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Success Story

Zyxel WiFi Powers App-Guided Experience at Uzbekistan Museums

INDUSTRY — Museum

CUSTOMER — National Commission of the Republic of Uzbekistan for UNESCO

COUNTRY — Uzbekistan

SOLUTIONS — Zyxel wireless solution

Overview

Challenges

- Install comprehensive WiFi infrastructure from scratch
- Create wireless zones in five separate museums to allow users to explore exhibits using an app
- Overcome thick walls of old museum buildings, which hamper WiFi signals

Benefits

- Visitors without roaming coverage can access museum app
- Foreign visitors can also use WiFi to check travel itinerary, local attractions, etc.
- Strong, wide signal coverage
- Networks can work autonomously or be managed via the cloud

Solution

- Zyxel wireless solution

"The commission thanks the experts from Light Technology and Zyxel for their professional help. We hope that the result of this pilot project will provide an opportunity to introduce apps in other museums across the Republic of Uzbekistan."

Alisher Ikramov,
Executive secretary
National Commission of the Republic of Uzbekistan for UNESCO

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Background

Uzbekistan, the Central Asian country straddling Russia and China, has a rich and storied past shaped by everything from the Sogdian and Turkic cultures to Genghis Khan to the Silk Road. In 2009, its capital Tashkent even celebrated 2,200 years of written history.

As such, it's no surprise that the city's museums are treasure troves of art, culture, science, and history. However, what is a surprise is that these museums until recently had a complete dearth of WiFi access. This wasn't optimal for institutions designed to encourage exploration, learning, and discovery.

The National Commission of the Republic of Uzbekistan for UNESCO, which oversees many of the country's museums, decided it was time things changed. It launched a pilot project to install wireless infrastructure at five museums around the capital:

• The Museum of History of Uzbekistan
• The Museum of Arts of Uzbekistan
• The Museum of Geology of Uzbekistan
• The Museum of History of Timurids
• The Museum of Applied Art of Timurids

Challenges

But the intent of the commission was grander than merely offering WiFi so visitors could check their email and the like. Rather, it wanted visitors to be able to use the wireless access to download the museum apps that introduces the exhibits at each museum. This would allow visitors to get insight on the artifacts and artworks on display—even without a guide.

Working with Zyxel local partner Light Technology, the commission issued a tender with obvious key requirements such as seamless switching between access points as users move around and stable, reliable operation.

Making the criteria stricter and trickier were the museums

themselves. The decades-old architecture means wireless signals are weakened by the museums' walls, which are thicker and more numerous than those of modern buildings. As a result, infrastructure that could broadcast signals strongly and smartly was required. Meanwhile, the intricate décor means the commission sought access points with a nondescript aesthetic design that would blend in inconspicuously.

"We also had to be very careful to avoid damaging the rooms and the exhibits, many of which are the only one of their kind in the world," Light Technology CEO Akram Mahmudov said.

Solutions and Benefits

"We tested several devices from different partners and Zyxel's had the best price-to-quality ratio," Mahmudov said. "Zyxel also offered all the features we needed—and at an attractive price."

Specifically, Zyxel's NWA5121-NI unified access point was able to overcome the thick walls' interference thanks to its high-performance beamforming RF technology. Twenty-one of the APs were deployed across the museums, each of which had a Zyxel ES1100-8P PoE switch installed.

The network, completed with four UAG4100 unified access gateways and an NXC2500 wireless network controller.

With the Zyxel solutions selected, a five-person team from Light Technology got to work installing the new WiFi infrastructure at the museums. Working at one museum at a time, it took the team only 20 days to complete the work at all five sites.

With the equipment quickly proving to be "reliable and functional," visitors are now enjoying app-guided tours and WiFi access, and Mahmudov says the success means the network infrastructure will be rolled out to many more museums across the city.

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Products Used

UAG4100 • Unified Access Gateway

- IEEE 802.11 a/b/g/n dual-radio design
- Supports 200 concurrent users by default and up to 300 via license upgrade
- Integrated account generator, Web-based authentication portal and billing system
- Supports external RADIUS servers
- Per account bandwidth management
- Built-in WLAN controller for centralized AP management and effortless WLAN scalability
- SP350E Service Gateway Printer enables one-click account and billing generation
- SMS ticketing with ViaNett protocol support

ES1100-8P • 8-port FE Unmanaged PoE Switch

- Affordable solution for fast Ethernet environment
- Better performance and Efficiency
- Transmission Reliability
- Desktop size with flexible rack-mountable and wall-mountable design fit your working environment

NXC2500 • Wireless LAN Controller

- Auto provisioning and centralized management of up to 64* APs
- Zyxel Wireless Optimizer for easy planning, deployment, and maintenance
- Advanced ZyMesh technology for simplified AP deployment and WLAN extension
- Enhanced RF management with auto healing
- Flexible traffic forwarding with tunnel and distributed modes
- Comprehensive guest network management and granular access control

*Management of 64 APs is supported with firmware version V4.10 or above

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NWA5121-NI • 802.11n Unified Access Point

- Ceiling- and wall-mountable design with optimized RF performance
- 2-in-1 standalone/managed AP design
- CAPWAP management supported
- Simple, speedy deployment with APFlex™ and Zyxel One Network utilities

About Zyxel Communications

Focused on innovation and customer-centricity, Zyxel Communications has been connecting people to the Internet for nearly 30 years. Our ability to adapt and innovate with networking technology places us at the forefront of creating connectivity for telcos and service providers, business and home users. Zyxel is 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.