

# Ensuring Public Safety Through Responsive IoT Seismic Monitoring



## Key Requirements

- ✓ Quick time to market and extensible with custom applications
- ✓ Solution must create LAN on Ethernet side and monitor data from multiple devices via TCP connections
- ✓ Ability to upload data via high-performance Wi-Fi connection

## Results

- ✓ Quick deployment of custom application with Python program
- ✓ Increased wireless speed, improved reliability and extended transmission range with dual-band (2.4/5 GHz) 802.11 a/b/g/n/ac
- ✓ Data available to business users anywhere in the world

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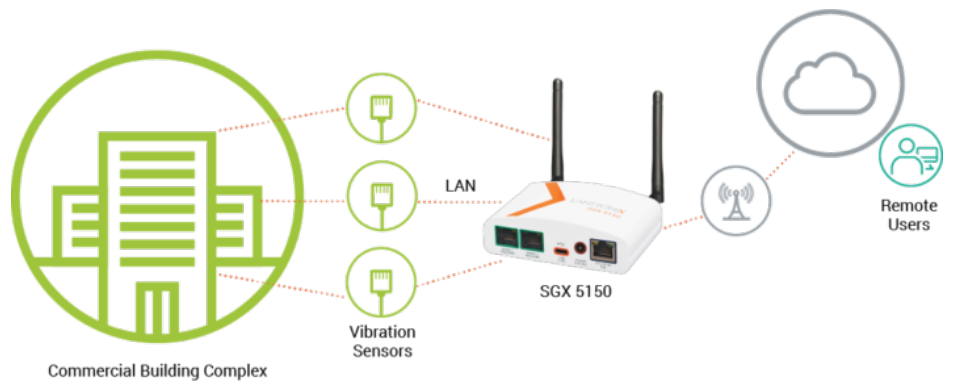
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## The Challenge

The 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 high-performance Wi-Fi if a significant disturbance is detected. Could Lantronix provide a reliable and intelligent solution that is also easy to implement and can fit within existing infrastructure?



## The Solution

The Lantronix SGX 5150 IoT device gateway was implemented as a headless Linux computer loaded with custom applications. This implementation uses the SGX 5150 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.