CELLULAR ROUTER FOR OUTDOOR VIDEO SURVEILLANCE SYSTEM

HIGHLIGHTS

- Sirix is a Canadian provider of security and video surveillance solutions, integrating security equipment into cutting-edge command centres across North America.
- For its outdoor video surveillance system utilising autonomous security boxes, Sirix needed a cellular router capable of maintaining a reliable connection in harsh winter conditions.
- The chosen device is the RUT241 4G router, deployed alongside the TSW202 8-port managed switch. Together with the use of static IP, port forwarding, and the RTSP protocol, these devices help Sirix provide the perfect video surveillance and remote management tool to its clients.

THE CHALLENGE – FREEZING CONDITIONS

No matter the application or where it's installed, ensuring the security of your business is paramount.

It is such a basic necessity, in fact, that the global video surveillance market is expected to grow from $53.7 billion in 2023 to 83.3 billion in 2028, at a CAGR of 9.2%. The reasoning is simple: any form of theft, vandalism, or other form of unauthorised access is unacceptable.

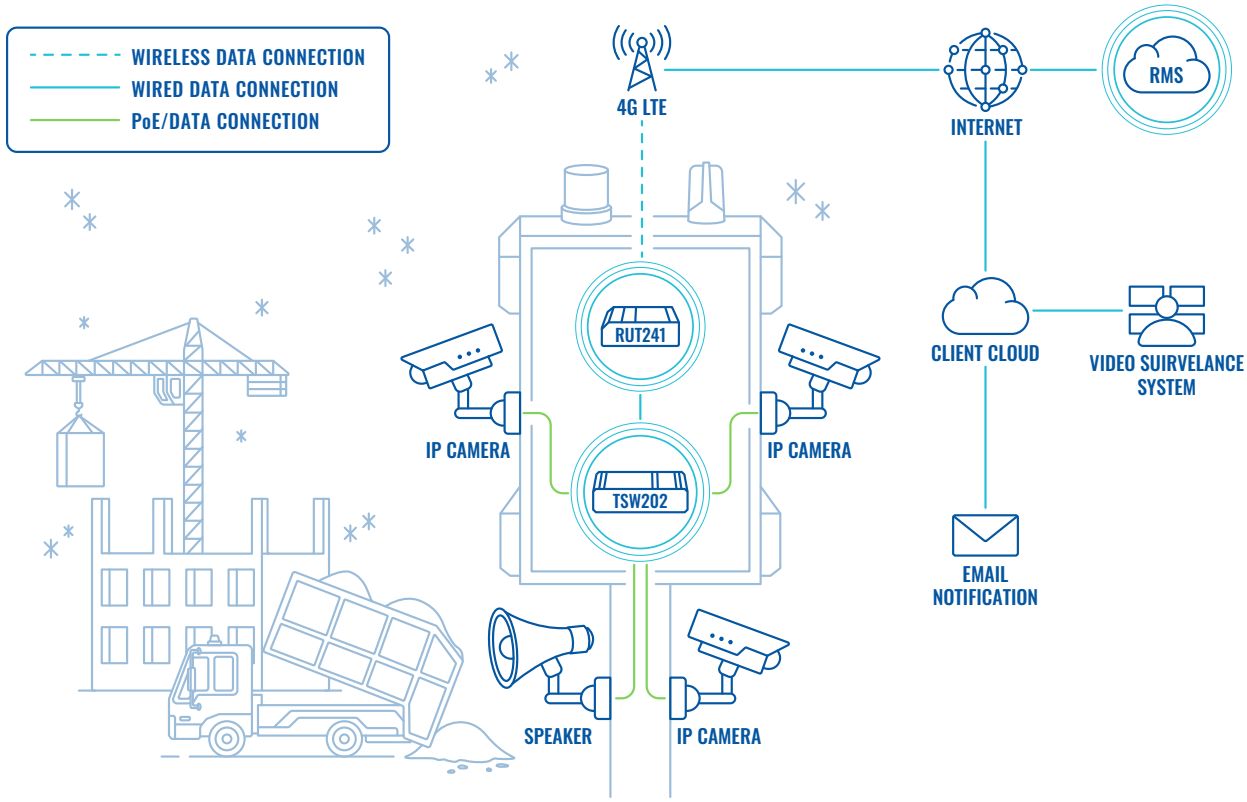
You may think video surveillance is simple to set up. Get a few cameras, a cellular router for connectivity, and you're good to go. The reality is much different, in no small part because, as mentioned, this is a global market, and environmental conditions aren't equal across the globe.

Consider, for example, the typical Canadian winter landscape. Harsh winds, heavy snowfall, and freezing average temperatures of −15 °C (5 °F). These extreme conditions are more than demanding, but anything from gas stations to construction sites and critical infrastructure require video surveillance and remote monitoring system to be installed on site.

The equipment must be able to withstand those long winters, and in the case of the cellular router – the connection must remain intact at all times to allow real-time remote monitoring.

Our partner, Sirix, developed autonomous security boxes designed for such conditions. When it came to choosing the cellular router and PoE switch, maximum reliability was the only option.

TOPOLOGY



THE SOLUTION – STEADFAST CONNECTIVITY & PERFORMANCE

Sirix chose the combination of Teltonika's RUT241 industrial cellular router to ensure connectivity in its autonomous security boxes, as well as the TSW202 8-port managed switch to make it even better.

This 4G router is connected via Ethernet to the TSW202, which brings active Power Over Ethernet (PoE) capabilities to this solution. This PoE+ switch is then connected to three CCTV cameras and an IP speaker via its four PoE+ ports, each with a power budget of 30 W at PSE. This centralises the network while eliminating the need for additional devices and cables.

The RUT241 SIM card router connects the security box end equipment to Sirix's cloud platform, using a static IP and port forwarding to direct M2M communication to designated ports and smooth the process of keeping a consistent connection. That connection is LTE Cat 4 – more than enough for this application, and is safeguarded by the cellular router's WAN failover, which automatically switches to an available backup connection if need be.

The data transmission is carried out via the HTTP and RTSP protocols, though this cellular router support many others, including MQTT, Modbus TCP, and SNMP. The transmission is protected by a suite of security features and supported VPN protocols.

From there, the real-time data is made available to the end clients via the Sirix Portal, available on both desktop and mobile devices. This gives them a literal hands-on approach to this remote management tool, including real-time and past remote monitoring, site access control, and controlling the camera via email notification.

Of course, when it comes to a remote outdoor solution such as this, remote management of the cellular router and all other devices is just as critical. Sirix makes good use of Teltonika's Remote Management System (RMS), enabling remote management, monitoring, and access to its fleet of devices.

What about the harsh winter? Well, the RUT241 SIM card router is housed in sturdy aluminium housing and was rigorously tested to maintain operating temperatures ranging from -40 °C to 75 °C. This allows it to take on the great white north without even needing a toque, though we wouldn't recommend dipping it in maple syrup.

There is never room for compromise when it comes to security. Choose the RUT241 4G router and TSW202 managed switch, and ensure your security solution stays online – no matter the conditions.