snowflake®

The Little Book of Big Success with Snowflake

GOVERNMENT

TABLE OF CONTENTS

HARNESSING THE POWER OF THE CLOUD TO ACHIEVE CLOUD SMART OBJECTIVES

The federal government's cloud computing guidelines published by the Office of Management and Budget stipulates a Cloud Smart[1] strategy that offers guidance for government missions to actualize the potential of cloud-based technologies. In addition, the President's Management Agenda includes a CAP goal to leverage data as a strategic asset.[2]

Despite modern approaches to data management and analysis, many organizations move to the cloud but still struggle to combine multiple data types and analytics initiatives into a cohesive strategy.

A true cloud data platform enables organizations to shift from managing infrastructure to managing data. Snowflake's cloud data platform makes it easy to collect, store, integrate, and share diverse data types from disparate sources to empower teams with the resources and flexibility they need to glean data-driven insights.

[1] whitehouse.gov/wp-content/uploads/2019/06/Cloud-Strategy.pdf
[2] performance.gov/CAP/leveragingdata/

LEVERAGING DATA AS A STRATEGIC ASSET WITH A CLOUD DATA PLATFORM

HANDLE ALL TYPES OF DATA

Easily load, integrate, and analyze all types of structured and semi-structured data inside a unified repository that seamlessly operates across clouds and across regions, while supporting various workloads and applications.

COLLABORATE WITH ALL STAKEHOLDERS

Collaborate among departments and with other agencies, external partners, and citizens by seamlessly and securely sharing data to make timely, data-driven decisions and meet transparency goals.

ACHIEVE HIGH PERFORMANCE ACROSS WORKLOADS

Ensure all kinds of workloads have the compute resources they need with Snowflake's elastic architecture that automatically scales up and down to meet demand.

ACCELERATE INNOVATION WITH SNOWFLAKE

Snowflake helps organizations drive innovation by breaking free from the limitations of conventional data warehouse solutions. By ingesting structured and semi-structured data from any data source, Snowflake's patented multi-cluster, shared data architecture easily and securely enables a variety of workloads including data warehouses, data lakes, data pipelines, and data exchanges. In addition, it enables many types of business intelligence, data science, and data analytics applications. With Snowflake, you can shift your focus from managing a sprawl of disparate infrastructure to gaining insights from all your data - you can democratize insights across your users with a simple, powerful, and flexible solution. Snowflake frees you from the chains of data constraints, allowing you to truly leverage your data as a strategic asset to meet mission objectives.

HOW GOVERNMENT ENTITIES CAN USE SNOWFLAKE TO POWER DATA-DRIVEN DECISIONS

Single, unified platform

- Empower multiple types of analytics.
- Consolidate disparate data silos into a single source of truth.

All your data

- Support a broad range of workloads.
- Store data sets in the cloud, at scale, in their native formats

Fully managed service layer

- Authenticate user sessions, manage resources, enforce security measures, and compile queries.
- Enable data governance and security.
- Ensure ACID-compliant transaction integrity.

Cross-region, cross-cloud

- Distribute data across regions or cloud providers.
- Mix and match clouds as needed.

Secure and compliant

- Meet privacy and security regulations.
- Comply with regulatory standards: Snowflake is FedRAMP Authorized (Moderate) on AWS commercial and Azure Government regions, and meets SOC1 Type 2, SOC2 Type 2, ISO 27001, FISMA Moderate, NIST 800-171, FIPS 140-2, ARS 3.1 PCI DSS, and HIPAA standards.

Global data sharing

- Securely share governed data across your organization and with external partners without having to copy or move data.
- Establish governed data transparency and make data available to citizens.

Highly available with automated failover

- Instantly access and recover databases with Snowflake's data replication.
- Easily set up test environments with Snowflake Zero-Copy Cloning.

CUSTOMER STORIES

Healthcare
- McKesson
- nib Group

Financial Services
- Capital One

Technology
- Akamai

Energy
- Devon Energy

Education
- University of Notre Dame

Security
- White Ops

HEALTHCARE

TAKING DATA AND ANALYTICS TO THE NEXT LEVEL TO TRANSFORM A FORTUNE 7 COMPANY

McKesson, a Fortune 7 distribution company, ships about a third of the pharmaceuticals used in North America and serves about 2 million customers per day in Europe. Using Snowflake enabled it to speed its journey to the cloud and more effectively leverage its data.

GOAL

Partner with companies that provide managed services so McKesson doesn't have to run its own software and can effectively leverage data and analytics for its growth initiatives.

PAIN POINT BEFORE SNOWFLAKE

Managing its own infrastructure while trying to migrate to the cloud over the past four years had yielded few benefits.

SCENARIO BEFORE SNOWFLAKE

- McKesson had a large internal data warehouse that was nearing end-of-life.
- Having data in 60 different silos prevented distributed analytics teams from collaborating and using all the company's data.

RESULTS WITH SNOWFLAKE

- The company migrated to the cloud in 90 days and already has 3,500 users running in the new environment.
- Snowflake's fully managed service enables analytics teams to focus on analytics rather than on doing "plumbing work" for the data.

We decided to use Snowflake to migrate one of our largest data warehouses to the cloud, and we completed that migration in 90 days."

BRIAN DUMMANN
Chief Data and Analytics Officer, McKesson

EMPOWERING DATA CONSUMERS BY DEMOCRATIZING DATA

Australian-based nib Group provides health and medical insurance for approximately 1.4 million customers. Using Snowflake with Tableau enables teams across the organization to quickly process huge volumes of data.

GOAL

Use a cloud-based data warehouse to complement Tableau, nib Group's data visualization platform of choice, to calculate KPIs in Tableau and provide metrics for claims, sales, policies, and customer behavior.

PAIN POINT BEFORE SNOWFLAKE

Tableau was constrained by the company's infrastructure and could not handle increasing volumes of data.

SCENARIO BEFORE SNOWFLAKE

- The company's legacy BI platform was very challenging to use, especially for generating end-of-month reports.
- There was a lot of competition among teams for CPU resources to process data

RESULTS WITH SNOWFLAKE

- nib Group's cloud IT infrastructure is future-proof, because Snowflake scales out to handle any number of concurrent users and scales up to provide more resources for Tableau.
- Processing times have been reduced from days to hours.
- Concurrent users can quickly calculate KPIs in Tableau by querying live data in Snowflake.
- The organization is more focused on making data-driven decisions.

Snowflake had everything we wanted out of the box, so we didn't have to embark on a large DevOps project to configure or customize in any way, and it complemented the rest of our cloud IT infrastructure."

LUKE STAPLETON
Manager,
Analytical Platforms
at nib Group

FINANCIAL SERVICES

USING DATA TO REVOLUTIONIZE BANKING

Capital One is a bank holding company specializing in credit cards, auto loans, and banking and savings products. Snowflake enables Capital One to get the data it needs to serve its customers.

GOAL

Deliver personalized, data-driven experiences to customers.

PAIN POINT BEFORE SNOWFLAKE

It took too long to run complex queries.

SCENARIO BEFORE SNOWFLAKE

- The old on-premises system was not resilient.
- It was difficult to garner the data needed to provide personalized experiences for Capital One's customers.

RESULTS WITH SNOWFLAKE

- The platform provides high concurrency for a large number of data users and for a large number of applications.
- Capital One can now handle complex queries very quickly and obtain the data needed to create unique customer experiences.
- Planned failovers from east to west ensure resiliency and give customers extra protection for their assets.
- Lines of business can now understand the data flows, identify problems, and manage spending.

We needed to scale out to be able to handle the complex queries very quickly and we found that Snowflake delivered that for us."

LINDA APSLEY
VP of Data Engineering,
Capital One

TECHNOLOGY

MEETING CHANGING DEMANDS FLEXIBLY

Akamai delivers 95 exabytes of data to billions of end-user devices each year, making digital experiences fast, intelligent, and secure. Snowflake enables Akamai to scale compute and storage up and down to meet demands and manage costs.

GOAL

Meet extensive data needs cost-effectively, with high performance.

PAIN POINT BEFORE SNOWFLAKE

Akamai's on-premises data warehouse could not scale to handle massive amounts of data from its mPulse product, which captures business metrics worldwide.

SCENARIO BEFORE SNOWFLAKE

- Akamai's data storage limitations made it difficult to meet the needs of current and future large customers.
- Adding servers to their on-premises warehouse was a management nightmare.

RESULTS WITH SNOWFLAKE

- Akamai can scale compute and storage up and down automatically and economically.
- Data is kept in less expensive storage and is easily and quickly accessible.
- Data engineers are free to innovate without worrying about data warehouse limitations.
- Historical data is available to better understand and support customer needs.

Snowflake is the most cost-effective cloud-based solution for online analytical processing applications at scale."

ERIC ELLIS
Senior Software Architect, Akamai

ENERGY

CONSOLIDATING MANY SYSTEMS TO ONE MODERN DATA LAKE

Devon Energy is a leading independent oil and natural gas exploration and production company working to meet the world's growing energy demands. Using Snowflake, it consolidated multiple inefficient, low-performing systems into a modern data lake in the cloud.

GOAL

Consolidate an underused data lake, a data warehouse, and unstable enterprise data sets into a single cloud data platform.

PAIN POINT BEFORE SNOWFLAKE

Devon tried to build an enterprise data warehouse three times, and each time the company encountered challenges.

SCENARIO BEFORE SNOWFLAKE

- The first system was not scalable at high data and query volumes, and its capacity limit was reached in the first six months.
- The second system had too many points of failure and required full-time support, and the third system provided no visibility into what users were doing.

RESULTS WITH SNOWFLAKE

- Devon has democratized data access so all employees can query 95% of the company's data.
- A regulatory report that took 48 hours in SQL Server now runs in just minutes.
- A process that prepares data for loading into an application took 15 hours before but now runs in 30 minutes.
- Snowflake returns results in under 10 seconds for 2,000 simultaneous, random queries against a 40-billion-record table.

We opened our data to everyone in the enterprise. If you have an employee badge and can get in the door, you can see all of the data, unless there's a specific reason to restrict access, such as personally identifiable information."

LARRY QUERBACH
Enterprise Data Architect, Devon

EDUCATION

POWERING DATA-DRIVEN FUNDRAISING FASTER, WITH GREATER CONCURRENCY AND LOWER COSTS

The University of Notre Dame is both a teaching and research institution and ranks among the nation's top 25 institutions of higher learning with over 10,000 undergraduates, professionals, and graduate students. Snowflake's cloud data platform serves as the modern technology foundation for alumni outreach.

GOAL

Harnessing business intelligence for alumni outreach.

PAIN POINT BEFORE SNOWFLAKE

Notre Dame's legacy data warehouse for alumni outreach was eight years old and unable to take advantage of modern data technology.

SCENARIO BEFORE SNOWFLAKE

- Loading data into the legacy warehouse required too many steps, took too long, and didn't work well in the three-dimensional relational database model.
- Increasing data led to queries that took between 30 and 90 minutes to complete, forcing users to run reports overnight.

RESULTS WITH SNOWFLAKE

- Hundreds of concurrent users can rapidly process queries, even during peak usage periods.
- Scaling of compute and storage resources separately means the university pays only for what it actually uses.
- Faster query results lead to accelerated data-driven decisions.

In one minute, Snowflake processed a query that typically took 30 minutes with our existing data warehouse. In fact, one of our business analysts actually said: 'I don't believe this is actually working', but it was."

CHRIS FREDERICK
Manager of Business Intelligence, University of Notre Dame

SECURITY

MITIGATING FRAUD THROUGH RAPID ANALYSIS

White Ops constantly works to uncover and characterize new fraud patterns, which requires storing and processing massive amounts of data. Snowflake enables White Ops to accelerate their detection algorithms.

GOAL

Accelerate delivery of a spectrum of ad-fraud detection algorithms to customers.

PAIN POINT BEFORE SNOWFLAKE

Timely decisions were delayed because of system latency and the need for the Hadoop team to write custom code for each request.

SCENARIO BEFORE SNOWFLAKE

- White Ops relied on NoSQL systems, including Hadoop and MongoDB, to store and process data, resulting in latency of at least 24 hours.
- Security engineers had to request custom map-reduce jobs from their Hadoop team for new queries, which created huge bottlenecks.

RESULTS WITH SNOWFLAKE

- Compute and storage scale to meet demand.
- Snowflake's native support for structured and semi-structured data allows White Ops to add data from multiple sources to a single place for analysis.
- Ad fraud detection algorithms that once took more than 24 hours now take less than 2 hours.
- Improved system performance has enabled White Ops to simplify its testing and QA of code changes.

In very real ways, Snowflake helps us improve our competitive advantage and better focus on our core competency: the fast delivery of a broad spectrum of ad- fraud detection algorithms for our customers."

TAMER HASSAN
Co-founder and CTO,
White Ops

TECHNOLOGY MODERNIZATION WITH SNOWFLAKE

A properly architected cloud data platform is the secret to a successful IT modernization initiative, based on a data management and analytics strategy across and beyond government organizations. By standardizing on Snowflake's cloud data platform, government agencies can bring together disparate data sources to gain valuable and timely insights without the added cost, upkeep, or complexity associated with legacy solutions. Snowflake's power, flexibility, and scalability can meet changing analytical needs and enable data-driven decision-making, collaboration, and innovation to support a progressive Cloud Smart[3] strategy.

[3] whitehouse.gov/wp-content/uploads/2019/06/Cloud-Strategy.pdf

ABOUT SNOWFLAKE

Snowflake's cloud data platform shatters barriers that have prevented organizations of all sizes from unleashing the true value from their data. Thousands of customers deploy Snowflake to advance their businesses beyond what was once possible by deriving insights from their data by all their business users. Snowflake equips organizations with a single, integrated platform that offers the data warehouse built for the cloud; instant, secure and governed access to their network of data; and a core architecture to enable many types of data workloads, including a single platform for developing modern data applications. Snowflake: Data without limits. Find out more at **snowflake.com**.

Snowflake is FedRAMP Authorized