Success Story

Connecting Remote Power Generators with Edge IoT

An economic services engineering company uses ADLINK's Edge IoT Solution for emergency disaster response after hurricane Maria

Business Challenge

Maintaining uninterrupted power after a disaster strikes can be the difference between receiving medical care and putting lives in further jeopardy. After Hurricane Maria struck the Caribbean in 2017, an engineering services company with a focus on emergency response deployed over 2,000 mobile generators to several difficult to reach disaster areas in suboptimal conditions. With a very limited staff, and no remote access to crucial metadata and parametric data, the team had to perform onsite visual inspections every day and manually record data in order to have any indication of the overall health of the generator, including fuel levels, maintenance needs, and whether the generators were even still operating. There was also a large risk of running the mobile power generators at the same time as the local power company was working to restore services. If the mobile generators were running at the same time, it would cause a large power surge that would completely damage the mobile generator.

The Solution

By leveraging ADLINK's Edge IoT solution, Vortex Edge®, the engineering services company was able to connect the previously unconnected generators and now have full remote visibility and management over the distributed generators. The company is using ADLINK rugged edge hardware to extract and process generator data that is able to withstand the harsh post-disaster environment. Then, by streaming real-time generator data on the Vortex Data River™, the company is now able to connect any asset or piece of equipment, share real-time generator data to multiple end points, and replicate generator data at the edge and in the cloud, making data access for key stakeholders simple and secure. As part of the Vortex Edge® solution, the company is also leveraging Vortex Edge® micro services for edge visualization and analytics which now allows for real-time event processing and alerts, so when something does occur with the generators, the team can take action quickly.

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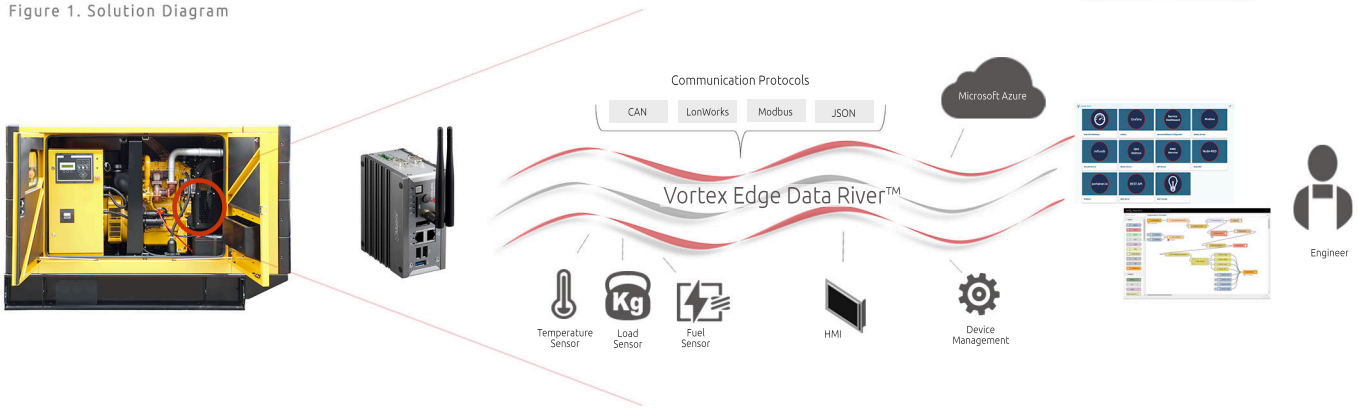
Figure 1. Solution Diagram



Value

The emergency services organization will reduce costs and man-hours by confidently optimizing maintenance and reduce risks associated with loss of power and/or catastrophic failure of equipment in the field.

Benefits

- *Remote Monitoring from Central Location*
- *Single System for All Generator Make/Model*
- *Refueling Route Optimization*
- *Raw real-time data streaming to Cloud or Datacenter*
- *Real-time Visualization of Key Metrics*
- *Real-time Warning Insight Alerting*

ADLINK Solution Components

Edge Harware +
ADLINK Matrix Intelligent Gateway

Edge IoT Software +
ADLINK Vortex Edge® with Vortex Data River streaming

Edge IoT Microservices = **ADLINK Vortex Edge® Solution**
Vortex Edge® OT Connect
Vortex Edge® Cloud Connect
Vortex Edge® Visualization
Vortex Edge® Persistence

Customer's Existing IT and OT Components

- Microsoft Azure Cloud
- HMI
- ModBus connection to asset controller
- Influx DB for local storage
- Embedded Web App

About the Company

The economic services engineering company is a billion dollar full service engineering and economic development firm with a focus on community infrastructure and development. The company employs over 6,000 engineers globally and has chosen to remain anonymous. In an effort to protect their privacy, we cannot disclose a full description of the company.