REDUCING REVENUE LOSS FROM FRAUD BY UP TO 20 PERCENT

5-10%

Reduction in customer churn

Industry

— Telecommunications

Location

— Headquarters: Bonn, Germany

"We use big data and analytics for two main purposes. One purpose is to increase our internal efficiency, increase system efficiency, reduce costs and so on. But the most important thing is to enable new capabilities for our business people, for our customers, for example in the area of fraud detection."

Heinz Sandermann, Lead Architect, Business Intelligence, Billing and Products, Deutsche Telekom

Deutsche Telekom is a leading European telecommunications provider, delivering services to more than 150 million customers globally.

Challenge

Preventing network fraud is a major challenge for telcos including Deutsche Telekom. The volumes of network data that must be collected and analyzed are massive, and inability to respond in near-real time to suspicious events can be catastrophic.

"Sometimes you can see periods of low fraud activity, but suddenly there might be a peak which means hundreds of thousands of Euros lost within a day," said Ondrej Machacek, senior manager of architecture and integration at Deutsche Telekom.

To better identify fraud patterns, Deutsche Telekom fraud analysts needed the ability to capture and analyze a greater volume of network data. The data they did collect was captured in silos, which limited visibility and made machine learning at scale impossible.

Additionally, by creating an enterprise view of data—from network data to CRM data— Deutsche Telekom could also better understand its customers and address service quality issues earlier to improve customer satisfaction.

Solution

Deutsche Telekom has improved fraud detection, customer relationship management (CRM), network quality, and operational efficiency with a Cloudera data platform. By applying machine learning and artificial intelligence, the company identifies network problems before customers notice them and can detect fraud patterns and real-time threats before the business is affected. Apache Impala allows analysts to query data very quickly so they can take fast action on insights.

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Solution highlights

- Modern Data Platform: Cloudera Enterprise
- Workloads: Data Science, Data Engineering, Analytic Database
- Key Components: Apache Impala®, Apache Spark™
- BI & Analytics Tool: Tableau, R Studio, Knime
- ETL Tool: Datameer

Applications supported

- Network quality analysis and fraud prevention
- Customer 360 for campaign targeting and churn prevention

Data sources

- Network traffic
- Marketing campaigns
- CRM

Impact

- CRM and campaign targeting improvements drove tens of millions of Euros in group-wide revenues
- 5-10% lower customer churn
- 10-20% lower revenue losses from fraud activities
- 50% better operational efficiency

Implementation

Deutsche Telekom decided to build their modern data platform on Cloudera based on its ability to accommodate massive, streaming datasets while providing an environment that would deliver machine learning and fast analytics, all while offering enterprise-grade reliability, a shared data experience, and stability.

Results

Deutsche Telekom's modern data platform is driving tangible results across the business:

- Reduced fraud: Deutsche Telekom leverages large-scale, high-speed data processing and interactive querying within Cloudera to improve network quality and detect fraudulent activities in real time. Deutsche Telekom estimates this visibility helps reduce revenue loss caused by fraud activities by 10 to 20 percent.
- Better customer satisfaction: They have a deeper understanding of customer needs and desires. Deutsche Telekom has built a single enterprise view of customers, which has led to more targeted campaigns, generating revenues by the tens of millions of Euros while also reducing customer churn by five to 10 percent.
- Improved operational efficiencies: The business is moving faster with the modern data platform in place, and overall operational efficiencies have improved by 50 percent as a result.

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