HASHMAP CUSTOMER SUCCESS STORY

Enabling IoT-Based Railway Analytics for Positive Train Control

NORTH AMERICAN RAILROAD

A rail company serving a variety of commercial customers (agriculture, manufacturing, retail, etc.) and operating a rail network that spans North America

HASHMAP

CHALLENGE

Positive Train Control (PTC) requires all aspects of a railway system including locomotives, tracks, stations to be monitored in real time to determine likely causes of failure, prevent incidents, etc.

APPROACH

Real time data was acquired, transmitted, processed, and enriched in a high speed data pipeline publishing into a rail system data lake. Control center teams are presented the data and key metrics via microservices-based real time applications.

OUTCOME

Real time monitoring of events providing the ability to take action. PTC and regulatory reporting was enabled. Provides for ongoing use cases including predictive analytics for loco state, scheduling, and ops outages.

SOLUTION

Hashmap Consulting Services including Data Engineering and Data Pipelining, Spark Streaming, Storm, Kafka, NiFi, HBase, Phoenix, Solr, Hortonworks HDP and HDF, Elastic Logstash.

PTC & RAIL STATS

85%
Freight locomotives equipped and PTC operable

32,233
Freight route miles in PTC operation (of 53,904 total miles)

77%
Freight track segments completed (487/632)

11,597
Number of rail incidents and accidents in 2017

Sources: Federal Railroad Administration and statistica.com

HASHMAP CONSULTING – MANAGED SERVICES – ACCELERATORS
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