



Success Story

Zyxel Nebula Solution Helps Turkish Hospital Embrace Digital Transformation and Enable High Operational Efficiency



Healthcare

INDUSTRY



CUSTOMER

Muğla Milas
75th Year
State Hospital



COUNTRY

Turkey



SOLUTION

Zyxel
Nebula
Solution

Overview

Challenges

- Provide network coverage for a large number of patients and employees at the new hospital
- Provide fast and reliable network throughout clinical and business units for continuous operations
- Enable secure and centralized management of network devices

Results

- Top-notch technology delivering high-performance and flexible network infrastructure to enhance work efficiency
- High-speed Wi-Fi access throughout the institution for faster application and business process
- Prioritize the workflows among clinics and administration offices
- Separate networks of hospital staff and patients to ensure secure internet access
- Central and easy management of network devices

Solution

- Zyxel Nebula Solution

"We have successfully completed our project with our strategic partner Akbim Bilgisayar and Zyxel Networks, one of the world leaders in network technologies. We have built a trustworthy relationship with them and benefit from the fantastic solutions they have given us at an affordable price. Thanks to Zyxel Nebula Solution, we are well-prepared for today's and tomorrow's network requirements. We really appreciate Zyxel Networks helping us provide high-quality service to patients in our hospital."

Dr. Tarık Çubukçuoğlu
Surgeon General, Muğla Milas 75th Yıl State Hospital

Background

Digital hospitals are rapidly gaining popularity and is expected to be the next major trend in healthcare, helping to increase patient and employee satisfaction. In Turkey, an increasing number of digital hospitals are replacing traditional transactions with mobile device-based transactions. Many institutions want to move to paperless hospital applications, and more and more people prefer to use digital devices to access and process data. As a result, strong network infrastructure has become necessary.

The country's Ministry of Health built and opened a new hospital - Muğla Milas 75th Year State Hospital - in the summer of 2020. To confirm to the "Health Reform Project,"

Challenges

A hospital often deals with unpredictable scenarios. For instance, an accident or a critically ill patient may be brought in at any time. This means they must constantly be prepared to provide best service at any point. Thus, the hospital needed to ensure their services are available 24/7.

To ensure efficient network management and stable connectivity, the hospital wanted to monitor and control the network at any time with ease. The new network needed

the hospital was looking for partners to strengthen its infrastructure to provide uninterrupted network connection, preparing for future needs.

The new hospital has several departments like internal medicine, pediatrics, gynecology, urology, etc., and lab divisions such as x-ray, ultrasonography, biochemistry laboratory, microbiology laboratory, blood center, and so on. This means that many patients and employees frequent the hospital every day. The new network should be able to provide fast and reliable coverage to all these people to enable round-the-clock operations.

Solutions and Benefits

The technology consultant partner for this project, Akbim Computer, had several years of experience in the healthcare industry. After analyzing the needs of the new hospital, they quickly turned to Zyxel Networks, which has focused extensively on digital transformation projects in recent years. With Zyxel's solutions and attentive support, Akbim Computer was able to build a safe, fast, and future-proof network infrastructure.

Mehmet Kuru, Sales Engineer at Akbim Computer, said, "Akbim Computer has worked with Zyxel Networks for many years. With the Zyxel Nebula access points that we used in this project, we provided end-to-end wireless internet access throughout the hospital. Superior network performance and high speed were provided in the new hospital with Zyxel's Multi-Gigabit managed switches."

The platforms used to manage business processes were separated from each other to ensure better business efficiency. The hospital's data communication infrastructure was equipped with **NWA1123-AC HD 802.11ac Wave2 Dual-Radio PoE Access Points**. Secure and high-speed internet access was provided in all operating rooms and polyclinics of the institution.

Zyxel's Multi-Gigabit managed switch XS3800-28 in the

to be managed centrally from a single point but will remain separate from the business network to ensure security. The network should be advanced and robust, being able to help the hospital transition from traditional transaction methods to a paperless and cashless system. This heightened the need for infrastructure that could cover the entire premise without compromising on the quality. The project team needed to build it from scratch to meet all the requirements at a time.

hospital delivers a high performance and high-speed network. This along with the solutions' flexibility, has enabled the hospital to increase their work efficiency and provide high-quality service to their patients.

Zyxel Network's top-notch Nebula solution allows the hospital to easily monitor and control network devices throughout the hospital 24/7 from anywhere. **Nebula Control Center (NCC)** has made centralized management of the network simple and efficient. Nebula Professional Pack license was used in the management of the products. The Nebula Pro management software offers advanced features like wireless health monitoring, automatic visual topology, user notifications and alerts.

With Zyxel's products in place, the hospital management now has a strong network infrastructure that can handle the challenging connectivity demands of the large volume of staff and patients within the new hospital. Thanks to the flexible network infrastructure integrated with new technologies, the hospital management is able to utilize its resources more efficiently, according to the needs and they ensure efficiency in workflows throughout the new hospital. Muğla State Hospital patients can now be rest assured they will receive much higher quality service.

Products Used

NWA1123-AC HD • 802.11ac Wave 2 Dual-Radio PoE Access Point



- NebulaFlex™ gives you the flexibility to switch between standalone and Nebula cloud management
- Nebula cloud management allows easy deployment, real-time configurations, and access to all your APs at any time
- Achieve reliable connectivity, support for more connected clients, and better wireless coverage with the latest Wave 2 WiFi standard
- Up to 300% more performance from MU-MIMO technology
- Robust build quality, including solid-state capacitors and advanced heat dissipation design, to ensure long life and operational reliability
- Protect against 3G/4G cellular network interference with Zyxel advanced cellular mitigation design

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

XS3800-28 • 28-port 10GbE L2+ Managed Switch



- NebulaFlex™ Pro allows users to switch between standalone management and intuitive Nebula cloud managed mode with 1-YEAR Pro Pack bundled
- Unique port combination brings maximum flexibility to network diversity
- Supports Multi-Gigabit for 100M/1G/2.5G/5G/10G connections
- Provides high-bandwidth with true physical stacking of up to 4 units
- Designed with "Restore to last custom default" button and redundant power supply to deliver high resiliency and availability

Products Used

XGS2210-52 • 48-port GbE L2 Switch with 10GbE UplinkPoint



- Physical stacking up to 2 units and 96 Gigabit ports
- Gigabit connectivity plus four SFP+ ports
- VLAN communication through access switch by static routing feature
- Supports sFlow that analyzes client behavior

XGS1930-52 • 48-port GbE Smart Managed 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
- Standalone: Easy management and setup with web-based GUI
- Nebula Cloud: Nebula allows simple deployment with agile network management
- User-friendly wizard support
- Smart fan design offers silent operations in your office

POE12-HP • 802.3af/at PoE Injector



- IEEE 802.3af and IEEE 802.3at Power over Ethernet (PoE) standards compliant
- Install anywhere taking advantage of PoE technology
- Superior safety with overloading and short-circuit protection

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.

Copyright © 2020 Zyxel and/or its affiliates. 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.