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DESIGN TO CONNECT

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Case Study

An exploratory analysis of a product use case by System Level Solutions

Integration of a robust & scalable system for data acquisition and remote monitoring for Railways

SLS
System Level Solutions

www.slscorp.com

Client Profile

The client is a US $4 billion renowned engineering & manufacturing establishment owned by the Government of India and is credited to be the largest manufacturer of power generation equipment in the country. With a wide range of over 180 product offerings, they are engaged in the design, engineering, testing, commissioning and servicing for various industries like transportation, renewables, power, transmission, etc.

Challenge

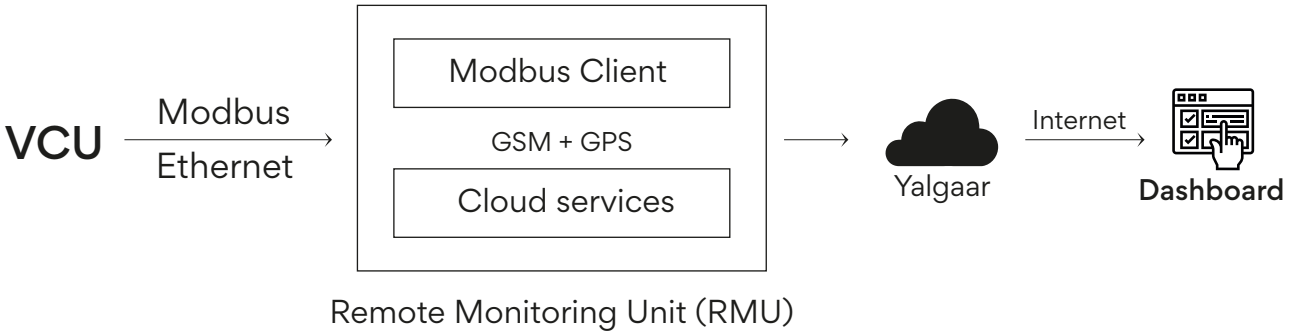
The client, being a technology integrator for Indian Railways, was looking out for a Remote Monitoring System to upgrade the Indian rolling stock network. Being the 4th largest railway network of the world consisting of 3,56,551 trains, the RMS could help ease management cost and act as one-stop-solution for collecting remote data and monitoring needs. Lack of real-time monitoring was one of the biggest contributors of operational loss and reduced the overall efficiency of Indian Railways.

The client was looking for an experienced IoT partner with strong and diverse technological experience who could ensure timely delivery in terms of robustness & quality. Keeping in mind the scale of project commissioning, the client was looking for a product that was robust and scalable for successful implementation. Client's adherence to 'Design In India' was crucial while developing the solution.

Solution

SLS designed a customized solution consisting of Remote Monitoring System (RMS) & Data Collector System (DCS). The OTS (Off-the-Shelf) and SOC (System-on-Chip) based solution consisted of a complete IoT infrastructure equipped with advanced features like OTA (Over-the-Air) firmware updates which significantly enhanced the existing Indian Rolling Stock technology.

Remote Monitoring System (RMS)



Remote Monitoring Unit (RMU)

Live Tracking
Accurate live location of trains

Live Status
Real-time operational data & fault status for quicker response time

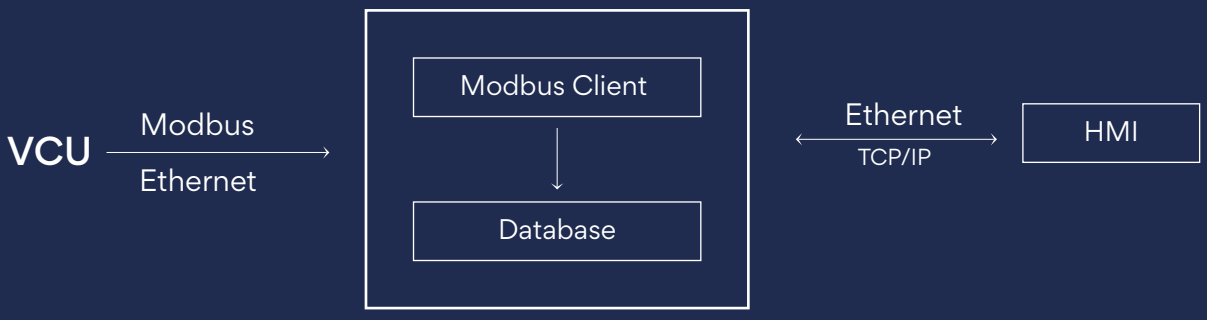
Fault Notification
Email and application notifications of critical faults to control room

Historic Data
Readily available Information to diagnose issues & maintenance planning

Resource Management
Fuel consumption & vehicle usage monitoring

Data Management
Featured software for accessing rolling stock data

Data Collector System (DCS)



Data Collector

Huge Storage
4GB SSD storage supporting
6 months of historical data

Secure & Fast
5Mbps speed with encrypted
security

Data Logging and Diagnosis
Real-time monitoring and recording of train running time and location, and identification of system errors using logged and historical data

Easy Database Handling
Management & analysis of encrypted data using SLS prosperity tool and USB support

BENEFITS OF THE SOLUTION

- Increased operational efficiency
- Reduced maintenance cost
- Reduced possibility of accidents
- Remote storage & access to data
- Web Dashboard for management

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