



Rakuten

Rakuten Rewards is one of the largest and most valuable free membership loyalty programs in the world, connecting savvy shoppers with more than 3,500 online merchants and services to give them a hassle-free way to save on everyday purchases. Founded in 1997, Rakuten Rewards has nearly 15 million active members who have earned over \$1.5 billion in Cash Back rewards.

ATSCALE BENEFITS AT A GLANCE

- Provides surge capacity during peak data usage
- Seamlessly transitioned to the cloud without service disruptions
- Optimizes query response times and conserves resources
- Eases exploration of the Snowflake data warehouse for insights

Rakuten Speeds Data Queries and Avoids Business Interruptions with AtScale

Cloud transformation is transparent to BI Users Across the Organization



AtScale's ability to automatically create and manage highly efficient aggregates is critical to our success. Before we had AtScale, query performance was too slow. To reach AtScale's level of efficiency and speed, we would have needed to devote significant time and resources to building aggregates by hand.

Mark Stange-Tregear
VP of Analytics, Rakuten Rewards

The Challenge

Rakuten Rewards empowers employees across the company to derive insights from its massive data sets. They can leverage data on shopper behavior, pricing, commissions and much more to create compelling offers and satisfying service for their customers. To do this, they originally consolidated data from multiple siloed systems to a single, on-premises Hadoop cluster which provided fast, rich data access that was previously impossible.

After initial success, the physical limitations of the environment began to cause painful business disruptions as disk and processor usage reached critical levels. Competition from business units for hard disk access, memory, and CPU time for resource-intensive processes could slow or even freeze the cluster. For example, the finance department's activity caused spikes in demand over short, recurring intervals at the beginning and end of each month. When marketing simultaneously ran large-scale e-mail campaigns, the finance team's month-end close calculations slowed to a crawl.

Other times, misguided queries unexpectedly drained massive resources from the Hadoop cluster. One incident saw a script intended for two weeks run over two years of data. The runaway query resulted in unnecessary joins on tables containing billions of rows, causing the data cluster to freeze as it ran out of resources. The BI team found the offending query and fixed it to prevent a recurrence, but with 1.5 million queries running monthly against the data warehouse, they knew this was not a scalable strategy. They needed a new environment for their data and a new way to query their data that would ensure efficient, responsive analysis during peak demand periods.



The Solution

The Rakuten Rewards team restructured their data infrastructure by moving from an on-premises Hadoop cluster to a Snowflake cloud data warehouse on Amazon Web Services (AWS) with AtScale providing query performance optimization and a single, virtualized view of the data delivered as Data-as-a-Service. The BI team provides employees with access to data through Tableau Server, drag-and-drop analysis via Tableau Desktop and also gives them permissions to write their own unique SQL queries.

The Results

Snowflake’s elastic, scalable resource model helps Rakuten Rewards bring additional computing power online to maintain responsiveness to queries during peak demand periods. AtScale is providing labor-saving automation and is making queries easier to build. Aggregates are built automatically. Because AtScale acts as an abstraction layer for Tableau, the switch from where the data is stored was completed without any interruptions in data service for the data analysts. Employees gaining insights from their data and are sharing their Tableau visualizations with other departments.

There were two major consequences of the switch from Hadoop to Snowflake on AWS. First, as high-demand queries shifted towards Snowflake, by using AtScale there was an immediate 30% drop in load on the on-premises computing cluster. Second, Tableau users did not experience any service interruptions. In fact, none of the business users even noticed the switchover had happened, except that reports now ran faster.

About AtScale

The Global 2000 relies on AtScale – the intelligent data virtualization company – to provide a single, secured and governed workspace for distributed data. The combination of the company’s Cloud OLAP Engine, Autonomous Data Engineering™ and Universal Semantic Layer™ powers business intelligence and machine learning resulting in faster, more accurate business decisions at scale. For more information, visit <https://www.atscale.com>.



Adopting Snowflake was the easiest part of our cloud transformation thanks to AtScale. Repointing AtScale from our old environment to our Cloud data warehouse was seamless for end users.

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VP of Analytics,
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