RingCentral®

Measuring Call Quality and Reducing Fraud in Near Real Time

"Cloudera... helps us measure the quality of our calls. It helps us determine fraudulent activity on our network. The insights even help Finance with taxes and invoicing and enable product usage analytics that are leveraged by both Product and Marketing."

— Mike Becker, Senior Manager, RingCentral

RingCentral empowers today's modern workforce to communicate, collaborate, and connect anytime, anywhere, on any device – through voice, video, team messaging, online meetings, and contact center solutions.

Challenge

As RingCentral expands into new countries, serving millions of calls per day, the company aims to deliver quality service that will ensure customer satisfaction and security while preventing fraud. This requires the ability to weave together information and logs collected from five different RingCentral infrastructure systems that each typical call passes through. But the data volumes generated by these systems were overwhelming, and RingCentral's challenge was to effectively process and analyze them with timeliness.

Solution

RingCentral partnered with Cloudera to build a real-time, 360-degree view of calls flowing through its network. Users across the company can now understand call quality as soon as the call ends and can aggregate call details by city, customer, carrier and data center.

"The Cloudera data management and advanced analytics platform helps RingCentral address multiple challenges across the business," said Mike Becker, senior manager at RingCentral. "It helps us measure the quality of our calls. It helps us determine if there is fraudulent activity taking place on our network. These insights even help Finance with taxes and invoicing and enable product usage analytics that are leveraged by both Product and Marketing."

Implementation

RingCentral recognized the need for a modern data platform to support the scale of call records and other types of data it wanted to collect and analyze. Shortly after implementing Cloudera's Distribution Including Hadoop (CDH), RingCentral's security team mandated that all data in the platform be encrypted. Cloudera provided tools to ensure data encryption, security and compliance, and RingCentral was pleased with the platform's speed and ease of use.

"If there's one thing I would say about Cloudera, it's that generally they seem to be on the cutting edge of data management technology compared to most of their competitors," said Becker.

Alongside Cloudera, RingCentral uses StreamSets Data Collector to build and operate real-time data ingestion pipelines into CDH. The combined solution allows RingCentral's business services team to roll out new products and services faster. "By leveraging StreamSets on top of the Cloudera platform, we were able to accelerate our deployment schedule literally by months," noted Becker.

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Key Highlights

Industry
- UCaaS (Unified Communications as a Service)

Location
- Headquarters: Belmont, CA, USA

Business Applications Supported
- 360-degree view of calls and customers
- Fraud detection

Impact
- Call quality issues addressed in real time
- Entire class of customer fraud eliminated
- Business Services deployment schedule accelerated by two months

Data Sources
- Call detail records from five to six systems per call
- Customer data
- Billing data

Solution
- Modern Data Platform: Cloudera Enterprise
- Workloads: Analytic Database, Operational Database, Data Engineering
- Components: Apache HBase, Apache Hive, Apache Impala, Apache Kudu, Apache Spark, Spark Streaming, Cloudera Navigator, HDFS
- Data Ingestion Tool: StreamSets Data Collector

Big Data Scale
- 600 TB
- Processing about 200 million records per day

Results

RingCentral is delivering a better customer experience while reducing fraud. Call quality is improved because problems are pinpointed and resolved in real time. In one instance, RingCentral was able to discover that some customers' use of a particular codec resulted in poor quality calls, and by asking them to make a simple change, their call quality and customer experience both significantly improved.

Detailed understanding of each call has also led to fraud prevention. RingCentral can now calculate the cost of every call, allowing them to address sudden spikes in a customer's call costs that may be indicative of fraudulent activity--this has helped them eliminate fraud that previously couldn't be detected for months.

About Cloudera

Cloudera delivers the modern platform for machine learning and advanced analytics built on the latest open source technologies. The world's leading organizations trust Cloudera to help solve their most challenging business problems by efficiently capturing, storing, processing and analyzing vast amounts of data. Learn more at cloudera.com.