ZYXEL
NETWORKS

Success Story

Zyxel Networks Helps Russian Printing Company Automate Processes with Secure and Reliable Network

Manufacturing
INDUSTRY

Dominanta
CUSTOMER

Russia
COUNTRY

Wireless & Security Solution
SOLUCIÓN

Overview

Challenges

- Had to ensure steady network connectivity through thick walls and warehouses with metallic material
- Warehouses had dense shelving and complex structure, making it difficult to ensure consistent network connectivity
- The network had to accommodate possible future expansion to employees using mobile devices

Solution

- Zyxel Wireless Solution
- Zyxel Security Solution

Results

- Seamless wireless connectivity throughout the premises accessible through phones, laptops, and warehouse workers' mobile terminals
- Servers back in use as the network allowed to take full advantage of them
- Seamless remote working facilities for employees during the pandemic

"The implementation of Zyxel wireless and security solutions by BCS allowed us to automate the company's processes and helped to ensure the proper level of comfortable remote work for all employees during the pandemic. This implementation ensured the development of our business."

Victor Egorov
Project Manager, Dominanta

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Background

The project site included an office and warehouses, located several kilometers from each other. The office had 40 desktops, ten servers, and unmanaged switches connecting them all. The company had a WiFi network that ran on residential-grade routers, which were not suited for the purpose. The wireless network was meant to connect a dedicated laptop in the meeting room and employee smartphones. The warehouse had two PCs, mainly used for office applications, accounting systems, and e-mail. The company wanted to upgrade its network solution to meet modern security and reliability demands. For this, approached the integrator partner BCS.

Challenges

The main challenge was that the three warehouses were separated by old thick brickwork, with freight elevator shafts and many metal structures inside. Thick walls and metal equipment weaken wireless signals. Moreover, one of the warehouses had dense shelving and several packing areas, which posed more difficulties in maintaining adequate signal strength.

Explaining such issues, Vladislav Kondrashov, the technical director of BCS, said that the server equipment was outdated and no longer met the company's needs.

"Low productivity and limited resources led to employees gradually switching to PC as the main working tool both for working with data and for storing it," Kondrashov said. "Because of this, if any of the PCs failed (especially any used for storage), there was a major problem. And I'm not talking about the danger of ransomware viruses alone."

When the need to work remotely began, many problems of remote interactions also came up. Even though the network traffic witnessed several anomalies, there was no way to get additional information on them because of the use of unmanaged switches.

Since the company was planning to enable its employees to work using mobile devices in the long term, the wireless network had to be robust and extremely reliable to accommodate future expansion.

Kondrashov adds that the lack of automated warehouse accounting led to problems with the shipment and storage of products. The exchange of data with the office depended entirely on when and how warehouse employees could sit down at a PC and fill out documents manually and send them by mail.

Hence the project also needed to facilitate the automation of warehouse operations to reduce personnel errors and obtain operational information on the state of the warehouse in hot mode. Simultaneously, due to the lack of a reliable and inexpensive internet service provider near the warehouse, it was necessary to provide for the possibility of its operation offline without using cloud solutions.

Finally, a problem with the existing wireless system was uncontrolled access to it. The warehouse needed modern WiFi that the company could manage easily. All this had to remain within a limited budget.

Solutions and Benefits

The customer's criteria for selection of solutions were:
- Creation of failover clusters of servers (hypervisors) in the office and the warehouse
- Full backup of virtual machines + additional backup of data inside the VM
- Combining two firewalls in the office into a single complex for transparent switching to a backup gateway without breaking user sessions
- Reliable and stable WiFi in the office and warehouse with seamless roaming, large coverage area, and local management
- Managed PoE switches for connecting WiFi access points and, in the future, VoIP phones
- At least 6-7 years of operation without significant modernization or replacement of equipment
- Ideally, no single point of failure; in reality, duplication of the network's primary nodes and components with the possibility of recovery in the event of failures within one working day.

Solutions and Benefits

Three leading global manufacturers of network equipment, including Zyxel Networks, participated in the tender for the supply of equipment.

Commenting on the final choice, Kondrashov added, "Zyxel Networks was chosen because of their optimal combination of the solution cost and compliance with the customer's requirements. The presence of an integrated Radius server and the ability to visually control access to the wireless network at the level of individual devices and users using the SecuReporter utility was also important. Finally, ease of use of the solution with access strictly based on authorization was paramount."

Two people led the implementation project—one from the customer and another from the integrator. Three employees carried out equipment installation. All work began from the warehouse, where the network had to be rebuilt from scratch.

Installation was carried out in three storage rooms. The number of access points per room depended on the number of shelves and open space. There were four access points per 1000 square meters of densely occupied racks and two access points per 1000 square meters of open space. The first day was spent assembling the cabinet, installing servers, network equipment, physically connecting access points, and switching and configuring a firewall. On the second day, the device firmware was updated, and the switches and the access point controllers were configured. The installers then tested the WiFi coverage on phones, laptops, and the mobile terminals of warehouse workers.

After completing the work at the warehouse, the project team proceeded to re-equip the office. WiFi settings at the office were similar to those at the warehouse. The installation of the switches, their configuration, and additional cable routing took one working day. Office users had by then began to connect to the network gradually. Thus testing was combined with the transition to a new wireless network.

"The Zyxel's solution made it possible to propose and implement a project that had no 'childhood illnesses," Kondrashov explained. "The solution also offered more value than others in the market that were at least 6 to 8 times more expensive."

In the office, the transition to new equipment made it possible to transfer work to servers, introduce more advanced collective work methods to get a system with redundancy, and store several full backup copies of virtual servers. The use of port isolation features on the switches has helped protect work PCs and laptops from potential virus attacks. Using Geo-IP on gateways eliminates at least 95% of network attacks and scans.

Accommodating for potential expansion or reconfiguration of the warehouse was important. Hence BCS provided the customer with options to add several additional access points. In the office, the customer wanted to replace the remaining two unmanaged switches with PoE managed switches and switch to VoIP in the future.

In short, the project helped Dominanta secure a wireless network that met its operational demands and allowed easy remote work during the pandemic. Although the nature of the building posed significant challenges to efficacy, Zyxel Networks overcame them and ensured that the customer's needs were all met.

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Products Used

ZyWALL USG40W • Unified Security Gateway

- All-in-one Next Generation Firewall (NGFW) for small businesses
- Anti-malware protection with firewall, anti-virus, anti-spam, content filtering, IDP, and next-generation application intelligence
- Robust SSL, IPSec and L2TP over IPSec VPN connectivity
- Built-in WLAN controller for centralized management of up to 10 APs

ZyWALL ATP100 • ATP Firewall

- Machine learning threat intelligence with global sync
- Sandboxing defeats unknown threats
- Hybrid scanning leveling up malware blocking
- High assurance multi-layered protection
- Reporting and analytics on cloud and device
- 1-Year full functional license services

GS1920-24HPv2 • 24-port GbE Smart Managed PoE Switch

- 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
- Unique port combinations futureproof the network
- Smart fan design offers silent operations in your office
- Complies with IEEE 802.3at PoE Plus with a large PoE budget of 375W

Products Used

XGS1930-28 • 24/48-port GbE Smart Managed Switch with 4 SFP+ Uplink

- Handles the increasing high-bandwidth applications in your office affordably with four built-in 10G SFP+ uplinks
- NebulaFlex gives you the flexibility to switch between standalone and our license-free Nebula cloud management
- Nebula cloud management allows easy deployment, real-time configurations and effortless access to all your cloud devices anytime
- Easy management and setup with web-based interface and intuitive wizard
- User-friendly design includes one-touch "Restore" button and intuitive PoE usage LED
- Smart fan design offers silent operations in both desktop or rack-mount environment

NWA5123-AC • 802.11ac Dual-Radio Unified Access Point

- Ceiling- and wall-mountable design with optimized RF performance
- 2-in-1 standalone/managed AP design
- CAPWAP management supported
- Enterprise-class 2x2 802.11ac AP supports combined data rates of up to 1,200 Mbps
- Simple, speedy deployment with APFlex™ and Zyxel One Network utilities

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 streamlined 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

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Products Used

NAS326 • 2-Bay Personal Cloud Storage

- Zero-configuration design for remote access from Zyxel Drive app
- Free Zyxel DDNS and DirectConnect P2P myZyxelcloud services to enable easy remote access to NAS
- Support Zyxel Drive app for photo backup and storage space sharing applications
- Support Zyxel zCloud app for video streaming application

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.