

AWS Redshift Infrastructure Optimization for Luxury Department Store

ORGANIZATION

Our client is a prominent fashion retailer offering a wide range of clothing, shoes, and accessories for men, women, and children. They operate approximately 350 stores across the United States and Canada, complemented by a strong online presence.

The client is a Hall of Fame member of Fortune magazine's "100 Best Companies to Work For" and has achieved growth through both organic expansion and acquisitions.

CHALLENGE

As part of their cloud strategy, our client migrated a significant workload from their existing Teradata data warehouse to AWS Redshift. However, the migration did not yield substantial cost or performance benefits. Resource-intensive analytical queries exhibited poor performance. Additionally, database users in Redshift were required to maintain separate credentials for AWS and Redshift, leading to inefficiencies in user management.

TECHNICAL SOLUTION

- Architected AWS VPC environment for Data & Services account
- Architected Redshift clusters based on the need for dense computing vs. dense storage
- Designed Data & Services account to make them scalable, highly available, and resilient
- Migrated Redshift clusters (16 different systems) to a new architecture
- Implemented Federated Authentication on Redshift clusters
- Implemented in-transit and at-rest data encryption for Redshift and S3
- Optimized taxonomy with S3's performance
- Defined and optimized lifecycle policy for object-based storage
- Redesigned overall storage policy with best and most suitable options from EBS, EFS, S3 (Standards, IAS, RRS), and Glacier to reduce the cost
- Optimized and simplified IAM policies for access management
- Managed and established VPC peering across 20+ AWS accounts
- Ensured a seamless migration process with minimal impact on current customers, users, and processes

BUSINESS RESULT

- Enabled seamless authentication to Redshift using IAM and federated authentication
- Enhanced Redshift infrastructure performance and resiliency
- Achieved a balanced infrastructure configuration tailored to compute and storage needs
- Reduced overall infrastructure costs
- Improved security measures and ensured high availability

BY THE NUMBERS

- 100 years in business
- 350 stores across US and Canada

KEYWORDS

AWS, Redshift, Cloud-native Database

SOFTWARE/HARDWARE/PLATFORM

AWS, Redshift, S3, AWS IAM, AWS VP

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