

Monitoring Elevator Door and Lift Faults in a Major Metropolitan City Using LTE Technology



Challenges

CloudMonitoring is a cloud-based remote monitoring system that offers hosted, all-in-one monitoring of industrial equipment. The company was working with a New York City elevator provider that needed a better way to collect data for remote elevator monitoring systems (REMS).

To solve the issue of expense—while also maintaining high availability and optimal performance—CloudMonitoring wanted to utilize the latest in LTE technology communications to capture data for customers.

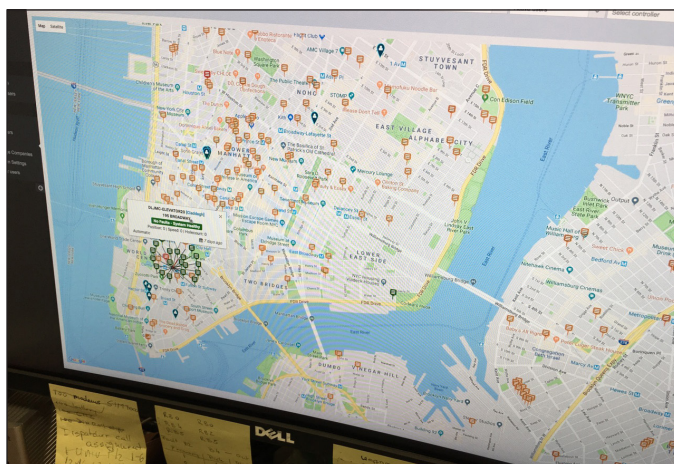
To be feasible to work with CloudMonitoring and REMS, the LTE hardware technology had to provide reliable network access in basement and bunkered locations, support Python and MQTT, offer a “last gasp” capability for communicating after a power outage, and work with leading web-based cloud platforms.

Solution

To accomplish the task at hand for REMS and meet all of its communication requirements, CloudMonitoring decided to implement the ICR-3211B LTE Router with Cat M from Advantech. The ICR-3211B is an industrial-grade LTE Cat M1 machine-to-machine (M2M) router certified on Verizon’s network. The ICR-3211B offers the following three key benefits to CloudMonitoring:

1. The LTE Cat M1 capability addresses the challenge of getting a reliable cell signal in basements and other in-building locations.
2. The built-in super capacitor provides enough power for a “last gasp” message to be sent when the mains power is lost, which is critical for monitoring elevators and escalators in high traffic public transit applications.
3. The ICR-3211B supports the required software development tools CloudMonitoring needed for integration with its own web-based applications.

With the use of ICR-3211B, CloudMonitoring can offer customers its all-in-one monitoring solution utilizing the





latest in LTE technology. With CloudMonitoring, customers are able to receive application alerts via email or push notification if any equipment is operating off normal parameters. It also allows customers to manage users, set up alerts and notifications, create and view reports, and view historical trends and charts.

CloudMonitoring is accomplishing all this with the addition of high availability and optimal performance—customers get quick troubleshooting and avoid machine downtime by identifying problematic factors early.

The Product

ICR-3211B LTE Cat M

The ICR-3211B router is designed for wireless communication in the mobile networks that make use of traditional cellular technologies. The primary purpose of this router is its use in the Category M1 (Cat M1) services on the cellular LTE network.

LTE Cat M1 is a new cellular technology specifically designed for the needs of applications targeting the Internet of Things (IoT) or machine-to-machine (M2M) communications. LTE Cat M1 is a low-power wide-area (LPWA) air interface that lets you connect IoT and M2M devices with medium data rate requirements (375 kbps upload and download speeds in half duplex mode).

- Global LTE Cat.M1 coverage with GSM fallback
- Powerful CPU with 1.3 GB storage to host customer SW applications
- 2× SIM with cover, eSIM ready
- 2× Ethernet 10/100, 1x RS232, 1x RS485 and I/O
- Robust metal cover with DIN and Wall mount options
- Operational temperature range from -40°C to +75°C
- Backup real-time clock
- Sleep mode & power ignition
- Last-gasp super-capacitor

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