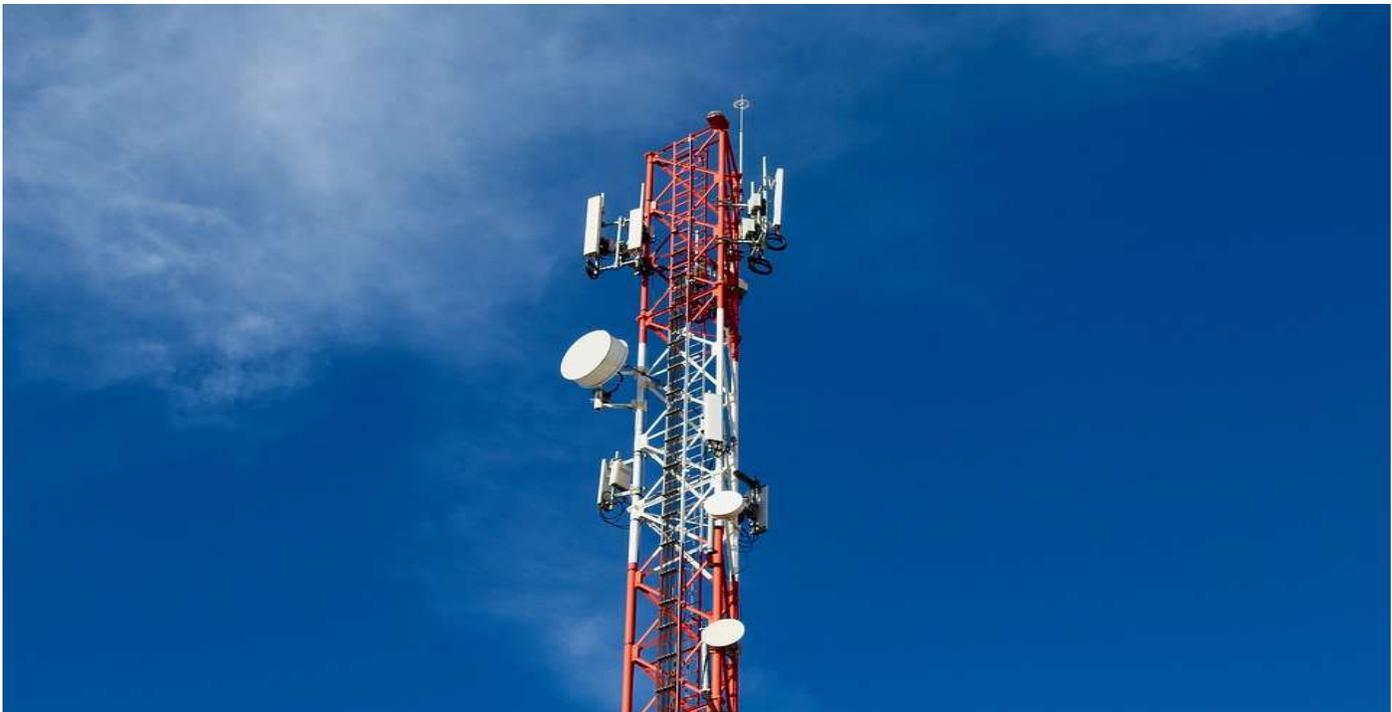# Monetization with Big Data
BizAcuity

About the Client

Client is a leader in IP networking technology, with a strong track record in developing and deploying next generation carrier grade session border controller (SBC), pushing the envelope in an all IP paradigm. Client has global presence with its SBC boxes used globally by leading Telecom Operators.

The Challenge

To build a system which allows storage of large amount of call data on a single SBC box and should be linearly scale to accommodate data for more than one year. The system should leverage data to generate fraud patterns, identify fraud and provide real time reports and dashboards to monitor fraud and other key quality measures.

- ✓ Large Volume and Velocity of Data (over 10k calls per second)
- ✓ Complex Application Data (Flat files, Google Protocol Buffers, Nested Data Structure)
- ✓ Limited Resource on SBC Box, scalable with Node Addition
- ✓ Network operators (Client's customers) losing money because of fraud
- ✓ Non-existent infrastructure to support running complex clustering algorithms to identify and detect.

Solution

A big data platform was needed to fulfill the ambitious requirements

- ✓ Apache Spark with Parquet columnar storage for compression

- ✓ Elephant Bird, Java for Google Protobuf Processing

- ✓ KVM Virtualization of SBC Server to run multiple node with redundancy

- ✓ Real time scaling with addition of physical nodes

- ✓ Unsupervised clustering & Supervised classification for pattern recognition

- ✓ Statistical parameters such as average length of call, average number of calls per month and average delays in bill payment

- ✓ Real time fraud detection and alerting.

The Outcome

- ✓ Client was able to retain and report data for 1 year on the same box instead of 1 month's data.

- ✓ Client was able to monetize the big data platform by adding advance reporting.

- ✓ Fraud management was introduced in the product for identifying pre-defined fraud patterns in real time and report to the operator.

Data Source

- Streaming Data (Over 10K calls per second)

- Application Data (Flat Files, Google Protocol Buffers & Nested Data Structure)

Business Issue

- Customer Losing Money due to Fraud

- Non-existent Infrastructure in support

- Limited resources

Solution/ Software Used

- Apache Spark with Parquet columnar storage for compression.

- Elephant Bird, Java for Google Protobuf Processing.

- KVM Virtualization of SBC Server to run multiple node with redundancy

- Real time scaling with addition of physical nodes.

- Unsupervised clustering & Supervised classification for pattern recognition.

- Real time fraud detection & alerting.

Benefit

- Client was able to retain & report data for 1 year on the same box instead of 1month's data.

- Client was able to monetize the big data platform by adding advance reporting.

- Fraud management was introduced in the product for identifying pre-defined fraud patterns in real time & report to the operator.

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