SUCCESS STORY

APA partners with Virtusa to experiment with Amazon Neptune Graph Database

Challenges

The APA aimed to upgrade their analytics performance with the Amazon Neptune Graph Database and apply a diversified set of technologies to improve commercial operations. They needed a more flexible model to keep up with the growing demand for schema changes and better manage various data relationships.

The APA partnered with Virtusa to improve its analytics ecosystem by helping business analysts decrease the time and complexity required to acquire connected data across multiple domains. The idea was to implement graph databases to allow the APA to gain powerful insights from connected datasets and to improve cross-dimensional analysis.

Solution

- Created an Amazon VPC with an AWS Internet Gateway that manages an Amazon Neptune cluster with the use of a reader and writer instance
- Created and configured an Amazon SageMaker Notebook to access the Amazon Neptune DB
- Built an Amazon S3 bucket for storing the vertex and edge files that are loaded into Amazon Neptune by AWS Database Migration Service (DMS)
- Administered two Endpoints in AWS DMS (Source and Target Endpoints) to get data from Amazon RDS and post it into Amazon Neptune
- Instituted a Database migration task and configured it with the replication instance and endpoints from previous steps
- Uploaded a mapping file in JSON format to map tables in Amazon RDS to vertex and edges in Amazon Neptune
- Mapped relational table rows to vertices within the property graph model

Value delivered

- The demonstrations of the capability to search and visualize the information
- Performing optimized searches by using graph query languages like Gremlin
- Achieving a greater understanding of behavioral relationships
- Enhancing data analysis that helps analysts quickly answer complex questions concerning business operations