

GCP Migration Ushers in the Next Phase of Growth for an American Retail Chain

Case Study



Overview

Expanding business operations

A large US-based multi-channel retailer — with 600+ stores, ten distribution centers, and over one million SKUs — decided to eliminate dependency on Internet Explorer components/modules of its frontend departmental merchandise transfer (DMT) application. It wanted the changed frontend DMT application to run with full functionality on Google Chrome.

Zensar's brief:

- Migrate data from Teradata to Google BigQuery.
- Implement SQL queries, after migration to BigQuery, in DMT pages and consignment dynamic link libraries (DLLs) accordingly.
- Change all Teradata queries and stored procedures to run against Google BigQuery.
- Re-platform the application stack.

Beyond the brief:

We delivered a seamless solution experience by completing all milestones on schedule and proactively addressing issues with rigorous testing before they impacted functionality.



Challenges

Lack of time and in-house skills

For starters, the client's IT department was left with a short timeline to move its data, as the Teradata contract was ending. Moreover, the staff was facing challenges with understanding and using low-code platforms, equipped with skills only pertaining to managing legacy applications. To make matters worse, there was insufficient documentation of the existing Teradata system and the BigQuery architecture.



Solution

Seamless migration from Teradata to BigQuery

Solution approach

- Followed the Agile development method to meet strict timelines.
- Leveraged GCP Cloud Identity, Identity and Access Management (IAM) solutions, and IAM policies for initial access setup as well as network and security monitoring.
- Planned proactive activities to find and fix issues to reduce the risk of failure.

Solution deployment

- Migrated all Teradata queries to GCP BigQuery.
- Documented low-level design and data lineage.
- Determined and addressed data discrepancies with the Teradata migration team.
- Modified the syntax of select statements to optimize various functions, ensure all subqueries are supported, address differing casting types, and make sure that case statements of results are of the same type.
- Performed tests against any error condition by writing custom assertions in SQL.
- Carried out deployment on test and production environments.

Solution highlights

- On-time and glitch-free solution delivery
- Migration of 60+ queries and stored procedures
- Validation of all test scenarios



Impact

Energized business operations

According to internal benchmarks, these results were delivered:

- ~30 percent reduction in costs, in comparison to on-premises enterprise data warehouse (EDW) costs
- 40–50 percent reduction in time to insights
- Optimized application availability
- Enhanced data security and visualization

Business outcomes:

GCP's fully managed services optimized performance, collaboration, and decision-making — which, in turn, rejuvenated business operations for the client.

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