



Case Study

Large Telecommunication
Company

CLIENT

ATT is the largest
telecommunication provider with
more than 100million customers
across North America

SEP 2020





Business Challenge

With millions of subscribers, a variety of new products, bundled and customized solutions, the operational support services like service configuration, order fulfillment, customer care, and billing are becoming increasingly complex, the cost of handling these operations with existing IT infrastructure is increasing the financial overhead and also poor software performance

Telecommunication providers need to upgrade their IT and connectivity infrastructure and focus on providing data and voice services that are high quality, reliable, and affordable. So, several operational and technical innovations are needed to meet customer expectations.

Customer dashboard with more than 100M subscribers and each subscriber on an average having more than two lines need to be meet the performance metrics and must be able to serve subscribers using multiple devices like iPad, iPhone, Android etc. Performance of the dashboard became very critical due to enormous increase in the usage of mobile devices and growing impatience of the customer to wait for a website to load.

Business need

To support the increasing demand on the customer's dashboard, cost of modifying existing functional source systems is exorbitant. There is a need for central data repository that will host all the account and subscriber usage data. An API layer that reads data from this central repository can serve multiple channels. As the data size was in petabytes, a big data solution is preferred to meet the storage and performance needs. Data from source systems must be moved to the central repository at near real time in order to serve latest data.

4-Serv's approach

We followed Agile development process delivering user stories in a robust iterative process. Process included brainstorming to define the user stories that need to be addressed, prioritizing the backlog tasks/user stories, picking stories that met the MVP for development and solution test, test analysis with SME and Iterate. We followed an approach wherein we develop functionalities that got was quick wins, and pivot to obtain better results each time



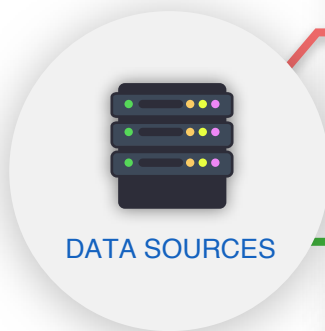
High performing, cost effective data movement services

4-Serv's Solution

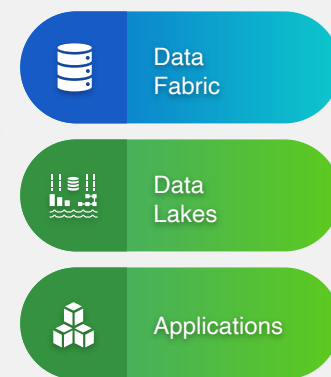
We helped the customer in architecting, designing and developing a central repository of all customer related data. Datastax's Cassandra was used as the bigdata tool to store massive amounts of data. Data was moved in real-time and batch mode from the various upstream source systems into the data lake using Solace Queues and Kafka distributed streams. Oracle Goldengate product was used to replicate data from source systems. We used low latency, high performing LMAX algorithm to move, process and store millions of messages from the hundreds of queues into the data lake. Spring Boot based API's were developed in microservices based architecture and exposed for the UI Dashboard to consume. These microservices were deployed on Docker/ Kubernetes based infrastructure.

Data Movement

Data Movement as a Platform (DMaaP)



Data Destinations



Business Impact

Customer facing website was reengineered with flexibility to add more content and the performance improved tremendously. With the reengineered backend architecture, data could be served to multiple UI channels – web, mobile, iPad etc. – in less than 10ms.

