

Transformation and Support for Data and Analytics Applications for a Retail Company



Overview

Tech Mahindra empowered an international retail company in its cloud journey to create and manage their cloud native architecture which enables them with unified data and analytics platform operating with enhanced efficiencies and reduced management overheads. Tech Mahindra leveraged AWS platform to modernize their number of business lines across its portfolio e-commerce, supply chain, finance, and human resources which would help establish a single-version-of truth through a standardized data and analytics platform, enabling more efficient and hyper-personalized customer-centric initiatives.

Client Background and Challenge

An internationally listed company engaged in retail trade, real estate, and Lindex with approximately 500 stores in 19 countries and 2 online stores.

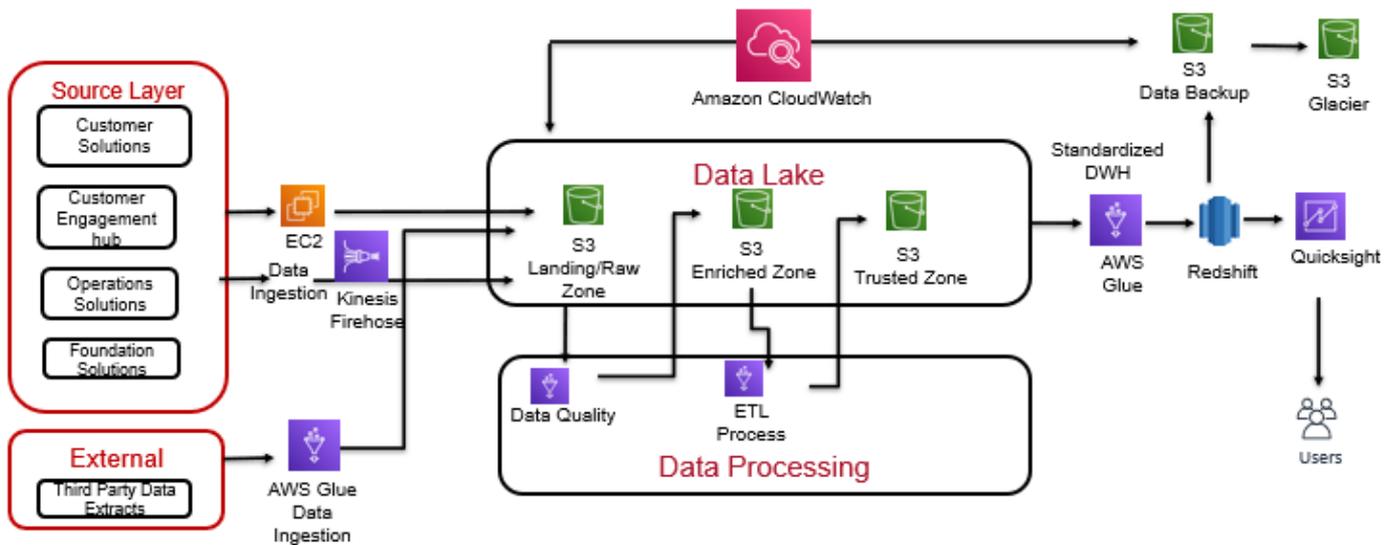
The client looked forward to a transformation approach where data and analytics could enable cost reduction and improved customer experience. The customer collaborated with TechM to come up with a futuristic solution with data and analytics components like AWS S3, Glue, EC2, AWS Redshift and Quicksight which span across these various business lines.

- ▶ Data platform unable to influence a positive customer-experience.
- ▶ Data platform not fully equipped to enable a data-driven organization.
- ▶ The lack of enterprise data warehouse and reporting tool limits the ability to generate meaningful reports.
- ▶ Higher likelihood of data inconsistencies.
- ▶ Sub-optimal end-user experience owing to distributed BI and reporting.
- ▶ Absence of industry standard data model and business KPIs.
- ▶ Operational overheads, lack of automation, low efficiency.
- ▶ Data platform not fully equipped to enable a data-driven organization.
- ▶ Lack of enterprise data warehouse and reporting tool limits the ability to generate meaningful reports.
- ▶ Data platform unable to influence a positive customer-experience.
- ▶ Higher likelihood of data inconsistencies.
- ▶ Limitations of real-time data.
- ▶ Operation support to ensure service availability for the applications.

Our Approach and Solution

- ▶ Modernize cloud-based transformation of data and analytics platform leveraging AWS native capabilities.
- ▶ Completely integrated and standardized data and analytics platform addressing enterprise-wide data needs.
- ▶ Data ingestion, transformation and visualization and analytics carried out re-using customer's existing technologies which are deemed to be best-in-class and future-proof.
- ▶ Implemented highly scalable and cost-optimal storage, resilient architecture with high compute power and ensuring security.
- ▶ Centralized data platform capable of addressing new/ external sources having all forms of information, both structured and unstructured.
- ▶ AWS S3 has been used to store the raw data in data lake.
- ▶ AWS Glue has been used as an ETL tool to apply data transformation and standardization as per customer need.
- ▶ Once the AWS staging data load completed in AWS S3, Glue performed the data processing on the source data extracted from multiple sources.
- ▶ Data model has been created in Redshift which enabled to scale up as per business use case and to take the advantage of pay as you go model with reduced cost.
- ▶ Processed data was used for data visualization for business users.

Architecture



Managed Service:

- ▶ Tech Mahindra's AWS Managed Services BAU team offers business hours support for monitoring and managing the AWS-hosted infrastructure.
- ▶ Continuous monitoring, incident resolution, and escalation management at any time, offering seamless support for critical issues and maintaining optimal AWS infrastructure performance.
- ▶ With dedicated team available around the clock, timely response, proactive troubleshooting, and reliable support ensures uninterrupted operations.
- ▶ Memory and CPU metrics are monitored for each workload. Auto Scaling policies have been setup to take care of scaling based on threshold defined.
- ▶ Enhanced monitoring is enabled in production for Amazon Redshift.
- ▶ All the application logs are pushed into Amazon CloudWatch and leveraged Amazon CloudWatch Insights to filter and analyze it.
- ▶ AWS CloudTrail logs enabled in all the accounts and being stored in the separate shared AWS account.
- ▶ AWS Glue job completion metrics and error status metrics are created.
- ▶ Slack are being used to collect and analyze workload health metrics.
- ▶ Service owner would be alerted on the critical issues/errors through Slack Channel if it reaches threshold in CloudWatch Alarm
- ▶ Regular audit and security log reviews and analysis for timely detection of security incidents, policy violation or any follow-up response actions.
- ▶ Weekly status calls between key managers from both parties ensure effective communication and escalation of any issues while planning for the following week.
- ▶ Monthly and quarterly status review meetings encompass standard reports consisting of SLA metrics, action plan reviews, challenges, and constraints.

Business and Community Impact



Centralized data platform capable of addressing new/ external sources having all forms of information, both structured and unstructured.



A highly scalable and cost-optimal Storage, resilient architecture with high compute power and ensuring security.



Delivered an enhanced, uniform end-user experience leveraging a single-version-of-truth.



Single-version-of-truth and enabled data driven actionable insights across the customer Journey.



Savings of 20-30% cost and time.



Insights and metrics across organization for decision making.



Effective purchase and delivery experience through supply chain and location-based insights.



Integrated data warehouse.

TECH mahindra



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