A Solution to monitor Snowflake Cloud usage lowers costs

and brings improvements in the way a Hi-tech giant manages its data warehouse

About the client

The client is an American company, headquartered in Santa Clara, California, which develops and produces semiconductors and related technology. The company had more than 6,000 employees, and 10,000 patents worldwide.

The Client's Snowflake Environment

With growing business needs and system implementations, Snowflake has been the client's go-to solution to consolidate and report critical business information, as its scalability is widely recognized as one of the best among all data warehouse providers. However, their business requirements had grown with each new implementation leading to challenges to meet the demands.

The client has been working with Snowflake as their data warehouse, with mainly three implementation environments, that translates into three different Snowflake accounts; Non-prod that acts a development environment, Pre-prod which is for UAT, and the Production environment for business users.

Snowflake being a SaaS application has credits associated with the usage. These credits are nothing but the amount the client owes to Snowflake every time the service is used.

The hi-tech leader was using Tableau to study and analyse Snowflake accounts' usage. Tableau's prebuilt application with ready to use dashboards to monitor Snowflake, however created one bottleneck. It was only able to provide individual usage tracking of all three Snowflake accounts. This means now the business was working with three different dashboards.

Industry: Semiconductor-Hi-tech

The Challenges this Segmented View Presented:

- It made it impossible for the company to undertake comparative analysis of all the three accounts usage, creating environmental siloes.

- Absence of a unified view meant zero visibility and insight into which environment was incurring more cost or which was more optimised, and where the credits were being consumed.

Jade Global's Solution: Using Power BI to Check Credit Consumption:
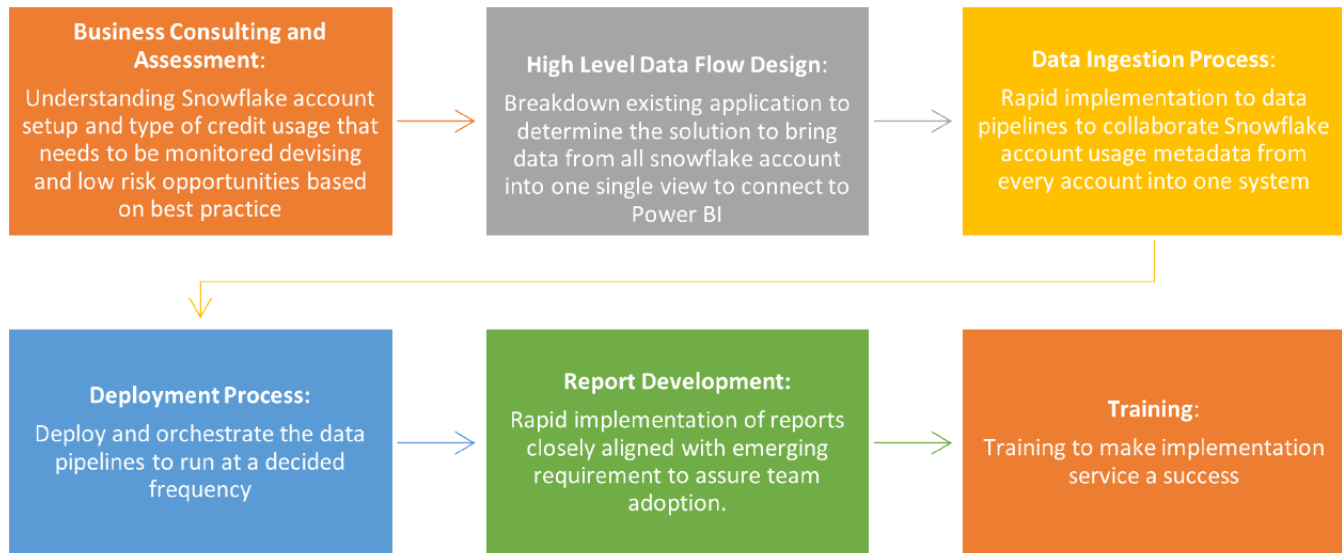
How it works: Power BI at Play

They leveraged Power BI, a cloud-based business intelligence tool to do this job. "We integrated this into their Production environment, and Power BI only had to connect to that environment, allowing them to have a single unified view", said Chetan Gangwal, Enterprise Cloud Apps – Snowflake, at Jade Global.

Jade Global's team of Snowflake's solution architects and Power BI experts gathered informational data from these three different environments, read this data from all the Snowflake accounts and brought it in a single setting- with clear categorizations assigning the Non-prod, Pre-prod, and Production environment labels for each.

"We realise how important it is for a business to judge the true value and extract the best from their investment, and the inability to accurately calculate this can be very crippling", he further added.
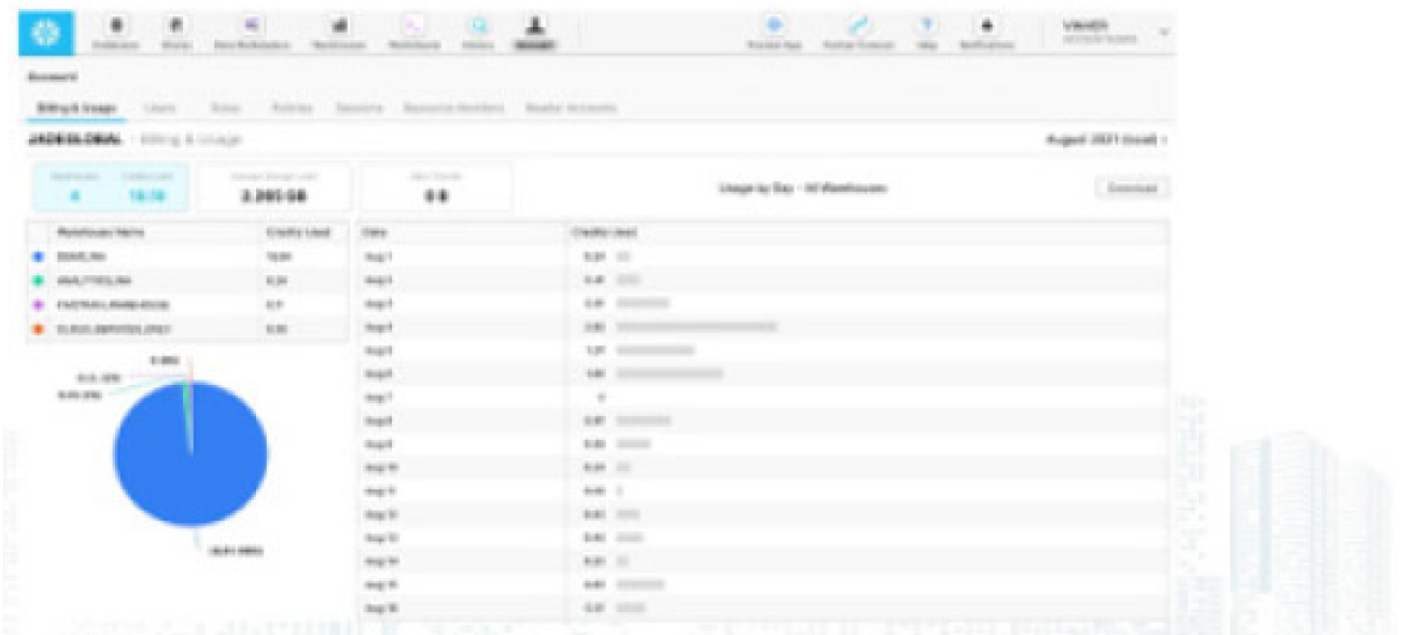
This solution helped them consolidate meta data and provided a simplified data set to look into the metrics, performance improvements, identifying bottlenecks, and hence having a more streamlined plan for their Snowflake consumption.

Jade Global's Journey Mapping Applying the Solution using Power BI:

Business Consulting and Assessment:
Understanding Snowflake account setup and type of credit usage that needs to be monitored devising and low risk opportunities based on best practice

High Level Data Flow Design:
Breakdown existing application to determine the solution to bring data from all snowflake account into one single view to connect to Power BI

Data Ingestion Process:
Rapid implementation to data pipelines to collaborate Snowflake account usage metadata from every account into one system

Deployment Process:
Deploy and orchestrate the data pipelines to run at a decided frequency

Report Development:
Rapid implementation of reports closely aligned with emerging requirement to assure team adoption.

Training:
Training to make implementation service a success

Consumption Metric Dashboard Sample:

Snowflake OOTB Usage Metrics

Benefits: All the Important Consumption Metrics at a Glance

The client can track and graph usage of Snowflake credits, throughput, and storage in real time from Power BI dashboards with the following benefits:

- It provides a bird's eye view of their data pipeline, along with insights if an action on the data needs to be made

- The company can now see the whole data from all the Snowflake accounts from one single view.

- After implementing the consumption metrics solution, the client was able to reduce the overall consumption of Snowflake credits by 30-40%

- Allows the client to react promptly to continue to reduce expenses and increase the efficiency of their data warehouse

The semiconductor leader was able to reduce its overall consumption of Snowflake credits by 30-40%

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