AWS IoT Case Study

Cloud Connected Industrial Pressure Sensors

Medium One

Medium One delivers an IoT centric Cloud-based data intelligence platform that allows customers to benefit from real time data insights. We handle the Cloud and data streams infrastructure, in addition to the analytical environment which then frees up our customers to take actions based on data insight that we deliver. Customers use our highly customizable programmatic workflows (i.e., algorithms and action sequences applied to data streams) by interfacing with an intuitive drag n' drop workflow GUI. Analytical flexibility is achieved by use of our algorithms library which also includes pre-packaged modules for specific use cases along with more complex modules such as those for machine learning. Medium One cooperated with Microchip to provide an integrated IoT monitoring kit from sensors to real-time cloud intelligence leveraging AWS infrastructures and services to deploy it's it cloud application.

THE CHALLENGE

Existing industrial legacy sensor are not cloud connected lack ability for remote monitoring

Lack ability to automated the monitoring to detect anomaly or predict key events

Easy of Deployment and robust connectivity in a ruggedized industrial environment.

THE SOLUTION

With minimal effort, customer can able to easily connect their sensor to the Microchip Board. The IoT Ethernet Monitoring kit provided an starting point with prebuilt interface from UART to Medium One. Once connected multiple stake holder can visualize real-time data from the sensor from the Medium One dashboard or iOS and Android mobile app

Making sense of data is key to unlocking value. With sensors collected, customer is able to correlate events such as failure or down time to early indicator. Within Medium One's environment, customer is able to view and run analyst including machine learning on historic data to easily build algorithm for smart real-time predictions and alerts. Algorithms are able to automatically learn the behavior of each individual sensor to create smart and adaptive monitoring. The integrated analytics and machine learning environment means the customer doesn't have to learn new tools or services and focus on the part that matters.

In an industrial environment, connectivity can be challenge. The Ethernet solution based on the Microchip offered the most robust connection for this industrial application. Microchip's new ethernet daisy chain adds to ease of deployment. Furthermore, this offered an ultra simple method of setup. Provisioning the board was plug and play and a simple form on a web browser or mobile app. This enabled the customer to ship out units in the field with confidence to a self service setup and installation

THE BENEFITS

Scalability

Whether designing a system for small or large volumes, the effort is the same. Medium One platform automatically scales benefiting from AWS to deliver consistent performances required for real-time data compute and intelligence.

Time and Cost Reduction

Predefined hardware Bill of Material, schematic and firmware Eliminates costly system integrators to build a customized platform
10x less development time and maintainance
Very low barrier entry cost to start commercial IoT professional projects

Device to Cloud Solution

Provide multi-tenant IoT Solution customized for our application with all the cloud platform application out of the box.
Includes all the major pieces for a true end to end platform
Provisioning, security, bi-directional connectivity
Cloud storage, analytics, real-time processing, Reference mobile application
Customer dashboards

ABOUT AND AWS

Microchip Technology worked with Medium One leveraging the IoT Ethernet kit to deliver an Ethernet LAN8740A and PIC32 (32bit micro-controller) connecting to Medium One's data intelligence IoT platform. Customers are able to quickly integrate existing industrial sensors to the kit within days for rapid prototyping and proof of concept. The IoT Ethernet kit is a commercial grade kit enabling customers to cut and paste the design bill of material, firmware code to connect to AWS following proper policies. The IoT Solution kits encompasses, integration, security, cloud storage, analytics and mobile app provide a high value, low risk starting point. Medium One leverages Amazon's scalable infrastructure deploy its data intelligence platform. Customers can deploy their own private Medium One environment on Amazon EC2 services in rapid time and have a full data intelligence platform for their IOT application.

Amazon Web Services provides a broad platform of secure, cost-effective, high-performance cloud services that help you collect, store, process, and analyze Big Data workloads.

NEXT STEPS

To learn more about how AWS, Microchip and Medium One can help your business visit www.microchip.com/iot