



## ZyXEL Solution Guide Public Sector —Education

2009

- ◀ Worldwide experience assisting educational institutions from preschool to 12th grade, to universities to create customised networks that meet their unique requirements
- ◀ Enriches the education experience by incorporating the most innovative and proven technical solutions into affordable, customised, easy-to-use and manage solutions
- ◀ Delivers a reliable, secure and fast network that enables schools to focus on educating students, not supervising technology
- ◀ Provides a flexible learning environment in and outside of the classroom
- ◀ Provides remote access to parents, students and teachers, significantly increasing productivity without compromising security
- ◀ Meets its statutes and local government requirements

## Why ZyXEL?

- Over 400,000 European companies choose ZyXEL for enterprise solutions
- A history of delivering the finest Telco technology available today for business
- Providing our customers with the ability to develop their business with industry-leading support



**I**n order to enhance teaching and research quality, schools and universities need to provide better service and equipment for students, teachers, researchers and administrative staff. In practice, one way to improve a competitive educational environment is by incorporating IP network technology into the learning environment. A critical demand for boundless learning resources can be satisfied via network technology using remote access applications or wireless deployments. In addition to broadening learning opportunities, IP network technology also enhances faculty research competition and productivity, improves administrative efficiency, and strengthens the school security. All of these benefits enable a better learning environment for the pupils to achieve in.



---

## **Table of Contents**

The Challenge	4
ZyXEL Solution Offering	5
Success Stories	6



# The Challenge

## Demands for more network connections

In order to provide access to critical information and network-based applications, key campus buildings (such as dormitories, libraries, classrooms, audio-visual suites and administration buildings) require more network connections. Another challenge often faced by campuses is that of the constant growth of classrooms and university buildings that require network extensions. Educational institutions can choose LAN (Local Area Networking) using Ethernet Switches or Wireless LAN 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 availability of access.

## Experience mobility power

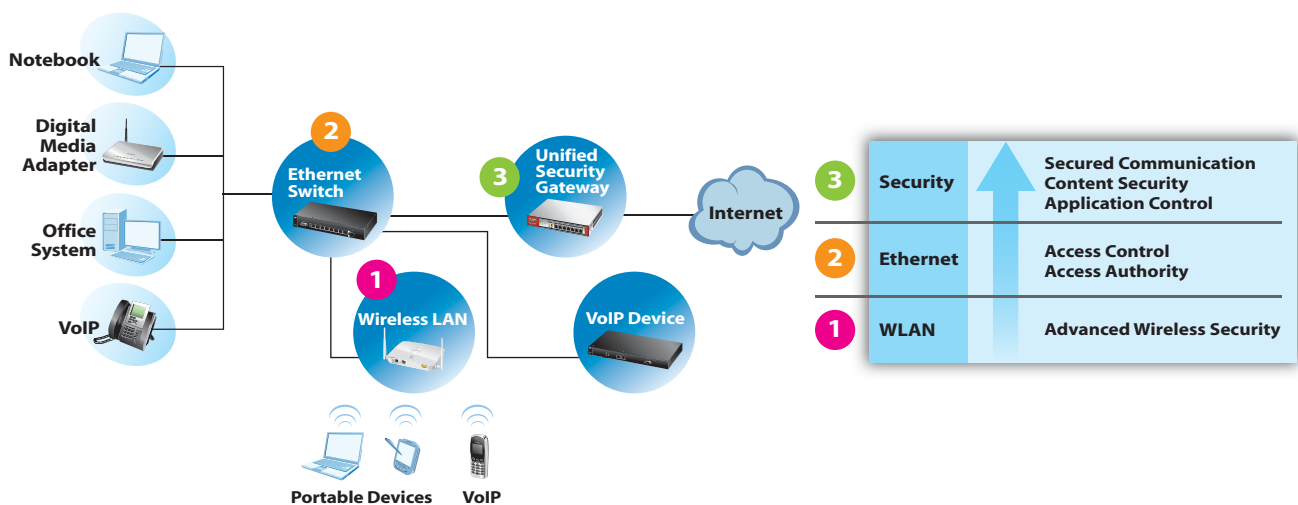
Geographic barriers on campus often limit students' access to learning resources from a wide range of communication devices. Wireless solutions for educational institutions provide a ubiquitous network access environment, which lets students freely walk around the campus, while accessing rich and multimedia educational materials. They can freely access school resources such as databases or teaching materials, check emails, join online group meetings, share academic research and process administrative work. Beyond the classroom network wireless hotspot technology provides students with connectivity throughout the campus.

## Seamless protection to secure your network

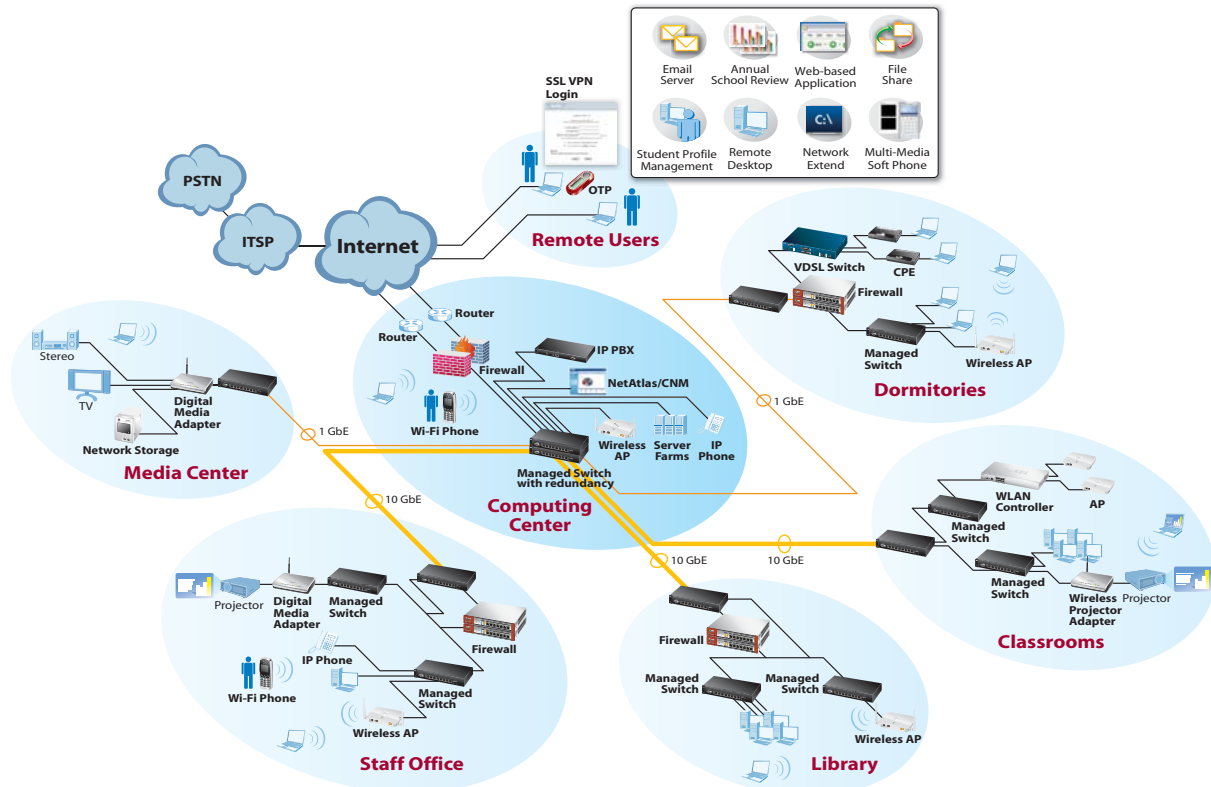
Securing a network backbone can be a real challenge, particularly in cases with confidential information stored in central school databases (e.g. students' personal information), as well as increasing virus and spyware threats in recent years.

The first step in securing a network is to make sure school resources are accessible only by authorised users. LAN (Local Area Network) or WLAN (Wireless LAN) users wishing to access network should be identified and authorised by specific access rights in the Ethernet switches or wireless devices to enforce protection.

Content filtering and application management are essential for school network systems in order to ensure the quality of learning environment and protect students from inappropriate materials. IT staff can set controls for use of unauthorised web access, instant messaging, peer-to-peer content sharing, file downloading and other harmful applications or offensive contents.



# ZyXEL Solution Offering



## Enterprise LAN Switches

ZyXEL's solution helps campus network managers easily set up a modern network for an e-campus application environment. A comprehensive product portfolio offers the choice of switch port density and capability with unparalleled Gigabit uplink stacking. The Ethernet switch range offers high availability and resilience usually found in service provider or carrier switch environments. This ensures that the network resources are always available with the minimum of network downtime. Through network management, campus security can be enhanced effectively and the easy administration of the network enables flexible expansion and control. In this way application delivery can be guaranteed and securely implemented anytime and anywhere.

## Enterprise Security

ZyWALL Unified Security Gateway products include multiple security features integrated into one box, including Firewall, IDP/ADP, Anti-Virus and Content Filtering to ensure that only appropriate content is accessed within the network environment. On top of this, SSL VPN offers the remote pupils, parents and staff a secure connection to network resources and applications such as timetables, homework, school notices and protected e-mail systems through a web based interface.

With content filtering student access to adult web pages can also be blocked. This is managed through a utility called Application Patrol which can offer different users various privilege levels for Instant Messaging/Peer to Peer (IM/P2P) applications. This level of control ensures that the internal network access policies can be implemented.

## Enterprise Wireless LAN & Enterprise IP Telephony

Implementing a completely available wireless solution within the campus environment takes a high degree of understanding of the issues involved. As a result ZyXEL have developed the WLCS (Wireless LAN Controller System). This solution comprises of the Wireless LAN controller, associated access points, management. and provides zero-delay roaming across the campus.

The ZyXEL IPPBX solution helps the school environment to apply Voice over IP (VoIP) services. Schools with multiple sites are particularly suited to the solution. Implementing a VoIP solution enables the use of technology such as Wi-Fi phones to be deployed to provide inexpensive connectivity. Moreover the deployment offers future proofing by providing a platform for web phone. These applications offer better and more cost effective ways of communication across the campus and via the IP network to other sites for teachers and administration staff.



# Success Stories

## 1. Highdown School

### **ZyXEL supports the growing IT demands of Highdown School and sixth form centre**

Highdown is a popular mixed comprehensive school in Reading, Berkshire, with about 1,200 pupils and 90 staff. Highdown is a specialist maths and computing college, and demonstrates a distinctive mathematics and computing ethos within the school and local community. For a school that's so focused on teaching ICT, it's unsurprising to discover that it places a high priority on ICT resources. There are over 500 PCs in the school, giving it a well above average ratio of students to PCs. There are also three permanent staff working in the IT department.

### **What were the customer's challenges?**

When Highdown decided to build a new school hall and drama studio, the IT department's top considerations were as below:

- **Provide network connectivity between the main school buildings and the new auditorium, foyer and drama studio**
- **Upgrade the school's aging 10/100 copper switches to support large volumes of students and staff connecting to the network at the same time**
- **Install a new campus-wide CCTV system, as many of the school's existing analogue cameras were in urgent need of repair**
- **Ensure the security and resilience of the data network**

### **The benefits of the new infrastructure**

Features of the new architecture include:

- **Supports students' growing use of the school's extensive IT facilities with faster data connections and a more resilient network backbone**
- **Supports extensive teacher use of IT with teachers' having wireless connected laptops and classrooms having Smartboards and projectors wherever appropriate**
- **Supports the school's extensive administration system which includes on-line registration for all classes**
- **Ensures quality of service and bandwidth control of the network, so priority can be given to the CCTV network traffic or other applications**
- **The CCTV network provides a safeguard against vandalism**
- **ZyXEL delivers value for money, a lifetime warranty, flexibility and feature-rich systems**
- **The VLAN network set-up segregates CCTV and other areas of the network**
- **Future-proofed network, designed to minimise interruption to student and teacher use of the network should a switch or fiber cable fail**
- **The prompt identification of network problems via the switch management**

### **ZyXEL solution**

- **ZyXEL's Gigabit managed switches: GS-3012F and GS-4024**
- **ZyXEL's fast Ethernet managed switches: ES-2048 and ES-3124-4F**
- **ZyXEL's P-660HWs wireless routers and wireless access points: NWA-3100s**



## 2. St. Joseph's Primary School

### ZyXEL adds wireless and unified threat management to the curriculum at St. Joseph's Primary School

St Joseph's had a number of PCs & laptops spread around the school to allow both staff and students to have access to the Internet. The majority of these were in the central ICT suite at the school, which was the main area where students and teachers would go to access computers for classes and to prepare for upcoming lessons. However, teachers could also access the Internet using their laptops in the school's staffroom.

#### What were the customer's challenges?

- Internet access was confined to the ICT suite and the teacher's staffroom
- The log-in process for classes in the ICT suite was extremely slow due to poor network configuration
- The speed of the network was slow, making it time-consuming for students and teachers to save files and images
- The school needed a secure wireless network that only students and staff could access
- The solution had to be installed without having an impact on students and staff

#### The benefits of the new infrastructure

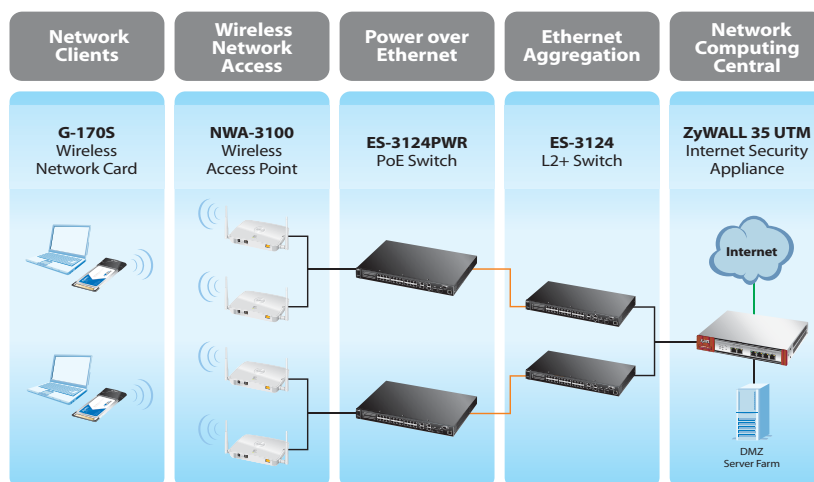
- The new robust and scalable wireless network has been configured to provide maximum security protection with minimum system configuration required from staff
- Students and teachers can access the Internet from anywhere within the school grounds, giving them more flexibility and improved quality teaching time than before
- The school was able to meet one of its development plan objectives which was to embed ICT throughout the school's curriculum
- With students and guests doing more P2P download of multimedia files, it can help limit or restrict bit torrent downloads which can choke bandwidth to improve speed and security.

#### ZyXEL solution

The ZyXEL solution provides a single product, allowing for convenient and efficient support and logistics to enable the construction of the network core. Multiple campus building connections with a mixed number of ports enabled future proofing in the Core and Gigabit accessible features for all users.

#### Product list:

- ZyXEL NWA 3100 wireless access points
- ZyXEL G-1705 wireless network cards
- ZyXEL 35 UTM Firewall
- ZyXEL ES-3124 layer 2 plus Ethernet switches
- ZyXEL ES-3124PWR Power over Ethernet switches
- ZyAssure support packs (UK only)



# ZyXEL

## ■ Europe

### ZyXEL Belarus

Tel: +375 17 334 6099  
Fax: +375 17 334 5899  
Email: sales@zyxel.by  
<http://www.zyxel.by>

### ZyXEL BeNeLux

Tel: +31 23 5553689  
Fax: +31 23 5578492  
Email: sales@zyxel.nl  
<http://www.zyxel.nl>

### ZyXEL Czech

Tel: +420 241 091 350  
Fax: +420 241 091 359  
Email: info@cz.zyxel.com  
<http://www.zyxel.cz>

### ZyXEL Denmark A/S Nordic Headquarters

Tel: +45 39 55 07 00  
Fax: +45 39 55 07 07  
Email: sales@zyxel.dk  
<http://www.zyxel.dk>

### ZyXEL Finland Oy

Tel: +358-9-4780 8400  
Fax: +358-9-4780 8448  
Email: sales@zyxel.fi  
<http://www.zyxel.fi>

### ZyXEL France SARL

Tel: +33 (0)4 72 52 97 97  
Fax: +33 (0)4 72 52 19 20  
Email: info@zyxel.fr  
<http://www.zyxel.fr>

### ZyXEL Germany GmbH

Tel: +49 (0) 2405-6909 0  
Fax: +49 (0) 2405-6909 99  
Email: sales@zyxel.de  
<http://www.zyxel.de>

### ZyXEL Hungary

Tel: +36-1-336-1646  
Fax: +36-1-325-9100  
Email: info@zyxel.hu  
<http://www.zyxel.hu>

### ZyXEL Norway A/S

Tel: +47 22 80 61 80  
Fax: +47 22 80 61 81  
Email: sales@zyxel.no  
<http://www.zyxel.no>

### ZyXEL Poland

Tel: +48 (22) 333 8250  
Fax: +48 (22) 333 8251  
Email: info@pl.zyxel.com  
<http://www.zyxel.pl>

### ZyXEL Russia

Tel: +7 (495) 542-8920  
Fax: +7 (495) 542-8925  
Email: sales@zyxel.ru  
<http://www.zyxel.ru>

### ZyXEL Slovakia

Tel: + 421 243 193 989  
Fax: + 421 243 193 990  
Email: info@sk.zyxel.com  
<http://www.zyxel.sk>

### ZyXEL Spain

Tel: +34 902 195 420  
Fax: +34 913 005 345  
Email: sales@zyxel.es  
<http://www.zyxel.es>

### ZyXEL Sweden A/S (Göteborg)

Tel: +46 (0) 31 744 77 00  
Fax: +46 (0) 31 744 77 01  
Email: sales@zyxel.se  
<http://www.zyxel.se>

### ZyXEL Sweden A/S (Stockholm)

Tel: +46 8 752 9600  
Fax: +46 8 752 9610  
Email: sales@zyxel.se  
<http://www.zyxel.se>

### ZyXEL Switzerland

Tel: +41 44 806 51 00  
Fax: +41 44 806 52 00  
Email: info@zyxel.ch  
<http://www.zyxel.ch>

### ZyXEL Turkey A.S.

Tel: +90 212 222 55 22  
Fax: +90 212 220 25 26  
Email: bilgi@zyxel.com.tr  
<http://www.zyxel.com.tr>

### ZyXEL UK Ltd.

Tel: +44 (0) 1344 303044  
Fax: +44 (0) 1344 303034  
Email: sales@zyxel.co.uk  
<http://www.zyxel.co.uk>

### ZyXEL Ukraine

Tel: +380 44 494 49 31  
Fax: +380 44 494 49 32  
Email: sales@ua.zyxel.com  
<http://www.ua.zyxel.com>

## ■ Corporate Headquarters

### ZyXEL Communications Corp.

Tel: +886-3-578-3942  
Fax: +886-3-578-2439  
Email: sales@zyxel.com.tw  
<http://www.zyxel.com>

## ■ Asia

### ZyXEL China (Beijing)

Tel: +86-010-82800646  
Fax: +86-010-82800587  
Email: sales@zyxel.cn  
<http://www.zyxel.cn>

### ZyXEL China (Shanghai)

Tel: +86-021-61199055  
Fax: +86-021-52069033  
Email: sales@zyxel.cn  
<http://www.zyxel.cn>

### ZyXEL China (Wuxi)

Tel: +86-510-88080888  
Fax: +86-510-85222670  
Email: info@zyxel.cn  
<http://www.zyxel.cn>

### ZyXEL India

Tel: +91-11-3088-8144  
Fax: +91-11-3088-8149  
Email: support@zyxel.in  
<http://www.zyxel.in>

### ZyXEL Kazakhstan

Tel: +7-727-2-590-699  
Fax: +7-727-2-590-689  
Email: info@zyxel.kz  
<http://www.zyxel.kz>

### ZyXEL Malaysia

Tel: +603-8076-9933  
Fax: +603-8076-9833  
Email: info@zyxel.com.my  
<http://www.zyxel.com.my>

### ZyXEL Pakistan

Tel: +92 21 4310194-5  
Fax: +92 21 4310196  
Email: info@zyxel.com.pk  
<http://www.zyxel.com.pk>

### ZyXEL Singapore

Tel: +65-6899-6678  
Fax: +65-6899-8887  
Email: sales@zyxel.com.sg  
<http://www.zyxel.com.sg>

### ZyXEL Taiwan (Taipei)

Tel: +886-2-2739-9889  
Fax: +886-2-2735-3220  
Email: sales\_tw@zyxel.com.tw  
<http://www.zyxel.com.tw>

### ZyXEL Thailand

Tel: +66-(0)-2831-5315  
Fax: +66-(0)-2831-5395  
Email: info@zyxel.co.th  
<http://www.zyxel.co.th>

## ■ The Americas

### ZyXEL Costa Rica

Tel: +506-2017878  
Fax: +506-2015098  
Email: sales@zyxel.co.cr  
<http://www.zyxel.co.cr>

### ZyXEL USA North America Headquarters

Tel: +1-714-632-0882  
Fax: +1-714-632-0858  
Email: sales@zyxel.com  
<http://www.us.zyxel.com>

For more product information, visit us on the web at [www.ZyXEL.com](http://www.ZyXEL.com)

Copyright © 2009 ZyXEL Communications Corp. All rights reserved. ZyXEL, ZyXEL logo are registered trademarks of ZyXEL Communications Corp. All other brands, product names, or trademarks mentioned are the property of their respective owners. All specifications are subject to change without notice.