



Enhancing Public Safety at Korean Dam with Secure VPN Network

Overview

The Water Resources Management Agency teamed up with Business Plus and Zyxel Networks to establish a secure, closed network for its CCTV system. Their goal was clear: monitor downstream water levels in real time and display safety warnings on an on-site electronic board to prevent accidents and protect the public.

Zyxel Networks' USG FLEX 100 firewall was deployed to realize this vision. Using IPSec VPN tunneling, it created a secure, encrypted, and authenticated network connecting the dam to the central control office.

Challenges

It was far from straightforward for the Water Resources Management Agency's regional branch to build a secure communication network. The team's priority was to create a closed system that would keep critical communications for its CCTV network completely isolated from the public internet. This safety measure was essential to monitor water levels downstream in real time, as any delay could put nearby residents and passersby at risk. Beyond monitoring, the system also had to connect with an on-site electronic board to broadcast safety messages and risk levels, warning people in time and helping prevent accidents.

The dam's remote location made it impossible to install a wired network. The team needed a way to securely manage wireless communications. The solution also had to ensure stable, mission-critical operations.

Customer

Water Resources Management Agency

Industry

Public Utilities

Location

Jinan County, South Korea

Partner

Business Plus

Customer Background

The local branch of the Water Resources Management Agency manages the dam and surrounding water infrastructure. It monitors water levels in real time, issues warnings to avoid downstream accidents, and ensures safe water supply and flood control for nearby communities. Besides, it applies advanced water technologies to enhance local operations.



Solutions

Zyxel Networks' USG FLEX 100 next-generation firewall was deployed to meet the project's unique requirements, delivering both protection and performance. The robust firewall became the cornerstone of the new system, chosen for its ability to build a secure and closed communication network without relying on traditional wired infrastructure. The firewall's IPSec VPN tunneling feature authenticated and encrypted each IP packet in a communication session. This ensured secure and reliable data sharing.

To further support operations, the USG FLEX 100 provided a 900 Mbps SPI firewall throughput and a 270 Mbps VPN throughput, offering the speed and stability necessary for real-time monitoring and public safety alerts.

The firewall provides multi-layered protection against both internal and external threats, applying the principles of Zero Trust access. It also ensures consistent security controls across headquarters, branch offices, and remote sites.

Results

Zyxel Networks' USG FLEX 100 firewalls create a secure, closed network that links the central office with the dam site while blocking all external access. This setup enables reliable, protected, and real-time communication for public safety and monitoring, ensuring the system can effectively support critical operations at the remote site.

- Protection of critical infrastructure and smooth communications between the office and the dam site
- Prevention of accidents through high-tech solutions that enable real-time monitoring and timely public safety alerts
- Reliable, secure data exchange through an encrypted VPN within a closed network

Product List



- USG FLEX 100 Firewall

