



# ETL IN TELECOM BILLING

The solution transformed the client's invoice generation process by enhancing speed and accuracy, resulting in a 60% improvement in process efficiency. It also saved considerable cost, time, and effort associated with building interfaces.

## PROJECT OVERVIEW

One of the major challenges involved in a data warehouse project is ensuring the quality of data. To address this issue, a data audit model was employed after weighing in custom business requirements during the Extract, Transform, Load (ETL) process. We architected the ETL process to develop telecom mediation layer data and generate billing, thereby providing a unified information base for the client's bill processing system. Additionally, several issues in the existing system were fixed while testing the ETL process.

## CLIENT PROFILE

Our client is a US-based global telecom solutions expert that provides customer experience and call center technology to mid-sized and large businesses. The company develops cloud-based and on-premises software, contact center applications, and omnichannel customer engagement solutions.

## BUSINESS REQUIREMENT

The client wanted to architect, configure, and support their ETL process to develop telecom mediation layer data and generate invoices. This included dealing with large volumes of data across multiple source systems, transforming and loading data to and from data marts and data warehouses.

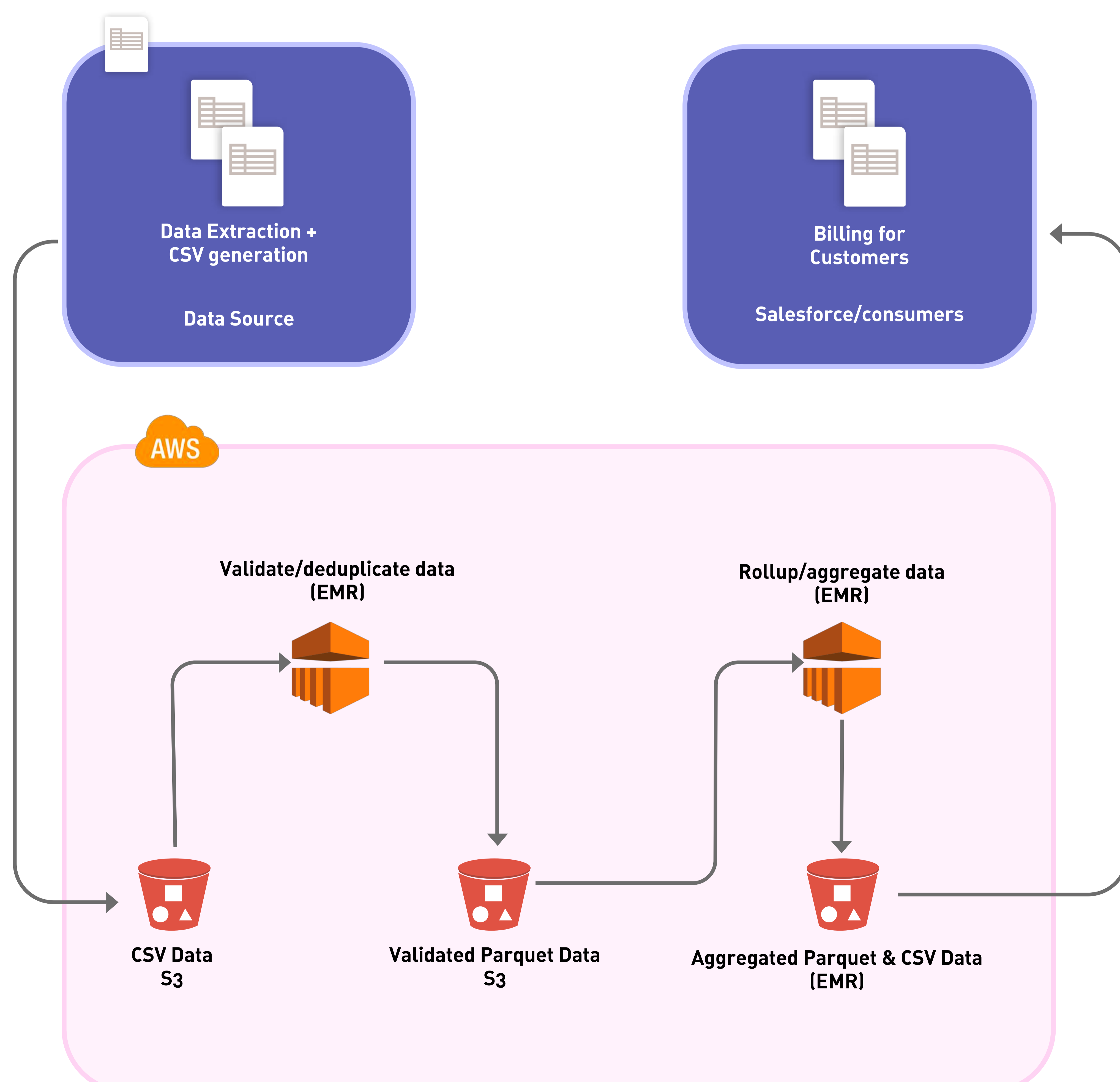
- Parse file and derive multiple fields
- Architect a scalable solution
- Integrate with SureTax
- Aggregate large volumes of data as per specifications

## QBURST SOLUTION

We used Apache Spark to design and implement the customized ETL process.

- Python scripts pull telecom data as CSVs to Amazon S3
- Spark application (daily aggregation) loads the CSVs and performs validations; validated data is used for derivation and enrichment; enriched data is stored in Parquet format
- Another Spark application (monthly aggregation) performs rating, taxation, and saves billed data into database
- SureTax integration helped to generate tax-included invoice

## SOLUTION ARCHITECTURE



## TOOLS AND TECHNOLOGIES



## BENEFITS

- Daily billing process reduced from 8 hours to 14 minutes (30 million records from over 30,000 files)
- Monthly run performed swiftly in 2.2 minutes
- 14% increase in profit as a result of cost savings
- 90% improvement in process efficiency
- Improved access to billing information in a standard format
- 25% faster retrieval and analysis of data



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