



Improving the customer experience

Better visibility into outages resolves issues faster and improves customer satisfaction

Industry: Telecommunications

Location: North America

Technology solutions

- Hortonworks Platform
- Apache Spark
- Apache Kafka
- Akka
- Apache HBase
- Network Graph Processing
- Scala APIs



Business need

- New market entrants are driving expectations for customer experience. Waiting until a customer calls to complain about a service outage is too late
- Needed to quickly identify multiple types of issues related to cable modems and set-top boxes
- Customer service was being impacted by network outages, slow response times, and a lack of tools for employees to respond more quickly
- Agents were generally not equipped to understand the root cause of customer call issues and had to interpret data from multiple applications, and often just sent a technician to investigate, resulting in wasted truck rolls
- Legacy systems were not equipped to process terabytes of data to provide real-time insights to accurately diagnose and resolve problems quickly
- Wanted to be more proactive and get better visibility into network outages and issues



Solution

- Performance analytics and correlation engine with a real-time health dashboard provides visibility and fault detection every five minutes for the entire US network
- Custom real-time data architecture patterns deployed using Hortonworks platform with a 40-node cluster to handle the ingestion feeds required to make real-time business decisions
- Leverages APIs, advanced data capabilities, and real-time analytics to ingest, correlate, aggregate, and calculate points of interest based on network and device telemetry readings and call volumes
- Self-service customer portal and technician access to dashboards
- An area-network-level health view across the various city networks continuously processing 10 billion records a day
- Continuously evaluating the identified faults to clear false issues before a technician is assigned



Result

- The organization has seen
 - 20 percent improvement in accuracy of fault detection
 - 25 percent increase in deflection of customer calls
 - 22 percent reduction in costs associated with issues-related calls and technician truck rolls
- New architecture processes 50,000 events per second with APIs that respond within milliseconds
- Can identify issues as they occur, automatically generating tickets and sending them back to the operations team so appropriate technician resources can be assigned
- Real-time insights and zero latency on dashboards
- Accelerating the resolution time for devices and large-scale network outages has greatly improved customer experience and loyalty
- Foundation to introduce more advanced technology such as artificial intelligence and machine learning that can leverage received data to set automatic thresholds for issue alerts

[Read more here for information on driving customer satisfaction through data](#)

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Note: current conversion is €1 to \$1.09 (4/1/20)

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