Technologies International 3e™

SensorNet

ORNL SensorNet Program for Fort Bragg and Fort McNair

The Challenge

The customer was seeking ways to improve emergency response and better communicate data between the base's emergency response teams and public safety personnel. Data needed to be collected from a large number of sensors, which were monitoring equipment that supported base security and ensured smooth facility operations. The solution had to provide real-time information and meet all applicable military security standards.

The Solution

3eTI developed a secure, wireless solution to get real-time data from around the base to an integrated incident management center. A variety of sensors were installed across the facility using 3eTI wireless products to send the data back to command and control. These sensors monitored items such as chemical, radiation and weather data, and sent it to the Emergency Operations Center (EOC). The data was used to aid in the control, analysis, modeling and prediction of various types of events and occurrences. Then, the data could be forwarded to appropriate field and end user personnel either in other buildings or in their vehicles to respond to situations needing their attention.

This is a Department of Defense Net-Centric Enterprise service (NCES) solution that empowers the end user to pull information from any available source, with minimal latency, to support their mission. The solution meets Open Geospatial Consortium Sensor Web Enablement (OGC-SWE) standards for web accessible sensor networks and archived sensor data that can be discovered and accessed using standard protocols and application program interfaces (APIs).

The Benefits

This was a specialized, yet non-proprietary application that was easily implemented — essentially plug and play for the customer. Information could be sent wirelessly and monitored in real time by the EOC and quickly disseminated to field personnel, allowing for immediate reaction and response, before a situation could escalate. Another benefit is that the solution was highly scalable, enabling additional sensor monitoring to be added as it was needed. The entire solution was highly secure and meets NIST's IEEE 1451 standards for connecting smart transducers to networks.

Products Used

- Wireless Video and Sensor Surveillance System with Mesh (3e-538)
- FIPS 140-2 Outdoor Wireless Interface (3e-523-3)
- FIPS 140-2 Outdoor Dual Radio Wireless Mesh Node (3e-525A-3)

How it Works

Data is first collected by a series of sensors installed throughout the facility.

The data is then fed into a non-proprietary wireless solution that meets IEEE 1451, DoD Net-Centric Enterprise Services and OGC Sensor Web Enablement standards.

Benefits of the Non-Proprietary Solution

Plug and Play
Pervasive, Secure, Scalable and Interoperable
Open and Extensible

The data is subsequently available for many applications, including command and control centers; field and end user support; and analysis, modeling and prediction.

Command and control center

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