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CASE STUDY

Enhanced Performance and Cost Reduction through AWS to GCP Migration

Client Overview

The customer is a global leader in network and cybersecurity services, enabling cyber transformation through their cutting-edge platforms and world class threat intelligence.

The Context

The customer was using AWS Glue for serverless data integration across multiple sources, AWS Athena for interactive analytics on their data, and AWS S3 for data storage. However, they wanted to move to Google Cloud Storage (GCS) and Google BigQuery which is a serverless, fully managed, multi-cloud enterprise data warehouse. Through the migration, they hoped to bring down the heavy costs incurred for AWS services, drive improved data availability and enhanced performance for data storage, access, and query execution.

Type of Service Provided

Product Engineering

Technologies Used

AWS and GCP Cloud Services, Analytics

The Solution

The team of cloud services and product engineering experts from GS Lab | GAVS enabled a smooth migration from AWS cloud services to GCP. The customer decided on migrating to BigQuery and GCS for several reasons such as better indexing and partitioning options, availability of more table types for different types of data, efficient query execution, flexible cost calculation options, elimination of the need for external services for user authentication, authorization for data access, and many more.

The migration involved several challenges that were ably handled by the team for seamless transition. It was carried out in phases to ensure there was no interruption/ downtime of customer services. The migration significantly improved data access, availability, performance, and brought down costs.

Challenges

- Uninterrupted customer facing services even as backend cloud services were being moved
- Handling large amounts of data, approx. 50GB/hour for migration of cloud services
- Migration of historical data to new cloud services
- Requirement for new queries for new data types and partitioning
- Need to decide on most suitable table types based on data
- Complexities due to data type differences for table columns between Athena and BigQuery

Solution Highlights

- Seamless migration from AWS cloud services to GCP with no disruption to customer services
- Finalizing on most suitable table types depending on data
- Formulation of new queries according to the new data types and partitioning on GCP
- Effective handling of movement of large data volumes
- Efficient migration of historical data to new cloud services

Solution Impact

- 5x times faster query execution
- Efficient simultaneous query execution
- Significantly improved performance due to better table type options for varied data types
- Enhanced data access performance
- High availability of data and services with no downtime
- Increased support and maintenance of huge data for analytics
- Drastically lowered storage costs
    - Constant storage costs with 1GB free on GCP vs. AWS's variable costs depending on data size
- Huge offers/ discounts in GCP services which help reduce cost/ pricing
- Flexibility in calculation of query execution costs
    - Multiple options based on data scanned, pay per time slot execution, etc., unlike cost dependency on data scanned in AWS - 5$/TB with min. of 10MB scanned data

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