LITMUS Automation

Industrial Case Study

PLATFORMS/SOFTWARE USED:

loop**Edge** ∞

loop ∞

Predictive Maintenance & Monitoring
Create a new business model and revenue streams using your data.

Customer/Company: Commercial Boiler Manufacturer | **Division/Role:** VP, After Market Sales

Problem

The customer is a commercial industrial boiler manufacturer, whose assets include a long life span of forty to fifty years. From an OEM perspective, the company wanted to find an additional revenue stream after selling an asset. To do so, the company had to offer additional value to their existing hardware and equipment, which would create new revenue streams and an updated business model. The customer required a flexible solution that could be deployed with any PLC or controller across their different customer sites.

Solution

Litmus Automation came up with an Edge and Cloud-based solution. At the edge level, all devices were collecting data from legacy interfaces. Rockwell Automation PLCs and Modbus based PLC devices were used at the edge-level with LoopEdge installed on the top of a Linux gateway. Some assets had Rockwell Automation PLCs using Ethernet/IP, whereas the boiler controllers used a Modbus protocol. All data was transferred to LoopCloud via 4G cellular GSM communication, but could alternatively be replaced with Wi-Fi, Ethernet or any other configuration if required.

A protocol translator component was placed between these devices and Litmus Automation's LoopEdge software. LoopEdge collected data from the devices, standardized the device data, created proper isolation, implemented security protocols and then pushed the data to the Loop platform.

The data collected was analyzed and processed over time, and stored in Heroku. Triggers and alerts were then placed over the data. These triggers were set at levels that indicated the machine was likely to fail. Once these thresholds were reached, a lead was generated in the company's Salesforce CRM system in order to notify their customer service team that the boiler needed maintenance. Also, on the top of that data, the company and their customers could visualize data in real-time on an individual boiler or all boilers in the field.

The Loop platform stored, analyzed and visualized the data into a customer-facing user interface that the company, or their end customers, could use to visualize and analyze the machine health data, which the company could sell as additional services and add-ons to their customers.

Solution Journey

- Data was collected from a Modbus and Ethernet/IP driver using LoopEdge.
- Data transformation was implemented on top of LoopEdge to normalize the data.
- An algorithm was implemented to only send data at specific intervals, sending data to Loop via MQTT.
- Data was visualized on Loop platform.

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- Data pushed to Heroku and Salesforce CRM for data warehousing, lead generation, and customer support purposes.

Solution Journey (*Cont'd*)
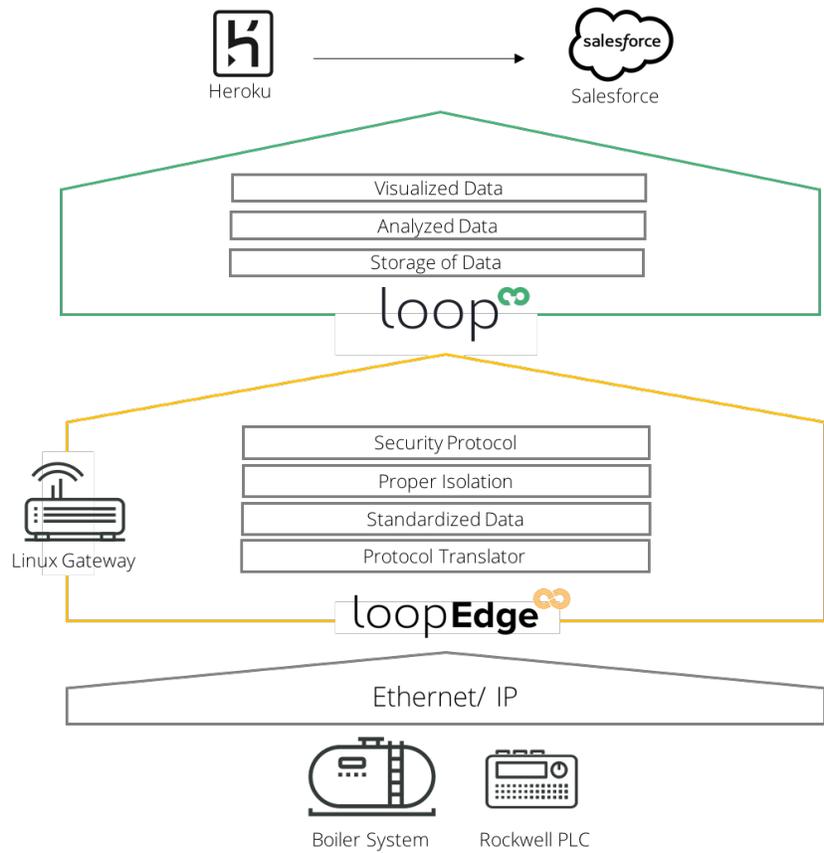
End Benefit to Company

A new revenue stream and business model was created as a result of understanding the company's asset data. They had better analytics of their own assets that they were selling, and provided value-added services for their consumers and users with better visualizations and real-time machine health monitoring for their clients. This solution created a value to the end user by decreasing failure costs, while also increasing brand awareness and customer loyalty.

Is This Solution Replicable?

Yes. This solution is replicable across several industrial PLCs, industrial gateways, data warehousing platforms and CRM systems.

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