



SMART IoT BUS STOP ENABLED BY CELLULAR CONNECTIVITY

SUMMARY

The internet of things (IoT) is a prevalent factor in our day-to-day lives. Everything is connected, be it wearable health monitors, security systems, or even simple home appliances. Yet, there are still areas where this technology can provide benefits for businesses and people alike. This is where routers, switches and Wi-Fi come into play and offer an excellent solution for increasing network connectivity capabilities.

CHALLENGE

When it comes to offering accessible internet connections throughout the city, there are numerous scenarios when the network becomes unstable, hard to manage, and data loss can occur. Not to mention that a lot of software requires constant internet access for all processes to run without problems and acquire the latest updates. The old routing technology cannot keep up with higher loads, further limiting modernizing city systems like public transport.

The current city infrastructure was not planned with connectivity in mind, therefore laying down internet cables right now is highly inconvenient and expensive, making cellular connection the optimal choice. Yet the need for more internet coverage is there as society has taken the next step to digitalization. One example of this is various applications that have almost replaced the standard bus ticket.

The old design of the bus stop can be adapted to accommodate advanced IoT solutions and turned into a smart hub. This can be achieved by adding more connectivity options.

SOLUTION

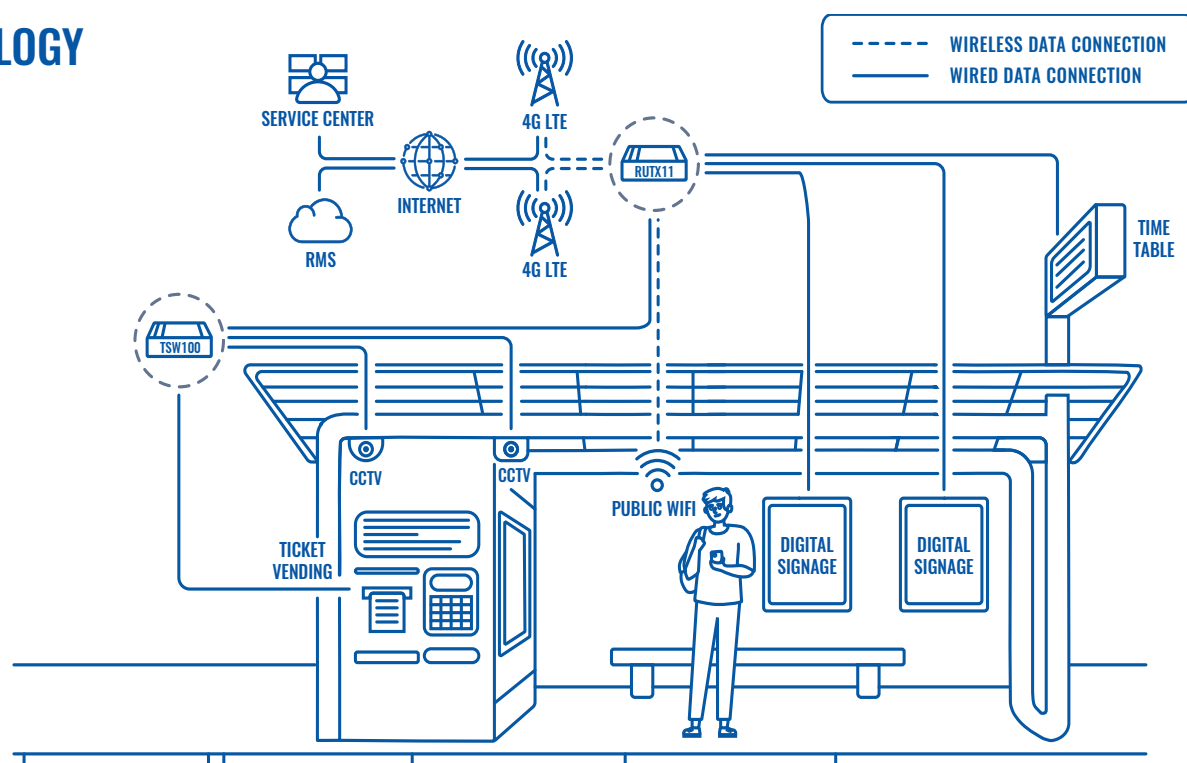
A smart bus stop can become a haven for people by offering public Wi-Fi connection, automated ticket vending and bus timetables. Such a bus stop can also be a significant business venture for companies providing additional advertising space, displaying ads on LCD screens which has excellent RoI (return on Investment).

Of course, having invested into a smart bus stop you want to take good care of it. CCTV surveillance cameras are essential for ensuring security at a public gathering place. You can not only rely on their footage if anything happens, but the camera presence also acts as a preventative measure.

In this case, the RUTX11 router is a great choice. This industrial cellular router will sort out all of the connections needed for the bus stop. RUTX11 accesses the internet through 4G and then shares it through Gigabit Ethernet or Wi-Fi. Thanks to its Dual-SIM technology, RUTX11 has an automatic failover: if one ISP's (Internet Service Provider) network gets interrupted, the connectivity of the bus stop will remain stable. Furthermore, the RUTX11 can be easily reconfigured to swap out WAN (Wide-Area Network) for a LAN (Local-Area Network) connection, adding the ability to connect more hardware to it.

The TSW100 switch can quickly expand the number of available interface connections and even act as a power source thanks to its PoE+ (Power Over Ethernet) functionality which delivers internet connectivity and power via the same cable, lowering the cost and time of integration.

TOPOLOGY



BENEFITS

- RUTX11 can provide fast and stable wireless internet connection for up to 150 concurrent users, which is more than enough for a smart bus stop public Wi-Fi service.
- High level of security thanks to unlimited firewall configuration, authentication certificates, custom access control, and a Web filter with whitelist and blacklist options allows keeping your connections completely safe from threats.
- The operating environment ranges from -40 °C to 75 °C, meaning that no record-breaking summer or winter will affect the hardware, leading to lower upkeep costs.
- Wi-Fi hotspots can be used for marketing research or to monitor people count at the bus stop to optimize bus routes.
- Teltonika Networks RMS (Remote Management System) allows for easy collection of data and remote system management.

WHY TELTONIKA NETWORKS?

Teltonika Networks prides itself on providing clients with flexible connectivity solutions. Teltonika Networks products and services are specifically tailored to seamlessly interface with each other, providing an excellent user experience with a clear-to-use interface and constantly up-to-date software. RUTX11 is a perfect and reliable option for urban IoT engineering. Teltonika Networks aspires to make people's lives easier with technology.

