LARGE-SCALE VIDEO SURVEILLANCE WITH REMOTE ACCESS

SUMMARY

Surveillance solutions are a growing market. If we look around public spaces, more and more cameras are popping up on the streets, shopping malls, parking lots, leisure areas, and even around private buildings. Over the last couple of decades, security surveillance has become a hot topic in the public and private sectors. Data from 40 years' worth of research suggests that having a CCTV system notably decreases crime rates, especially in car parks and residential areas. They are also an instrumental tool in revealing the crimes that have occurred.

CHALLENGE

Security surveillance solutions come with multiple challenges that vary by circumstances. Setting up efficient surveillance systems becomes even more tricky for large areas. They involve much more extensive ecosystems that still require powering up options, reliable connectivity, and the possibility to set up multiple cameras without overcomplicating the whole infrastructure. For example, car park surveillance involves far apart objects that are outside. In this case, a power source can become an issue just as connecting the cameras to the internet since the Ethernet cable can cover only distances up to 100 meters. Choosing the right connectivity product is crucial in solutions like these and can significantly impact the installation timeline and expenses.

SOLUTION

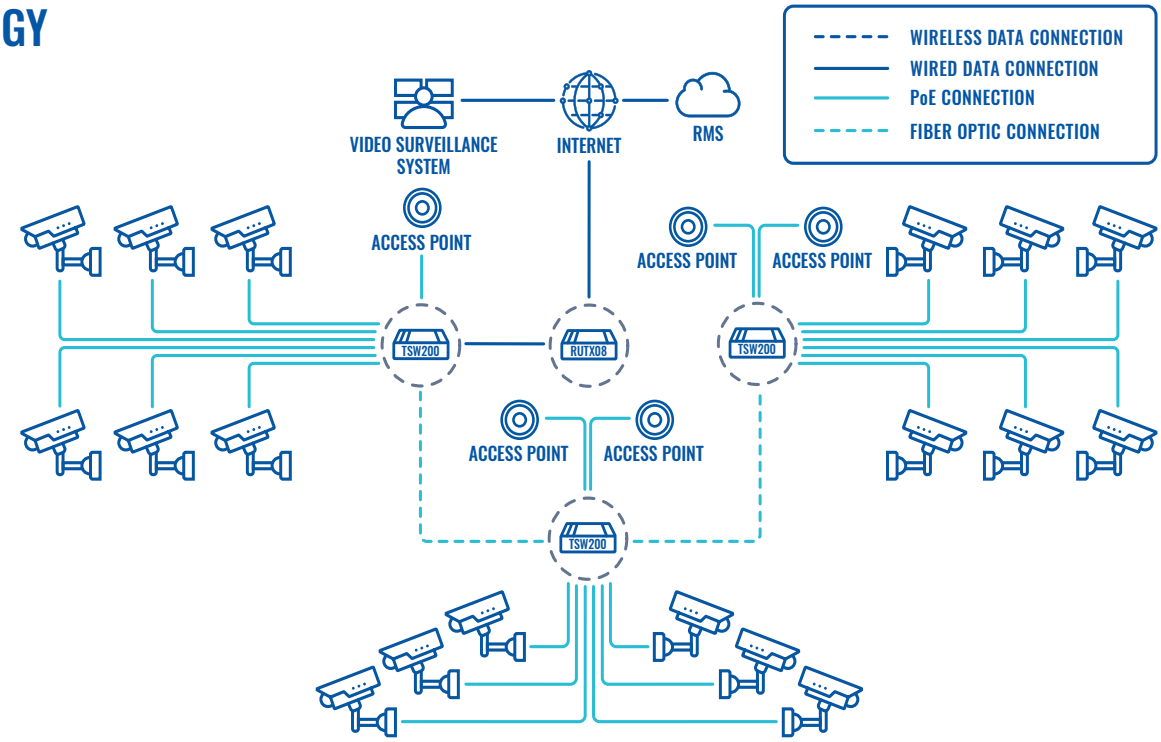
In this solution, a powerful Gigabit Ethernet router - RUTX08 – provides connectivity for the whole ecosystem. RUTX08 is a solid industrial device with advanced security features and compatibility with RMS. In cases where a wired network is not available, a cellular router could also be an option.

RUTX08 connects to the TSW200 switch via Ethernet to provide internet connectivity to the whole solution. This unmanaged Gigabit Ethernet device has eight available PoE+ ports that are sufficient to connect five CCTV cameras and two Access Points while powering them up at the same time. PoE+ standard found in TSW200 provides up to 30W of power per port, with a power budget of 240W, which would be enough even for more power-hungry PTZ cameras. Besides, Gigabit Ethernet offers enough speed and throughput for efficient video data transfer in real-time.

Whenever a solution requires connecting more cameras (or other devices) to the ecosystem, there is a possibility of using more TSW200 switches. In scenarios where the solution elements spread over a large area, there are two SFP ports in each TSW200 to establish long-range fiber optic communication. It enables reliably connecting one TSW200 to another even if they are more than 100m away from each other and maintain the same level of speed.

An infrastructure as large as this one comes with maintenance and support challenges. A security system only serves its purpose if it is up and running without downtime. For this reason, remote management capability becomes essential for running diagnostics and updates or receiving notifications whenever something goes out of the ordinary. Teltonika Networks Remote Management System (RMS) allows staying on top of all these tasks and even securely reaching non-Teltonika Networks devices for remote configuration and troubleshooting. Combining these features provides a reliable high bandwidth solution with minimized installing and maintenance resources due to PoE+ and RMS support.

TOPOLOGY



BENEFITS

- Eight PoE+ ports are sufficient to connect and power up a large device ecosystem with a power budget of 240W.
- SFP connection serves in scenarios where far apart elements require reliable and speedy connectivity.
- The industrial design of the TSW200 switch enables it to sustain harsh conditions and extreme temperature ranges (from -40 °C to 75 °C).
- Compatibility with RMS enables simple remote maintenance and diagnostics to prevent any downtime or security threats.

WHY TELTONIKA NETWORKS?

Reliable surveillance is only possible with reliable and secure connectivity. Teltonika Networks has over two decades of experience developing professional networking products with a great emphasis on security, reliability, and ease of use. We focus on enabling our clients to reduce the complexity and increase the efficiency of their solutions with advanced hardware and software features that result in cost-efficient and easy to support IoT infrastructures.