

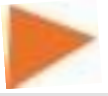
The logo for GadgEon, with 'Gadg' in blue and 'Eon' in orange.

Engineering Smartness

MULTI-LEVEL PLATFORM INTEGRATION FOR EV CHARGING OPERATION

April, 2020

Version 01



Multi-Level Platform Integration for EV Charging Operation



Our client was facing challenges in the real time monitoring and connectivity of their EV fleet charging operation. The existing system had multiple limitations such as non-availability of real-time status and locations of nearest charging point to customers, higher cost of maintenance of charging units, no integration of enterprise applications such a Payment gateway, ERP, and CRM. These challenges were resulting in very poor customer experience leading to unhappy customers.

Solution Description

- Connected charging station with the back-office using an Open Standard Protocol – OCPP 1.6
- Leveraging location data of the vehicle and the real-time charging station availability status, generated alerts via a mobile application
- A web portal is created that allowed multi level access – both internal as well external.
- Integration of payment solutions streamlined the billing operations

Outcome and Benefits Delivered

- Delivered operational efficiency improvements
- Remote maintenance (minor software error ratification and firmware upgrades) significantly enhancing service availability
- Enabled central management of the entire operations with real-time monitoring, reduced cost of operations, and enabling of prioritized charging
- Self-service capability was enhanced through the service portal, improving customer experience and satisfaction.



The Business Context and Challenges of the Customer

- Availability of transparent information about locations and tariffs of charge points to the respective customers
- Technician to visit the site even for small software/technical glitches and firmware updates
- Challenges to integrate with existing CRM and ERP systems
- A complete multi level web portal which can provide seamless experience to fleet owners to auto manage the Cost of charging and related payment module integrations



The System Description

1. Cloud Application

- Cloud services were built using Microservices architecture which provides the isolation between different services
- Integrated the charging station to the back-office using with Open Standard Protocol – OCPP 1.6
- JSON over MQTT is used to collect the real time information of the fleets
- The data lake helped the Customers with the flexibility of accessing the information without much hustle

2. Web Portal

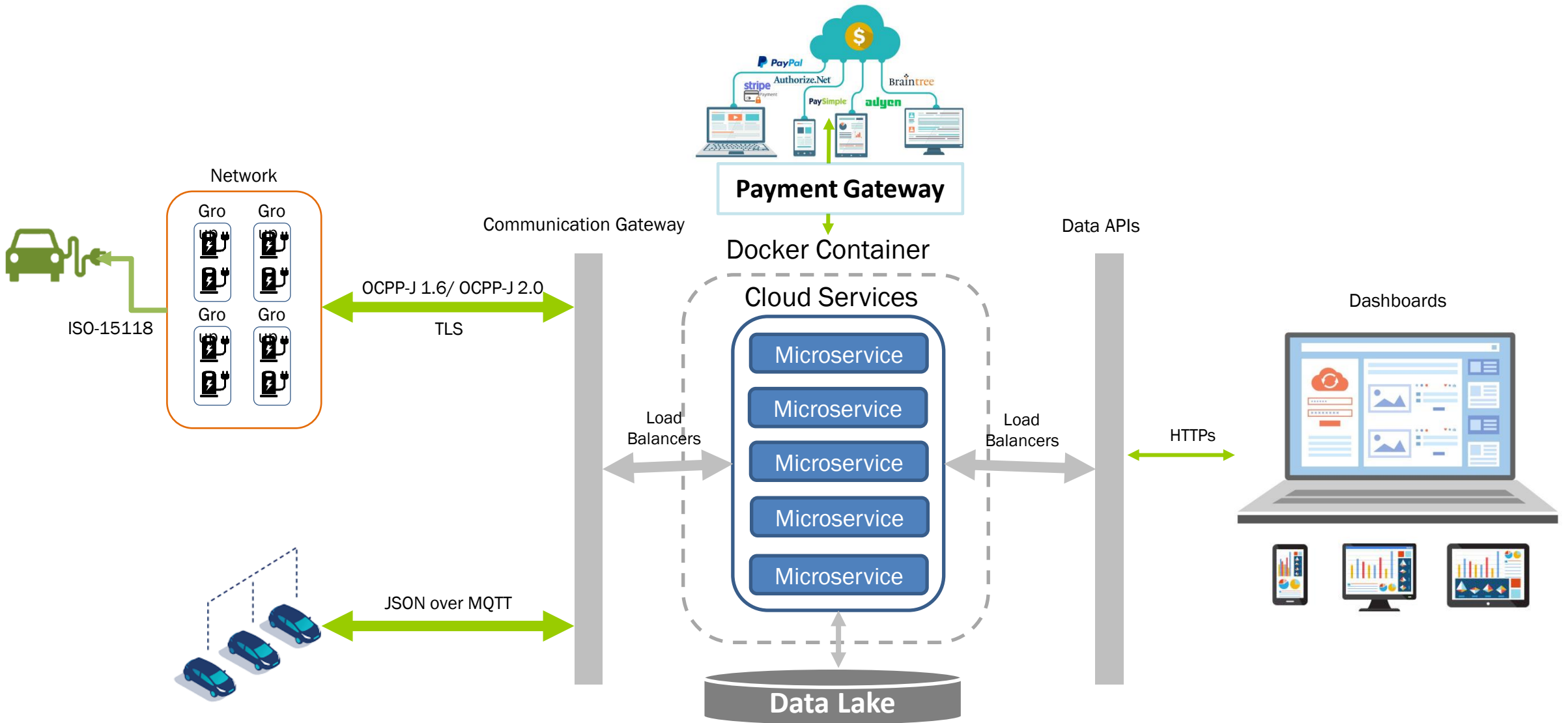
- The multi level web portal provided seamless experience to fleet owners for the real time monitoring
- The middleware provided API's to provide integration to external requirements
- The insights from the platform provider charging point owners to remotely manage the minor technical glitches and firmware updation

3. Payment Gateway Integration

- A secure payment gateway integration for the multi directional transactions
- The integration of the charging station to the cloud helped to provide the cost of charging and thus enabling reimbursement of billing to fleet owners



System / Architecture Description



THANK YOU



For More Details, Let's Connect



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