



Success Story

Turkish College Provides Technology-Enabled Holistic Learning to Students with Zyxel Wireless Solution



Education



MEV College
Private Bornova
Schools Campus



Turkey



Zyxel
Wireless
Solution

Overview

Challenges

- Provided network access across 40 thousand square meters in a closed area
- The network infrastructure needed to support thousands of users and devices
- IP surveillance cameras required significantly high bandwidth, which threatened to choke the network

Results

- Created reliable and robust wired and wireless network infrastructure throughout the campus
- Raised the school's productivity to the next level
- Made network management easier and more flexible with cloud management
- Enabled the school to provide online learning facilities

Solution

- Zyxel Wireless Solution

"The college's Bornova campus has a closed area of 39.492 m², but classroom education is only one part of students' overall development. To provide students a modern understanding of the world and encourage exploration and research, especially outside of their school hours, we adopted the idea of "Living Campus." This included several workshops and technology-enabled learning initiatives. To make this a success, we established a modern network infrastructure using advanced technology of Zyxel Networks solutions through Arma Bilişim A.Ş. Thanks to their excellent implementation of a top-class wired and wireless network, we can implement the most advanced educational technologies."

Halil Topuzöz
IT Manager, MEV College Private Bornova Schools Campus

Background

The Bornova campus of MEV College is spread across 39.492 m² and includes kindergarten, primary school, secondary school, high school, etc. The school has an initiative known as "Living Campus" that aims to encourage students to learn and research with the help of technology even outside their formal learning hours. Towards this,

the school provides halls, a gym, an indoor swimming pool, a modern library, clubrooms, innovation workshops, etc. Such an initiative required high-quality wired and wireless network systems that could be managed and controlled easily.

Challenges

The main challenges were providing network access to each part of the large campus with thousands of connected devices and IP surveillance cameras. Large numbers of people would access the network daily, and they all had to be provided a pleasant experience. Also,

video-based solutions transmitting over the wireless network were essential, but this was a challenge as it significantly increases bandwidth use, potentially clogging up the system.

Solutions and Benefits

Zyxel's Nebula Central Management enables simple installation, real-time configuration, and easy access to all Nebula devices anytime. The software's user-friendly web-based management interface for computing network infrastructures allows easy management and operation.

Supported by Zyxel NebulaFlex, **GS1920-8HPv2 8-Port GbE Smart Managed Switch** and **XGS1930-28HP 24-port GbE Smart Managed PoE Switch with 4 SFP+ Uplink** switches enabled cloud-based management, making the network setup and control simple and easy. They offered the school flexibility to increase the capacity whenever a need arises.

A unique solution used for IP video surveillance and video communication was the **GS1350-12HP/26HP Smart Managed Switch for Surveillance**. Video surveillance cameras have become an integral part of any campus or business, and the number of cameras in use continues to grow. This means that the amount of video transmitted is also increasing rapidly, stretching the limits of traditional network switches. Zyxel's GS1350 series of surveillance switches allow smooth functioning of large numbers of IP cameras without burdening the network as well as longer transmission distance.

Finally, **NWA1123-AC PRO 802.11ac Dual Radio External Antenna 3x3 Outdoor Access Points** were also installed. These optimize networks with dual antenna structures that offer high-quality performance and reliable connectivity.

Speaking about the project, Zyxel's local partner Şakir Dönmez, Network & Güvenlik Uzmanı, and Onur Yukarıuç, Network Uzmanı at Arma Bilişim A.Ş. pointed out that they were able to successfully provide a top-class infrastructure to the school campus with strong support from Zyxel Networks.

"Thanks to Zyxel's expert team, we completed the project in a short time," they said. "The campus wanted data and IP camera communication from two high-speed connections that had multiple devices at the same time. We set up a system using Zyxel Nebula, which has several applications that support it to ensure the best-managed network." Zyxel Partner Sales Manager Hasan Huseyin Tabak added that creating projects in education and helping students benefit from modern technologies is both pride and joy for Zyxel Networks.

"One of Izmir's leading educational institutions, MEV College's Private Bornova Schools Campus, now has high-end wired and wireless communication infrastructure successfully implemented through the devoted efforts to our business partner Arma Bilişim A.Ş.," Tabak said. "Enabling education through our technology has been a remarkably satisfying experience."

With the right solutions from Zyxel Networks and efficient implementation from its partner, authorities at the Bornova Schools Campus can ensure their students get the best learning resources. The overall productivity of the school increased after this project.

Products Used

Nebula Control Center (NCC)



- Responsive web design and intuitive user interface
- Multi-tenant, multi-site view
- First time setup wizard
- Role-based administration privileges
- Real-time and historical monitoring/reporting
- Rich site-wide management tools
- Powerful organization-wide management tools
- Configuration changing alerts
- Misconfigure protection against disconnecting NCC
- Configure login auditing

XGS4600-52F • 48-port GbE L3 Managed Fiber Switch with 4 SFP+ Uplink



- Four built-in 10G SFP+ uplinks enable congestion-free, smooth data delivery for high-bandwidth applications
- Dynamic routing protocols such as RIP and OSPF
- Provides high-bandwidth with true physical stacking of up to 4 units
- L2 and L3 stacking capability to fulfill larger network deployment needs
- High resiliency with redundant power supply units

GS1350-12HP/26HP • Smart Managed Switch for Surveillance



- NebulaFlex Pro allows users to switch between standalone management and intuitive Nebula cloud managed mode with 1-Year Pro Pack bundled
- Dedicated surveillance mode
- Auto camera recovery
- Large power budget
- Up to 250 meters transmission
- Intuitive PoE usage LED
- Enhanced surge & ESD protection

Products Used

GS1920-8HPv2 • 8-Port GbE Smart Managed Switch



- Up and running in minutes — supports NebulaFlex™ Technology to shift between standalone and License Free Nebula cloud flexibly
- Easy management and setup with web-based interface
- Smart fan design offers silent operations in your office
- Offering 30-watt (802.2at) PoE+ to each port and gives a large PoE+ budget of 130w
- User-friendly design includes one-touch “Restore” button and intuitive PoE usage LED

XGS1930-28HP • 24-port GbE Smart Managed PoE Switch with 4 SFP+ Uplink



- Four high-speed 10G fiber slots
- Up and running in minutes — supports NebulaFlex Technology to shift between standalone and License Free Nebula cloud flexibly
- Easy management and setup with web-based interface and intuitive wizard
- Smart fan design offers silent operations in your office
- Offering 30-watt (802.2at) PoE+ to each port and gives a large PoE+ budget of 375w
- User-friendly design includes one-touch “Restore” button and intuitive PoE usage LED

NWA1123-AC PRO • 802.11ac Dual Radio External Antenna 3x3 Outdoor Access Point



- NebulaFlex allows flexibility to switch between standalone and Nebula cloud management
- Dual-band 2.4-GHz and 5-GHz 802.11ac Wireless Access Point
- Designed with IP66-rated weather protection which is ideal for harsh outdoor environments
- Advanced IEEE 802.11ac delivers up to 1.75 Gbps combined data rates
- Industry-leading receive sensitivity as low as -102 dBm
- APFlex™ and DCS for streamlined deployment

About ZyXel Networks

Focused on innovation and customer-centricity, ZyXel has been connecting people to the Internet for over 30 years. Our ability to adapt and innovate with networking technology places us at the forefront of creating connectivity for business and home users. We're building the networks of tomorrow, unlocking potential, and meeting the needs of the modern workplace — powering people at work, life, and play. ZyXel, Your Networking Ally.

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