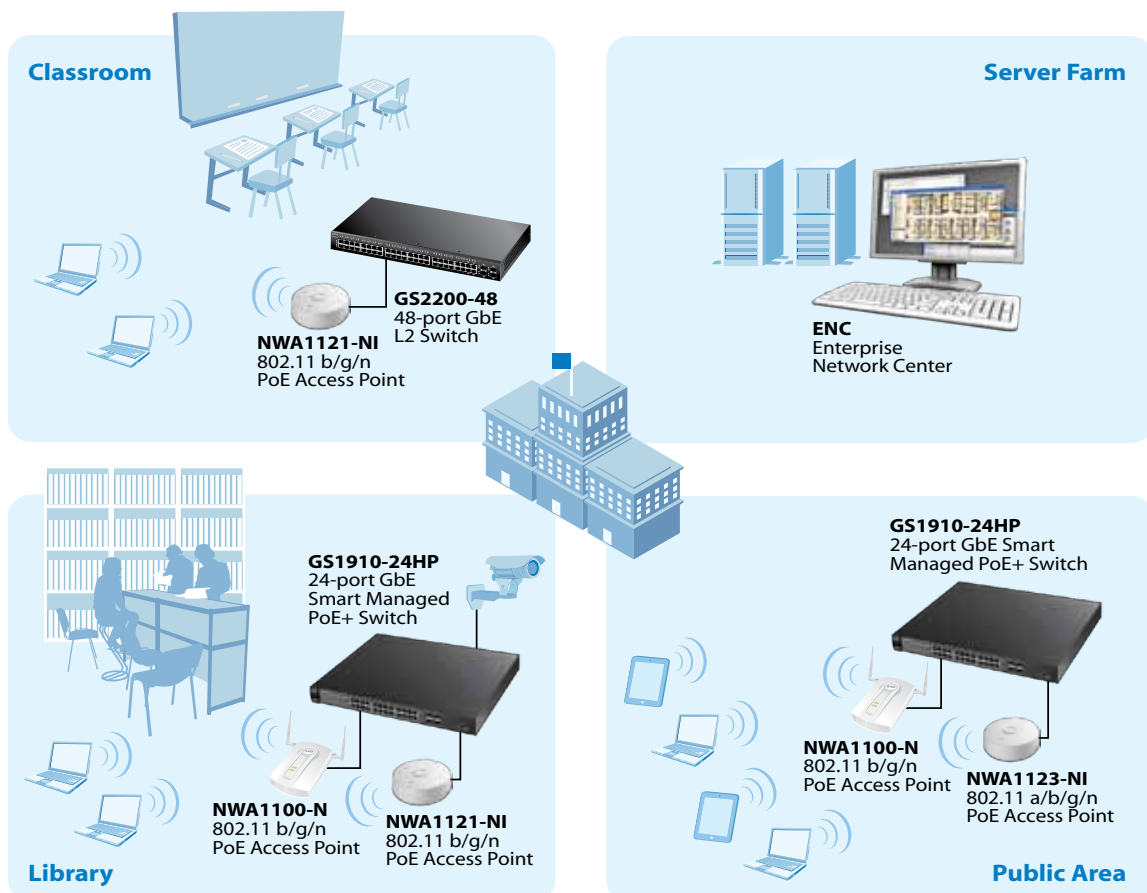
- Provides a flexible learning environment in and outside classrooms
- Freedom of Installation with Power over Ethernet technology
- Enriches education experience by incorporating efficient, proven wired and wireless solutions user data

### ■ PoE Technology

ZyXEL's PoE Switch supports the IEEE 802.3af PoE technology to ease challenging deployment scenarios such as ceiling or wallmount installations. It works with devices such as WLAN APs, VoIP phones and IP surveillance cameras that can be powered by Ethernet connectivity over CAT-5 cables of less than 100 meters in length; so there is no need for extra power adapters, powering the devices installed in the ceiling is no longer a headache. This feature helps schools to reduce installation time and cost when many new devices are needed.

### ■ SNMP Management and Wi-Fi-certified Security

With the Web-based configuration utility, hundreds of APs can be configured with the optional ZyXEL Enterprise Network Center (ENC) software. The NWA1100 Series APs are Wi-Fi-certified for highest-class security and IEEE interoperability to work as an ideal choice to establish an easy-to-use wireless network in schools.



## Mobility and Bandwidth

Geographical barriers on campus often limit students' access to learning resources from a wide range of communication devices. The school has to consider how to provide adequate bandwidth and flawless WLAN to fulfill needs whilst a vast number of pupils and staff members on their smartphones or tablets move around the campus.

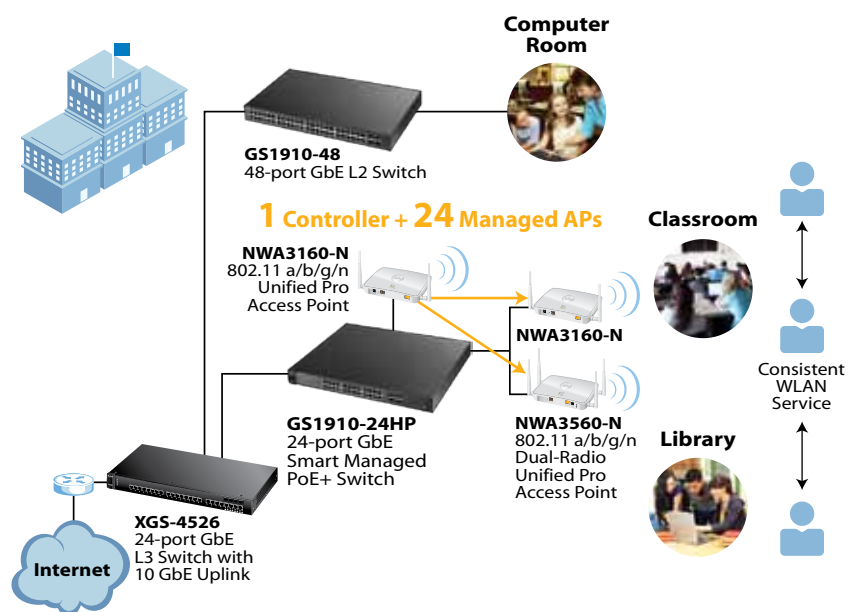
### Solution

ZyXEL's Wireless Solutions for educational institutions provide ubiquitous network access that allows students to freely walk around the campus while accessing rich multimedia educational resources such as databases or teaching materials, emails, online group meetings and academic research results where the Wi-Fi service is available.

In order to ensure flawless WLAN connectivity, site survey is critical to decide the location and quantity of APs to install. ZyXEL's Wireless LAN Solutions are incorporated within the Ekahau's "Site Survey" tool that integrates with ZyXEL's AP selections to facilitate site surveys. According to the scale of deployment, ZyXEL provides NWA3000-N APs for small- and medium-scale environments, or NXC5200 WLAN Controllers and NWA5000-N APs for medium- to large-scale environments.

### ■ ZyXEL NWA3000-N Series AP

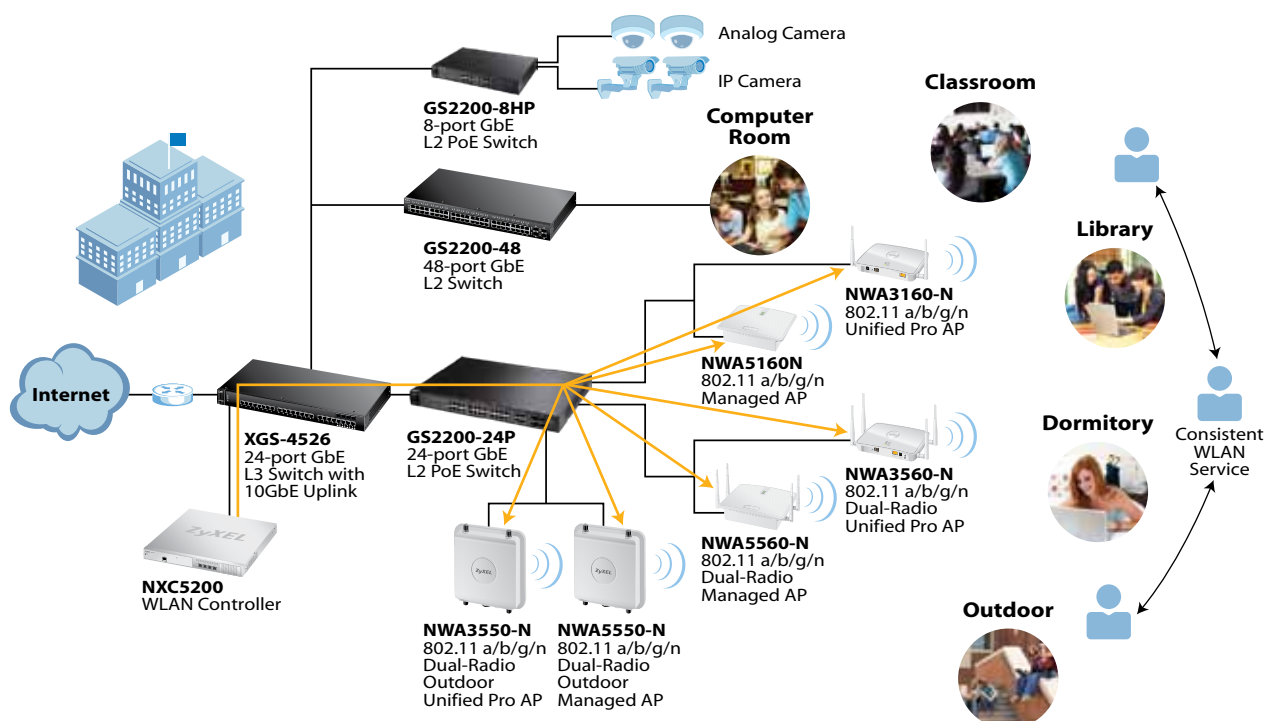
Featuring a special 3-in-1 design, ZyXEL's NWA3000-N Unified Pro Series APs provide ultra-high versatility and investment protection. They can function as standalone APs, managed APs, or controllers to adapt to different deployment needs. Educational institutions can use them as standalone APs in small deployments, or use one AP in controller mode to manage up to 24 other APs in medium-sized deployments. In large campus deployments, ZyXEL's NWA3000-N Unified Pro Series APs can work with the ZyXEL NXC5200 WLAN Controller to provide high scalability of up to 240 APs. This highly versatile solution offers a centralized and user-friendly management platform to help IT administrators monitor and manage the wireless network in real-time. All communications among the APs in the WLAN are performed in a secured tunnel. Since no configuration data is stored on the managed AP, sensitive setup information will not be exposed even if the AP is stolen.



## ■ ZyXEL's NXC5200 WLAN Controller and NWA5000-N Series AP

The NXC5200 WLAN Controller and NWA5000-N Managed AP Series consist of three models: the dual-band NWA5160N, dual-radio NWA5560-N and dual-radio outdoor NWA5550-N. The solution is designed to deliver high-performance 11n Wireless services for seamless mobility and security in medium- to large-scale campuses and distributed environments. The NXC5200 integrates ZyXEL's industry-leading ZyWALL Firewall features, such as Stateful Packet

Inspection, to monitor data coming from mobile wireless users while the NWA5000-N Series APs work in conjunction with NXC5200 to deliver optimized performance and secure network services among remote sites. In addition, the NXC5200 is fully compliant with the Control and Provisioning of Wireless Access Points (CAPWAP) standard, which contributes to the quick completion of massive WLAN deployments with minimized changes to the existing networks.



### Performance-related Solution's Features

- 802.11n WLAN portfolio covers indoor single- and dual-radio APs as well as outdoor appliances of data rates up to 300 Mbps
- Incorporated within the Ekahau site survey tool for better deployment planning
- NXC5200 controller and NWA5000-N Series APs
  - Centralized management for up to 240 WLAN APs
  - MAC authentication and filtering
  - CAPWAP standard compliance for minimum efforts on adapting the existing network
  - Built-in Firewall/wireless intrusion detection, prevention and Anti-Virus
- Plenum Rating for eco-friendliness

### Application Benefits

- Enjoy the high-bandwidth 11n technology for up-to-date cloud applications
- Alliance with Ekahau to provide complete deployment piece of mind
- Allows students to use the school's IT facilities on their mobile devices with faster data connections
- Reduced redundant configurations, simplified management
- Stored MAC addresses allow the staff and students to access the Wi-Fi network without log-in authentication



# Behavior Protection

Securing a network backbone can be a real challenge, especially when confidential information is stored in central school databases (e.g. student profiles); students accessing inappropriate Web sites such as pornography and gambling could make the evolving virus and malware threats even worse.

### Solution

The foundation for a secure school networks is making sure that all of the school resource are only accessible by authorized users; LAN or WLAN users accessing the network should be identified and authorized with specific access privileges through Ethernet switches or wireless devices to ensure the network's protection. ZyXEL Switches and WLAN APs can work with RADIUS servers to enforce authorized access.

Content filtering and application patrol are essential to ensure the quality of the learning environment and to protect students from inappropriate materials. The IT staff can control the access to unauthorized Web sites, instant messaging, peer-to-peer content sharing, file downloading and other potentially harmful applications or offensive content. To improve network efficiency, IT administrators can configure scheduling access control list (ACL) to control Internet access during working hours and set speed limits with bandwidth management outside working hours. In addition, spam protection is also an essential component of a school's network security strategy; the ZyWALL USG Series embodies Stateful Packet Inspection (SPI) Firewall, Anti-Virus (AV), Intrusion Detection and Prevention (IDP), Content Filtering, Anti-Spam and VPN (IPSec/SSL/L2TP) features to provide real-time inspection and multi-layer network protection to prevent the network from those threats.

## ■ Content Filter

Powered by Blue Coat and Commtouch, the leading industrial solution provider, the ZyWALL USG Content Filter can reduce costs and extend protection with a comprehensive, integrated database of millions of URLs, IP addresses and domains. The ZyWALL USG Content Filter database contains over 6 billions ratings per day from over 70 million users, covering more than 50 languages that are organized into 79 useful categories.



## ■ Application Patrol

More and more network applications may bring malicious software into schools. This unwanted software, especially IM/P2P applications, may cause bandwidth waste or even system damage. With the ZyWALL application patrol and bandwidth management features, IT administrators have full control over traffic blocking and rate limit settings. Over 35 IM and P2P applications are controlled to restrict student's access within the predefined time frame.

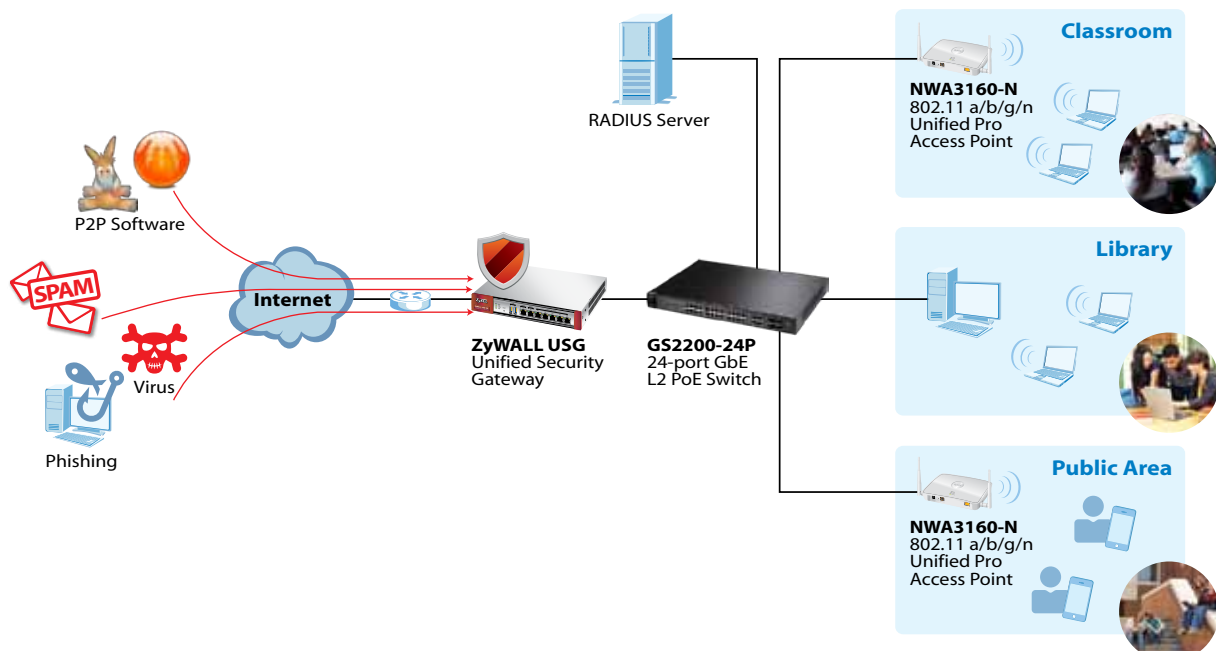
Application Patrol List	
Type	Application
IM	eBuddy, iLoveIM, Meebo, Web-MSN, Web ICQ, Web Yahoo, QQ, Skype, Windows Live Messenger, AOL-ICQ, Google Talk, PoPo, Rediff, WangWang and Yahoo Messenger
P2P	Ares, uTorrent, BitComet, Clubbox, eDonkey, ezpeer, Foxy, iMesh, Kazaa, Limewire, POCO2007, QQDownload, Soulseek, Vagaa, TeamViewer, Vuze, UltraSurf, Tor, Jondo, Hotspot, Logmein, eMule and Thunder
Social Networking and Others	Blogger, Bloglines, Bubbo, Facebook, Flickr, MySpace, Plurk, Twitter and Wretch

## ■ Performance-related Solution's Features

- Application patrol to perform granular access control over applications, IM/P2P, stream-based media and VoIP
- Content filtering for mashup Web portals that block panels and dynamic contents per policy settings
- Internet access control with scheduling ACL
- Anti-Spam feature that blocks all the associated spam messages in real time

## ■ Application Benefits

- Malware protection — enabling real-time protection from emerging Web threats including malware and phishing.
- Reducing waste of system resources
- Bandwidth regulation — identifying sites that consume a significant amount of bandwidth (e.g. movies or music sites)
- Secure regulatory compliance with products and services that enhance confidentiality of sensitive information and avoid distribution of illegal movies or music.





# Guest Internet Access

It is not always possible for schools to provide guests with an adequate connection which will allow them to have Internet access anywhere on campus without compromising the network's security. To overcome this issue, the IT department can give guests Internet connectivity with authentication without giving privileged access to private LAN resources.

## Solution

A good guest network should not only provide reliable high-performance access to the Internet without requiring complicated configuration setting, but also separate access privileges according to different user levels. ZyXEL's guest access solution ensures optimum performance while protecting the academic network resource from unauthorized access.

ZyXEL's guest access solution consists of two key components — the NXC5200 Central WLAN Controller and NWA5000-N Series APs. The ZyXEL NXC5200 controller has sophisticated features such as guest account generator and Web authentication to offer a solid guest network solution. The guest account generator allows dynamic user accounts to be created as soon as the guest checks into the front desk for minimized IT management efforts, while the Web authentication function provides an easy way to identify guest users. The NXC5200 also works with the embedded firewall policies to segregate guest traffic from the internal network to maintain a clean, safe wireless infrastructure.

With the innovative integration between ZyXEL's NXC5200 and Switches, the guest authentication and access privilege setting functions are done seamlessly whether the connection is via a wireless AP or wired ports. All temporary guest connections can also be monitored and managed via the NXC5200 Web user interface to save tracking and administrative efforts for IT managers. The ZyXEL NXC5200 and NWA5000-N APs is an ideal and safe choice for school Wi-Fi deployments.



## Performance-related Solution's Features

- Dynamic guest account generator
- Unified guess access authentication via both wireless or wired connections
- Customized captive portal
- Separation of guest traffics
- Web-based guest user monitoring and management

## Application Benefits

- Providing easy steps to setup and create guest accounts and to keep identification information
- Regulating guest traffic through the internal network
- Simplifying guest access with unified wired and wireless security
- Auditing and monitoring guest usage and activities, including login and logout times

### ■ Captive Portal

A captive portal intercepts all network traffic regardless of address or port until the user authenticates their connection through a specifically designated Web login page. As an additional security measure, the NXC5200 also offers a captive portal functionality. Requests can be redirected to a special Web page requesting guests to authenticate their session first; once the authentication is successful, the guest can then connect to the rest of the network or Internet. Content in the captive portal may be customized with company logos, backgrounds, user policies or other information. The captive portal provides guests with controlled access to the network while keeping the network secure.

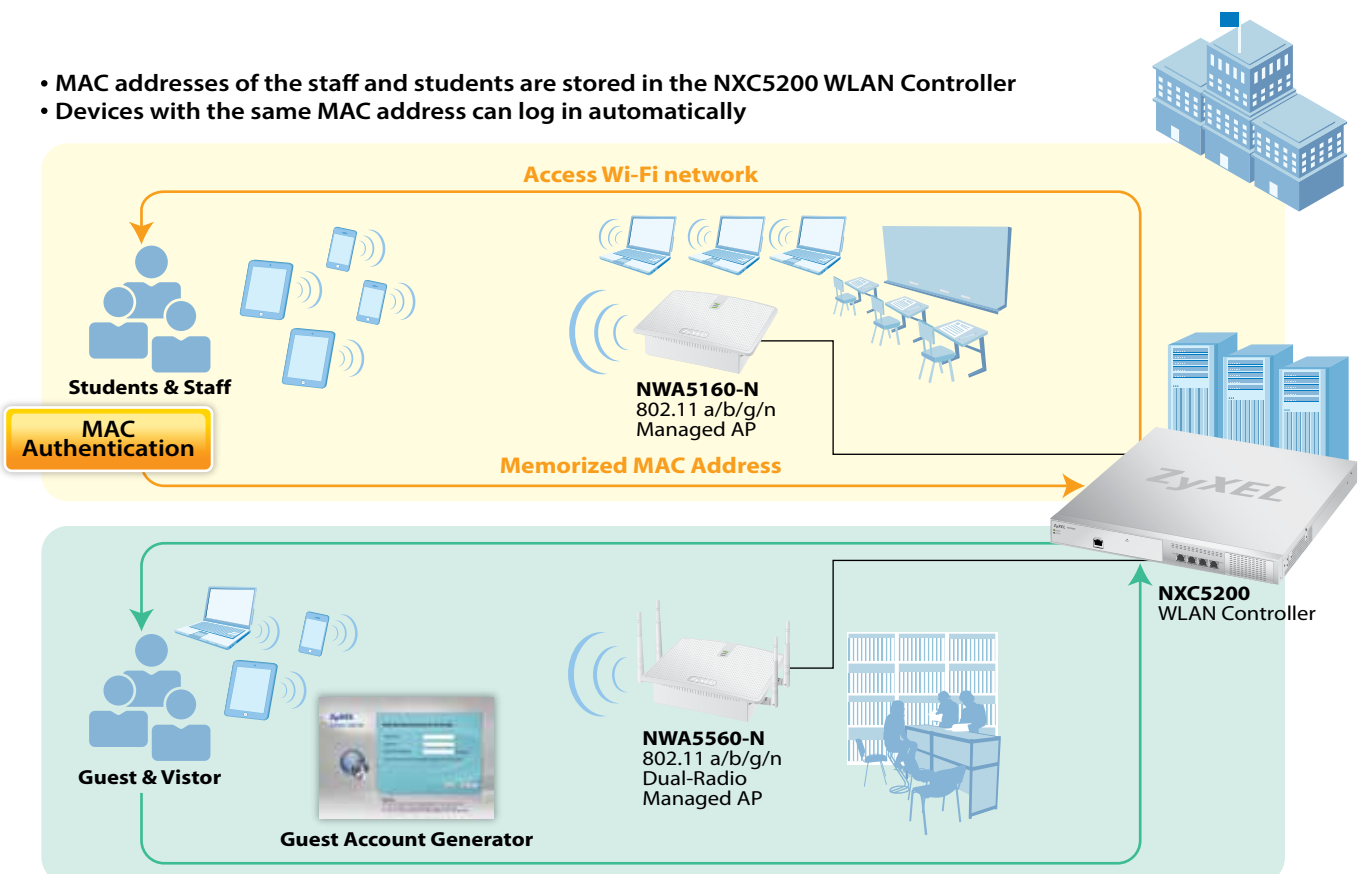
### ■ Separated Guest Traffic

Guest traffic can be separated from all school traffic according to different kinds of VLAN usage on the NXC5200 Controller. NXC5200 provides guests a dedicated VLAN to protect the internal network from unauthorized access.

### ■ Monitored Guest Usage

In order to perform granular control over the campus network, schools need to track the guest activities — when do they arrive, when do they leave and their physical locations of network access. This feature can improve the visibility of guest usage and decrease the risk of network abuse.

- MAC addresses of the staff and students are stored in the NXC5200 WLAN Controller
- Devices with the same MAC address can log in automatically



- Dynamic Guest Account Generator provides guest log-in information
- Guests can connect to the Internet via a pop-up Web authentication window



# Scenario I



Scalability

Under  
250 users



Application areas

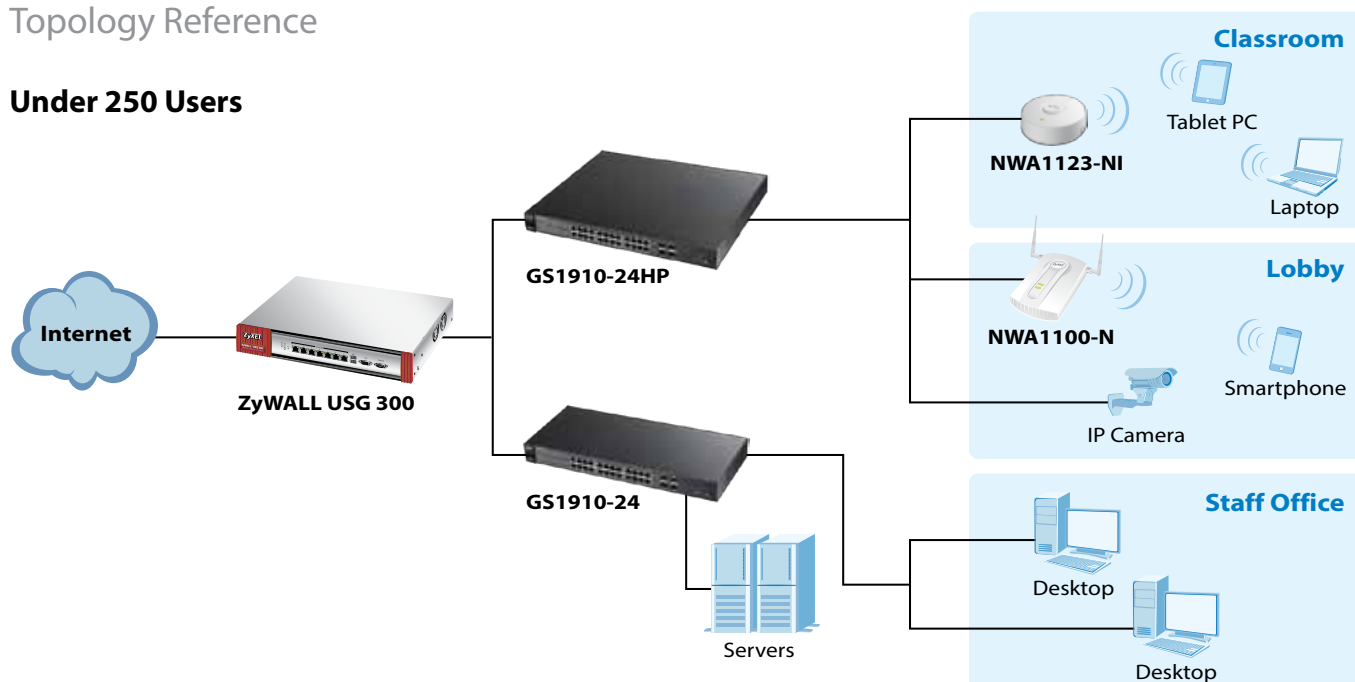
- Kindergartens
- Tutoring/studying centers
- Libraries
- Language schools

Suggested product portfolios:



## Topology Reference

### Under 250 Users



# Scenario II



Scalability

Up to  
250 users



Application areas

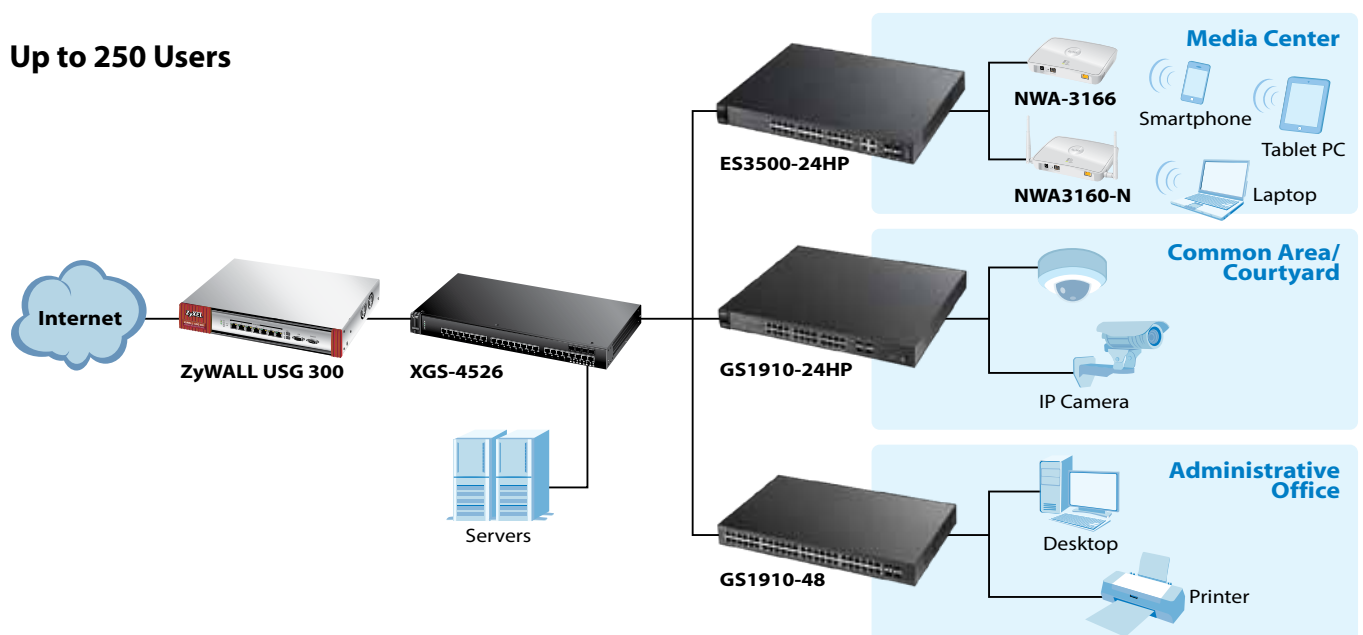
- Primary schools
- Elementary schools

Suggested product portfolios:



## Topology Reference

### Up to 250 Users





## Scenario III



Scalability

Up to  
500 users



Application areas

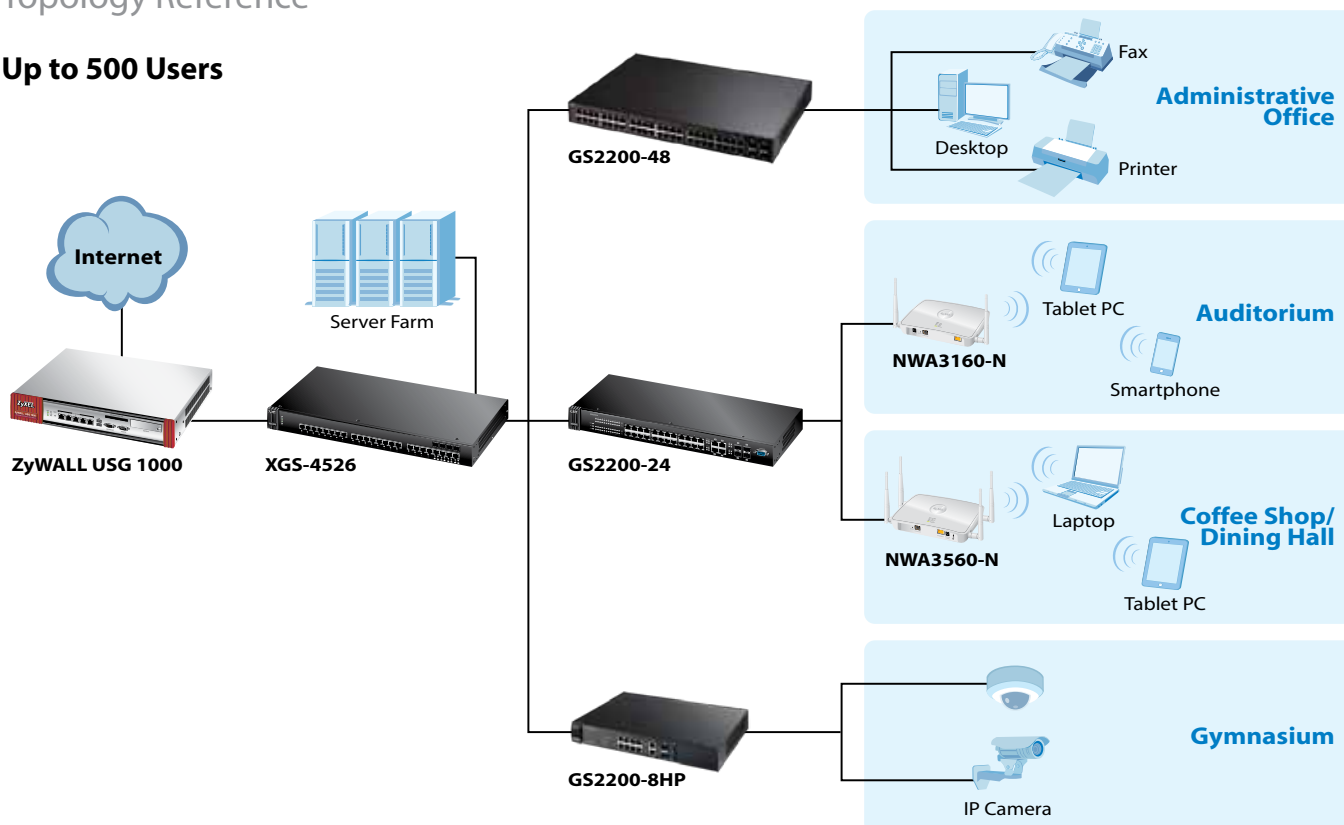
- Secondary schools
- Language schools
- Sports colleges

Suggested product portfolios:



## Topology Reference

Up to 500 Users



# Scenario IV



Scalability

Up to  
1000 users



Application areas

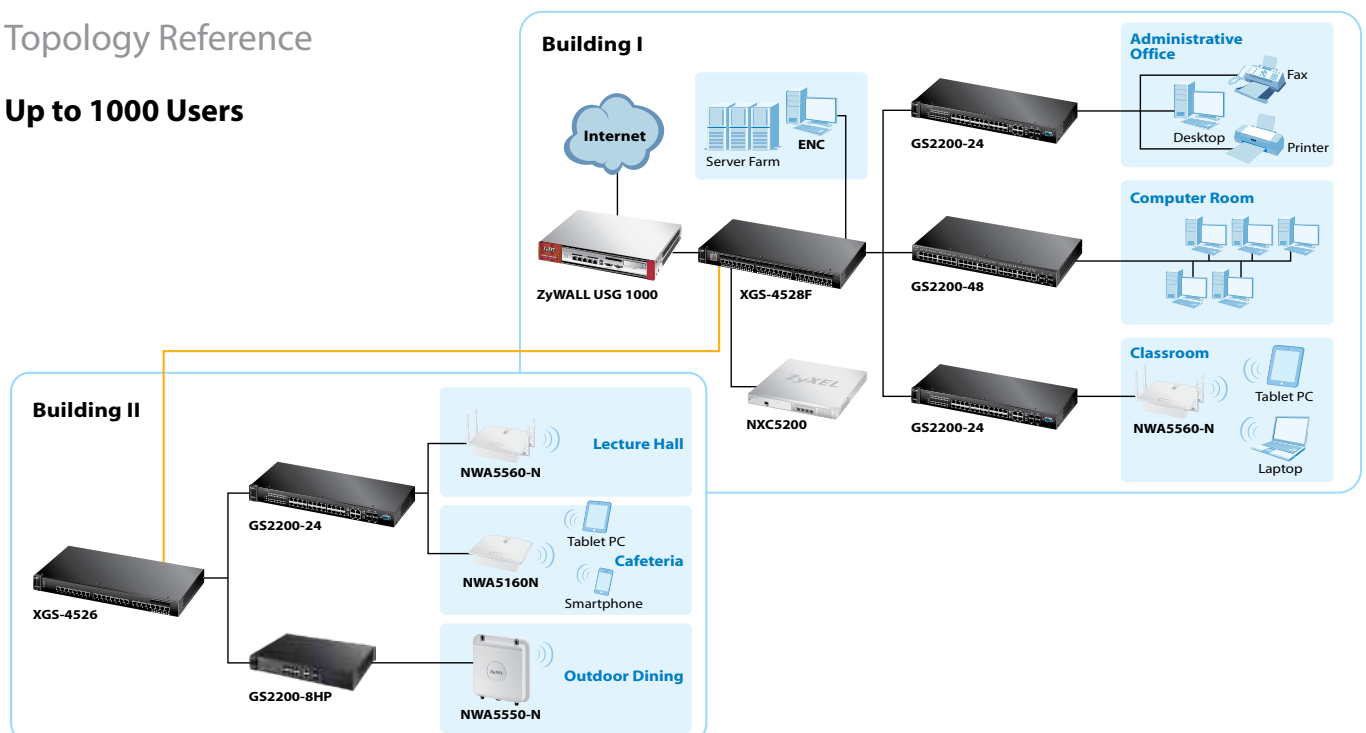
Colleges

Suggested product portfolios:



## Topology Reference

Up to 1000 Users





# Scenario V



Scalability

Above  
1000 users



Application areas

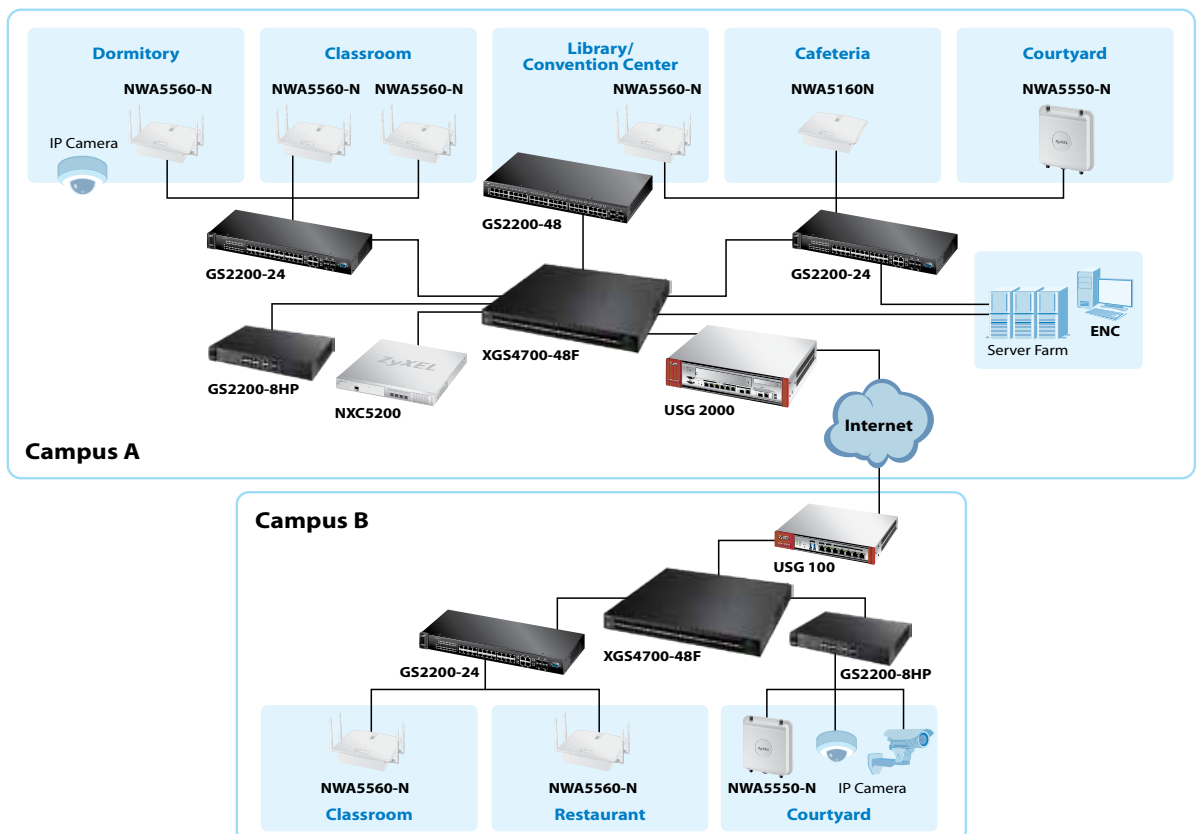
Universities

Suggested product portfolios:

Security	 <b>ZyWALL USG 50</b> Unified Security Gateway	 <b>ZyWALL USG 100</b> Unified Security Gateway	 <b>ZyWALL USG 2000</b> Unified Security Gateway	
Wired Connectivity	 <b>GS2200-8HP</b> 8-port GbE L2 PoE Switch with GbE Uplink	 <b>GS2200-24P</b> 24-port GbE L2 PoE Switch	 <b>GS2200-48</b> 48-port GbE L2 Switch	 <b>XGS-4528F</b> 24-port GbE L3 Switch with 10GbE Uplink
Wireless Connectivity	 <b>NXC5200</b> Wireless LAN Controller	 <b>NWA5160N</b> 802.11 a/b/g/n Managed AP	 <b>NWA5560-N</b> 802.11 a/b/g/n Dual-Radio Managed AP	 <b>NWA5550-N</b> 802.11 a/b/g/n Dual-Radio Outdoor Managed AP
Network Management	 <b>ENC</b> Enterprise Network Center			

## Topology Reference

Over  
1000 Users



# Products at a Glance

## Security

### ■ ZyWALL USG Series

The ZyWALL USG Series is the “third generation” ZyWALL featuring an all-new platform. It embodies a Stateful Packet Inspection (SPI) Firewall, Anti-Virus, Intrusion Detection and Prevention (IDP), Content Filtering, Anti-Spam, and VPN (IPSec/SSL/L2TP) in one box. This multilayered security safeguards your network perfectly.



**ZyWALL USG 50/ZyWALL USG 100**  
Unified Security Gateway

#### Key Features

- World-first green firewall
- Hybrid VPN (IPSec, SSL and L2TP) secures connections
- Support 3G connection as the backup WAN (USB)



**ZyWALL USG 300**  
Unified Security Gateway

#### Key Features

- High-performance multi-layer threat protection powered by the cutting-edge SecuASIC technology
- Hybrid VPN (IPSec, SSL and L2TP) secures connections
- ZyXEL- or Kaspersky Labs-powered Anti-Virus for protection against viruses and spyware
- Application Patrol to manage usage of IM/P2P applications



**ZyWALL USG 1000**  
Unified Security Gateway

#### Key Features

- High-performance multi-layer threat protection powered by the cutting-edge SecuASIC technology
- Hybrid VPN (IPSec, SSL and L2TP) secures connections
- ZyXEL- or Kaspersky Labs-powered Anti-Virus for protection against viruses and spyware
- Application Patrol to manage usage of IM/P2P applications

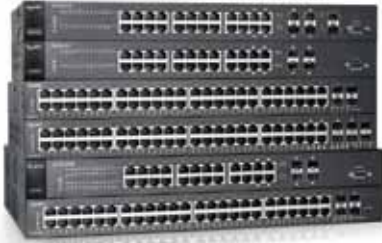


**ZyWALL USG 2000**  
Unified Security Gateway

#### Key Features

- ZyXEL- or Kaspersky Labs-powered Anti-Virus-Scalable VPN/UTM performance by adding security extension modules
- Application Patrol to manage the use of IM/P2P applications
- High Availability features with redundant power module to guarantee non-stop applications

## Wired Connectivity



### ■ XGS1910/GS1910 Series

The ZyXEL XGS1910/GS1910 Series 24/48-port GbE Smart Managed Switch is smart switches with optional 10GbE uplink for maximum throughput to fulfill increasing network demands for Small and Medium Businesses (SMB). The Series consists of six models—XGS1910-24, XGS1910-48, GS1910-24, GS1910-24HP, GS1910-48 and GS1910-48HP—that provide 24/48 10/100/1000BASE-T PoE Plus or non-PoE copper ports. The XGS1910 models provide 2/4 10GbE connectivity for uplinks and/or stacking.

#### Key Features

- Advanced Smart GbE L2 ACL switching features
- 48/88/104/176 Gbps non-blocking switch fabric (XGS1910-24: 88, XGS1910-48: 176, GS1910-48/48HP: 104, GS1910-24/24HP: 48)
- 2/4 10GbE uplink SFP+ ports (XGS1910-24/XGS1910-48)
- IEEE 802.3at Power over Ethernet Plus (PoE+, GS1910-24HP/GS1910-48HP)
- Supports IPv6
- Fanless design (GS1910-24)



**ES3500-8PD**  
8-port FE L2 Switch  
with GbE Uplink



**ES3500-24HP**  
24-port FE L2 PoE Switch  
with GbE Uplink



**ES3500-24**  
24-port FE L2 Switch  
with GbE Uplink

### ■ ES3500 Series

The ZyXEL ES3500 Series Fast Ethernet layer 2 switches are specifically designed for small and medium-sized businesses to deliver valuable Ethernet services to customers and employees. With Gigabit SFP uplinks and robust access control functions, businesses can easily extend network topologies and fulfill different customer needs. The complete ES3500 Series also supports IPv6 for trouble-free future network expansions.

#### Key Features

- 16 K MAC address table
- Policy-based QoS optimizes multi-service quality
- IGMP snooping v1, v2, v3, MVR
- Multilayer (L2/L3/L4) ACL suite for security protection
- High redundancy and resilient architecture with RSTP and port trunking
- IPv6 management support
- IEEE 802.3at PoE Plus standard (ES3500-24HP)
- Enhanced energy efficiency with PoE consumption mode (ES3500-24HP)



**GS2200-8HP**  
8-port GbE L2 PoE Switch with  
GbE Uplink



**GS2200-24P**  
24-port GbE L2 PoE Switch



**GS2200-48**  
48-port GbE L2 Switch



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



**XGS-4528F**  
24-port GbE L3 Switch  
with 10GbE Uplink

### ■ GS2200 Series

The GS2200 Series provides high-performance and secure 100/1000 connectivity, access resiliency and security, as well as Traffic Management and QoS functionalities. Feature-rich and easy-to-use, the GS2200 Series is specially designed for education networks.

#### Key Features

- 8-port 1000BASE-T PoE + 2 dual-personality GbE ports (GS2200-8HP)
- 24-port 1000BASE-T PoE + 4 dual-personality Gigabit ports (GS2200-24P)
- 44-port 1000BASE-T + 2 GbE SFP slots + 4 dual-personality Gigabit ports (GS2200-48)
- Port security and enhanced 802.1X port authentication
- MAC freeze and intrusion lock
- 8 IEEE 802.1p hardware priority queues
- WFQ, WRR and SPQ queuing algorithms
- MVR and IGMP snooping for IP multicasting optimization
- IEEE 802.3af (GS2200-24P)/IEEE 802.3at (GS2200-8HP)

### ■ XGS-4500 Series

The XGS-4500 Series complements the network infrastructure of virtualization as both Series deliver not only robust, reliable L2/L3 switch features but are also designed to accomplish high-availability routing for better utilization of network bandwidth.

#### Key Features

- 20-port 1000BASE-T + 4 dual-personality Gigabit ports + 1 x optional 2-port 10G open slot (XGS-4526)
- 24 dual-personality Gigabit ports + 2 12G stacking ports + 1 x optional 2-port 10G open slot (XGS-4528F)
- L3 advanced routing protocols, OSPF, VRRP; L2 switching features empower premium performance
- Multilayer-aware (L2/L3/L4) ACL for security protection and traffic optimization
- VLAN stacking (Q-in-Q) support; backup power system support

## Wireless Connectivity



**NWA1100-N**  
802.11 b/g/n PoE AP

### ■ NWA1100 Series

The ZyXEL NWA1100 Series AP is designed for small- and medium-sized education environments to extend the existing wired networks. Featuring PoE support and multiple operating modes, the NWA1100 Series provides the highest flexibility for WLAN deployments.

#### Key Features

- High bandwidth and superior performance with IEEE 802.11n standard support
- Ethernet interface equipped with IEEE 802.3af PoE for easy deployment and GbE interface for better efficiency
- IEEE 802.3az support for energy saving
- Featuring 4 SSIDs for user group management



**NWA1121-NI**  
802.11 b/g/n PoE AP



**NWA1123-NI**  
802.11 a/b/g/n PoE AP

### ■ NWA1120 Series

The ZyXEL NWA1120 Series is a standard-based, SNMP-managed 802.11n PoE AP with data rates of up to 300 Mbps per port or up to 600 Mbps of combined dual-band data rates. The embedded antennas of the ceiling-mount AP enable large interior wireless deployments without sacrificing wireless performance.

#### Key Features

- Compact ceiling-mount design
- Plenum rated with LOSH material
- Coverage-enhancing 11n functions including Low Density Parity Check (LDPC), Maximum Likelihood Demodulation (MLD) and TX Beamforming
- Supports up to 8/16 SSIDs
- Easy to RF planning with the same 2.4 GHz and 5 GHz signal coverage (NWA1123-NI)



**NWA3160-N**  
802.11 a/b/g/n Unified Pro AP



**NWA3560-N**  
802.11 a/b/g/n Dual-Radio Unified Pro AP

### ■ NWA3000-N Series

The NWA3000-N Series AP is a WLAN solution featuring 802.11 a/g/n and PoE capabilities. The Series has full flexibility to deploy secure and reliable WLAN networks and is able to manage up to 24 APs.

#### Key Features

- High bandwidth and superior performance with IEEE 802.11n standard support
- The 3-in-1 solution as a WLAN controller, a stand-alone AP or a managed AP
- Centralized management for up to 24 APs
- Dynamic channel selection and PoE support benefit large-scale deployments
- Featured with embedded RADIUS server to protect investments



**NWA3550-N**  
802.11 a/b/g/n Dual-Radio Outdoor Unified Pro AP



**NXC5200**  
Wireless LAN Controller



**NWA5160N**  
802.11 a/b/g/n  
Managed AP

**NWA5560-N**  
802.11 a/b/g/n  
Dual-Radio  
Managed AP



**NWA5550-N**  
802.11 a/b/g/n  
Dual-Radio Outdoor  
Managed AP

#### ■ **NXC5200**

ZyXEL develops an all-new Wireless LAN Controller Solution comprising of the NXC5200 WLAN Controller and NWA5000-N Series Managed Access Point (AP). The NXC5200 integrates ZyXEL's industry-leading ZyWALL Firewall features, such as Stateful Packet Inspection, to monitor data coming from mobile wireless users while the NWA5000-N Series works in conjunction with NXC5200 to deliver optimized performance and secure network services to education environments..

#### ■ **NWA5000-N Series**

The NWA5000-N Series includes three models: the dual-band NWA5160N, the dual-band, dual-radio NWA5560-N, and dual-band, outdoor NWA5550-N.

#### **Key Features**

- Manage up to 240 APs with granular access control
- Central WLAN management on both configurations and data
- Flexibility for both distributed and tunneled data forwarding supports
- Strongest standards-based wireless security — WPA/WPA2 and AES encryption
- Built-in Firewall
- Built-in wireless intrusion detection and prevention as well as Anti-Virus
- Web authentication support for guest networks (captive portal)

## Network Management



**ENC**  
Enterprise Network Center

#### ■ **Enterprise Network Center — ENC**

The ZyXEL ENC, a Centralized Network Management platform for managing ZyXEL Ethernet Switches and Enterprise WLAN Access Points, is a comprehensive network management tool that quickly and conveniently installs or manages IP networks. The ZyXEL ENC is ideal for monitoring basic device health status, as well as browsing SNMP events, syslog events and network devices maps.

#### **Key Features**

- Scalability management for up to 2,000 devices
- Network and device auto-discovery
- Firmware upgrade/backup and device configurations
- Performance alerts and monitoring
- ZyXEL Switch specialized in RMON management and visual VLAN management

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