NEXT GEN CLOUD DATA PLATFORM FOR US BASED DEPARTMENT STORE

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The situation: Challenges with data growth and platform scalability

A large US based department store chain had huge volumes of data stored in different locations, which was compromising agility in decision making for the business. Business intelligence performance was getting affected due to non-scalable data ecosystem and the growing customer demand for data resulting in missed opportunities.

The need: Modernize the platform and data transformation process

- Limited availability of data to meet the growing customer demand impacted business decision making

- Constraints with the on-premise infrastructure created problem in handling huge volumes of data resulting in missed opportunities.

- Redundant data: Identical data was stored in multiple places resulting in data inconsistency and caused barriers in data processing.

- Data latency issues downgraded Business intelligence performance due to increased data volume and concurrent users.

- Delay in onboarding new data source.

- Multiple touch points, siloed data and the dependency of cross department coordination to update the data resulted in missed opportunities.

- No easy way to share the data with Internal or External parties

- Unable to effectively leverage data in its current state

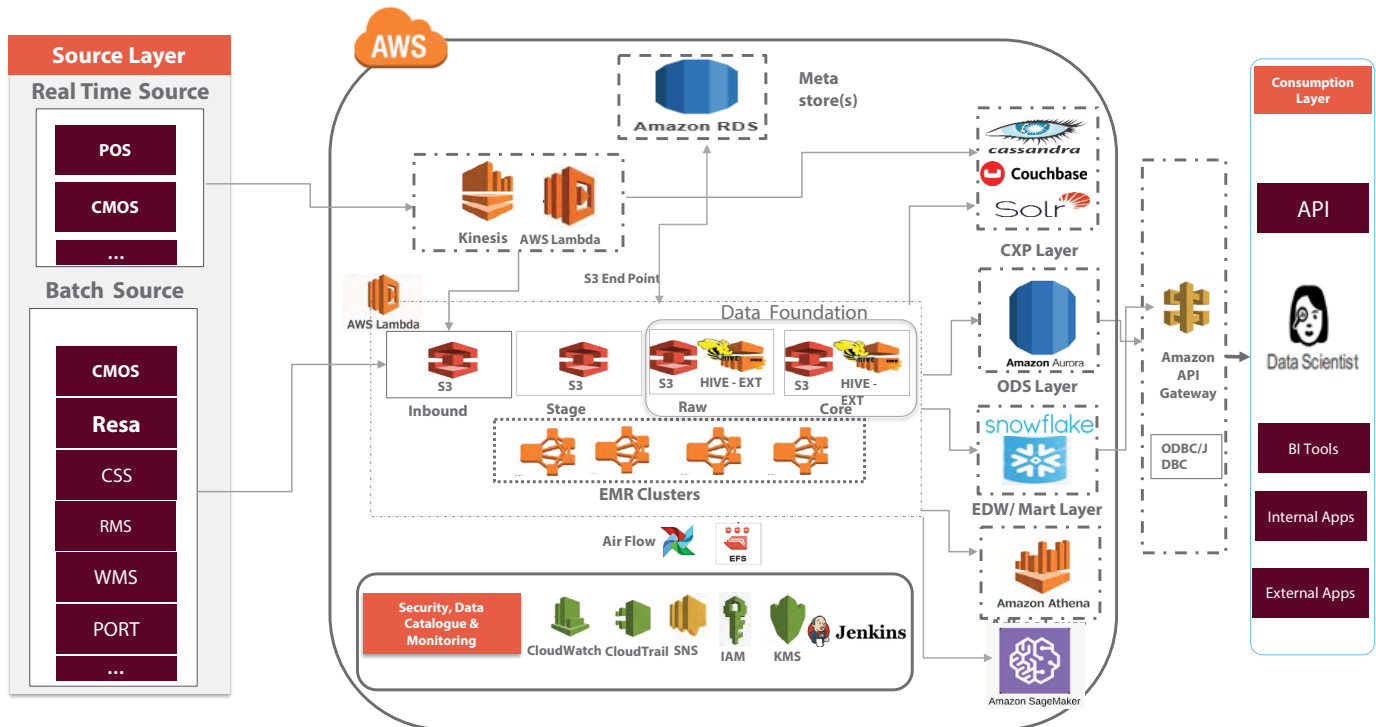## The Objective: Digital transformation and support organization's (Ignite to Win) Initiatives

- Cloud Data framework to set the foundation for organization's vision on "Ignite to Win".

- Digital Transformation Strategy centered around "Personified Digital Customer Experience" and "Friction less" business operations.

- Marketing Transformation for content, email, search, stylist app and customer app personalization /personified recommendation.

- Modernize enterprise BI & Data exchange to democratize data

The Solution: Next Gen Data Platform

- Adopted Re-Platform migration strategy

- Real time ingestion of data to provide end-to-End product visibility and optimized for efficient business operations

- Envision next gen data platform by decoupling storage and processing with right set of tools/technologies for Data Engineering , consumption and analytics

- Robust metadata driven data engineering framework, drastically

reducing development timelines and provides elastic micro cluster to process @ scale

- Serverless real time streaming framework with hooks for data exchanges

- API framework for data exchange and insight as service

- Migrated 10 years of historical data from Hadoop to S3 using the Snowball and ingestion framework

- Re-engineer 900+ legacy batch process

jobs loading 600+ tables using AWS EMR framework primarily using Spark

- Re-usable data orchestration solution using AWS Lambda, EMR , Airflow (scheduler) and AWS RDS

- Automated Data pipeline to ingest and process 900 + feeds using 4 Unique data pattern templates

- Automated CI / CD pipeline for code release and deployment

- Improved performance and scalability

Realized Data Modernization Architecture

The outcome: Enhanced Analytical capabilities

- Simplified Data Ingestion to allow easier blending of data across channels and brands. Achieved 40X faster new file onboarding process

- Accelerated the user adoption on cloud in Fail Forward fashion with continuous Data Synch framework to realize data labs on cloud

- 400x Acceleration in time to market on realization of data foundation on cloud (Data Lake + Attribution Store +Elastic DW)

- Realized data foundation layer with 450+ TB data across 15 critical subject areas associated with customer and merchandising

- Enabled merchant, data science and customer insights team to leverage cloud technologies and data lake to build new models faster

- Realized Platform Architecture that can quickly scale to take care of diverse data processing patterns on demand

- Realized 60X reduction in computing and storage cost

- Faster Data Analytics leading to enhanced customer experience

- Enhanced self service and exploration capabilities

- Faster time-to-market for generating insights

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