

Data Insights & Analytics Platform powered by AWS



Executive Summary

Creating a single source of truth for enterprise level data is a complex, daunting, multiphase process for any Organization which usually includes assessment, database schema conversion (if you are changing engines), script conversion, data migration, functional testing, performance tuning, and many other steps.

BizCloud Experts helped Omni Logistics migrate and consolidate their data from three legacy cargo TMS, heterogenous database systems to Redshift, a Data warehouse system on AWS. The project was scoped to be completed in less than 3 months with a 99% of data replicated near real time and data marts for enterprise were published on a 30min schedule.

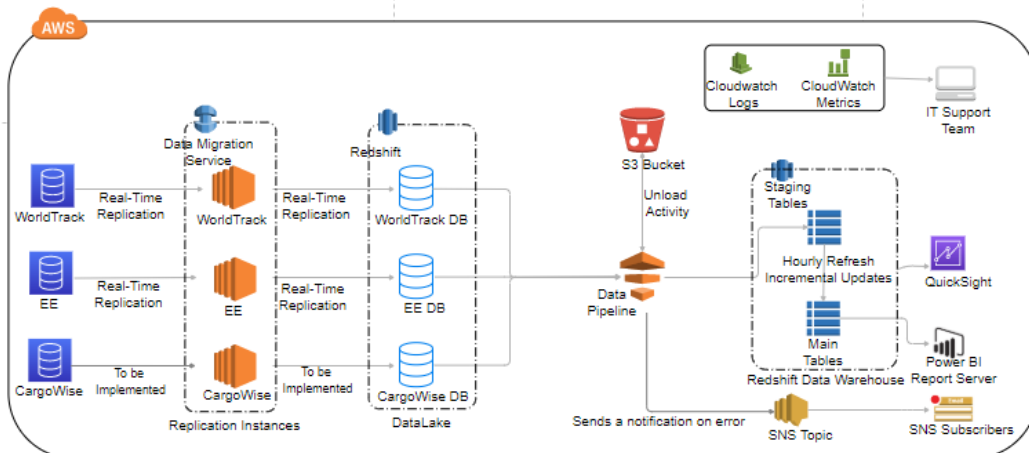
Objectives

The key objectives of the solution implemented are

- Setup real time replication from legacy cargo freight forwarding & TMS systems
- Transform & consolidate data from legacy TMS systems to measure business KPI's
- Enable enterprise level visualization and reporting using tools like QuickSight and PowerBI

Solution Architecture

The infrastructure used for this project consists of Database Migration Service (DMS) and RedShift data warehouse at the core. BizCloud Experts made use of AWS services like DataPipeline, SNS, CloudWatch to provide a seamless process flow for the warehouse solution.



About Omni Logistics



Omni Logistics is a privately owned global 3PL provider. As one of the world's leading privately held 3PL providers, they specialize in providing unique, custom supply chain solutions for a long list of global clients.

They are headquartered in Dallas, Texas.

Company Overview

Omni Logistics specializes in providing a collaborative, consultative approach to unique logistics challenges around the globe. They offer multi-level freight forwarding, warehousing & distribution, and value-added services to manage your supply chain.

Omni has decades of experience solving logistics problems in multiple industries including high-tech, medical, and retail. Omni helps in navigating customers through ever-increasing intricacies in global supply chain, providing full visibility and communicating at every step of the way.

Why is Omni Logistics working with BizCloud Experts

BizCloud Experts is an AWS Partner Network (APN) Advanced Consulting Partner with multiple AWS Service Delivery designations and has been named amongst the 10 most competent Amazon Web Service Providers of 2019. BizCloud Experts was successful in providing a Data warehouse solution in the form of AWS RedShift equipped with QuickSight and Power BI to provide a platform for Omni Logistics to get Key Performance Indicators (KPI's) and other business centric numerics that help the organization make critical structural changes.

The end-result was that BizCloud Experts provided required application and infrastructure support. An AWS Data Migration Service (DMS) was designed to be reliable, having minimal downtime, simple to use and cost-effective. The most important part of the implementation on AWS was the success without any downtime. BizCloud Experts are now moving to a No-Ops Continuous Delivery Model.

"BizCloud Experts is helping us take advantage of our data and provide better customer experience and meet our strategic growth needs. "ClearView" Project is a strategic initiative to help create a single source of truth to drive Enterprise wide KPI's, API's and eventually intelligence" says Christi Liebe, CIO Omni Logistics. "The data transformations from different freight TMS, provide insightful and reliable information to our customers near real-time today".

Results

- *Achieved a Target Latency less than 10 minutes for data replication*
- *100% real time ongoing data replication*
- *Unified storage of three heterogenous database systems in AWS RedShift*
- *Configured QuickSight & Power BI with AWS RedShift for analytics that was not possible before*

AWS Services

- *AWS Data Migration Service*
- *Amazon RedShift*
- *AWS Data Pipeline*
- *Amazon Simple Storage Service (S3)*
- *AWS Simple Notification Service (SNS)*

Implementation Description

The implementation can be summarized as below.

- Enterprise wide data model was deployed with critical shipment, invoice and customer information
- Data from the source systems was migrated to data lake, a centralized repository that allows you to store all your structured and unstructured data at any scale
- DMS along with Change Data Capture (CDC) uses log sequence number (LSN) in SQL Server and row-based binary logs (binlogs) in MySQL to migrate ongoing changes from source to target
- Data Pipeline using a combination of other services like Lambda was developed to transform/merge data from three heterogenous systems
- Failure in the data pipeline was notified using Simple Notification Service (SNS) to Operations team
- Finally, the data in the RedShift data warehouse was used for BI purposes with QuickSight and Power BI by Omni Logistics

About BizCloud Experts

BizCloud Experts is recognized as a leader in developing solutions using Serverless computing technologies, and automating IT services. We innovate, transform and seamlessly blend digital and physical platforms. To learn more, visit our site, follow us on Facebook, Linked-In, Twitter, call us @+1 (214) 206 8976 or email sales@bizcloudexperts.com.

