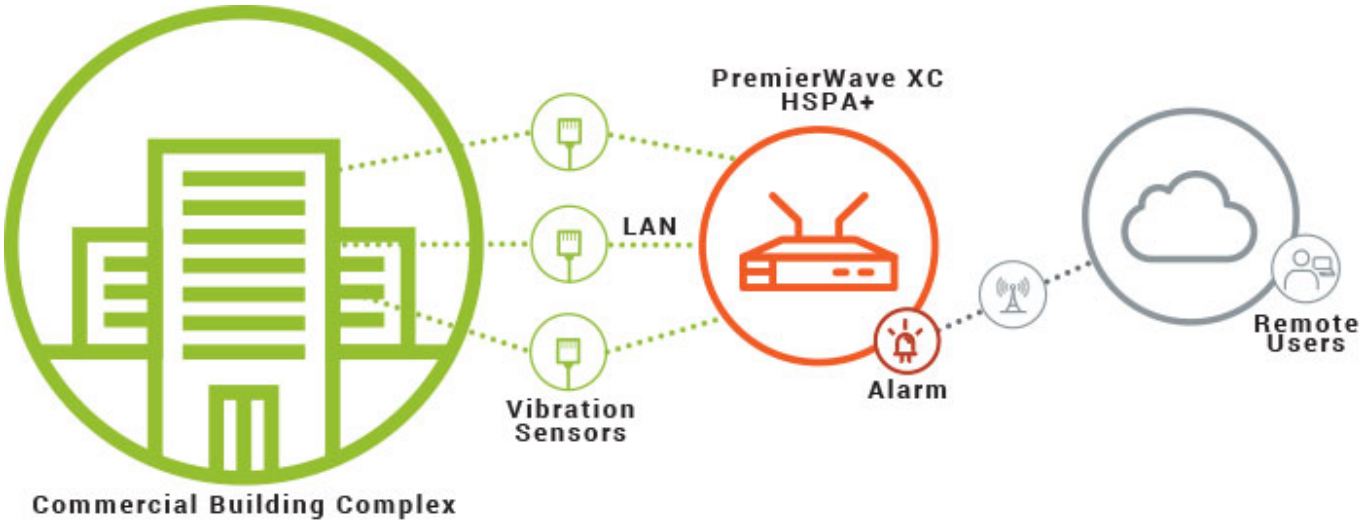
Real-Time Building Vibration Monitoring

Ensuring Public Safety Through Responsive Real-Time Building Vibration Monitoring



Ensuring Public Safety Through Responsive Real-Time Building Vibration Monitoring

Challenge:

Commercial Building Vibration DetectorsThe customer is a leading integrator of building instrumentation working on a custom project that needs to monitor vibrations in commercial buildings to detect ground disturbances resulting from events that may cause structural change, such as earthquakes. The customer needs alarms to be generated when building vibrations exceed a predetermined threshold for response in real-time. Data collected must also be fed to custom applications for analysis and preventative measures.

The buildings are equipped with vibration sensors which are constantly sending data over Local Area Network (LAN) for processing locally; however, an alarm needs to be sent to the proprietary cloud-based notification application via cellular link if a significant vibration is detected. Could Lantronix provide a reliable and intelligent cellular solution that is also easy to implement and can fit within existing

infrastructure?

Key Requirements:

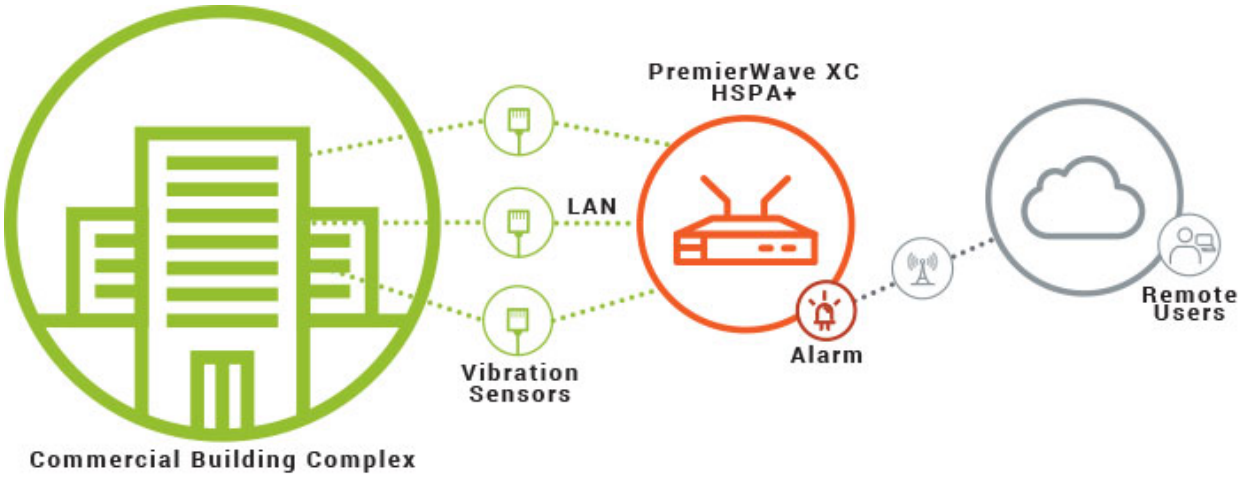
- Quick time to market while supporting extensibility with a custom application
- Solution must create LAN on Ethernet side and monitor data from multiple devices via TCP connections
- Ability to upload data via a metered cellular connection

The Solution:

PremierWave XC HSPA+

The Lantronix PremierWave XC HSPA+ intelligent cellular gateway was implemented as a headless Linux computer loaded with custom applications. This implementation uses the PremierWave XC HSPA+ in gateway mode to create a local LAN on the Ethernet port. It then leverages built-in run time support for the Python programming language and provides necessary customization required by the customer?s application to receive data from the Ethernet devices and parse it. When the data exceeds the programmed threshold, an HTTP connection is made to a cloud server to send an alarm to users anywhere and anytime.

Lantronix PremierWave XC HSPA+: Intelligent Commercial Building Vibration Monitoring



Results:

- Quick deployment of custom application with Python program
- Reduce data costs on cellular connection by deploying intelligence to the edge
- Data available to business users anywhere in the world

About the Lantronix PremierWave XC HSPA+

High Speed 3.5G HSPA+ Intelligent Gateway and Application Server

PremierWave XC HSPA+PremierWave XC HSPA+ is an industrial grade 3.5G wireless solution offering Penta-band HSPA+ performance, network redundancy, and enterprise-level security for mission critical applications, time sensitive event tracking, and M2M/IoT connectivity.

PremierWave XC HSPA+ Key Benefits:

- Penta-band UMTS/HSPA+ (Global Coverage)
- Quad-band GSM/GPRS/EDGE
- Ethernet-to-Cellular Routing
- SMS ? Shoulder Tap, Relay Control, Event Notification and Tunneling
- Dual network connectivity (wired Ethernet and Cellular) for flexibility and

redundancy

- Unique design for quick and easy connectivity to virtually any device with a serial port
- Industrial Grade Design
- 5-Year limited warranty