snowflake

SOLUTION BRIEF

Fast Track to Analytics: The Cloud-Native Data Warehouse

Analytics Users Need Data

It's obvious, but data professionals need data to do their job. The problem is that today's data warehouses and big data tools often complicate and delay the analytics process, rather than foster it. Data analysts and data scientists face a myriad of challenges when working with existing systems, including:

- Difficulty getting access to data: Data professionals spend most of their time waiting for access to the data they need and only a small share of their time actually using the data. This is because there are many disparate sources of data today, and data may be siloed between different departments or organizations.
- Data complexity: Due to the complex nature of the big data being consumed today (semi-structured data such as JSON, Avro, XML), significant programming skills might be required to extract and transform the data into a usable format for analysis.
- Competition for resources: Data users frequently end up competing for database resources with other users in the organization.
- Glacial time to insight: The complexity and inefficiency of current solutions mean that it can take days or weeks for data to be processed. As a result of these challenges, valuable analysis takes too long, if it can be done at all. This results in missed insights.

Current Data Tools are the Source of the Problem

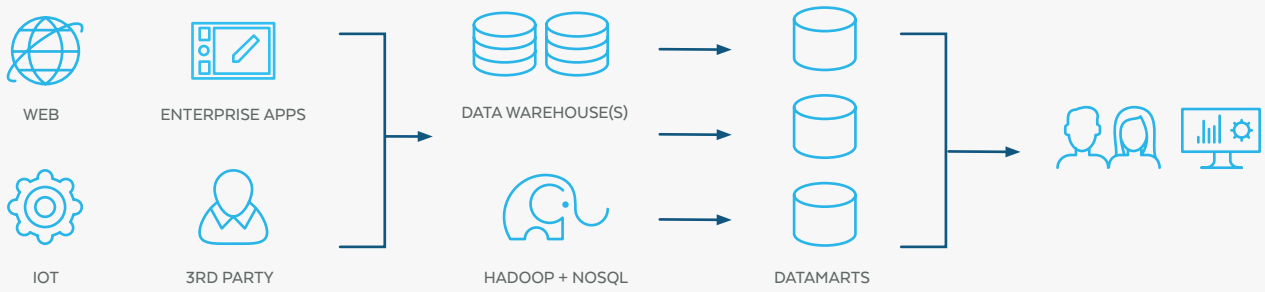
Every organization wants the shortest and simplest pipeline from data to analysis. Unfortunately, with current data warehouses (whether in the cloud or not) and big data platforms, this pipeline is long, convoluted, inflexible, and expensive.

- Cost: It takes significant time, money, and effort to deploy and manage today's data warehouses and big data systems. With limited resources, IT teams are usually focused on maintenance and tuning over facilitating analysis. Additionally, the upfront costs to purchase and deploy current data warehouses are a huge barrier.
- Complexity: Data warehouses and big data systems are onerously complex, forcing analysts to rely on programming resources outside their control, or learn complex programming languages.

- Inelastic: Most legacy data warehousing solutions and big data systems are cumbersome to scale up and down. Traditional systems were designed around the assumption that a fixed set of resources could be shared amongst multiple users and use cases. As a result, as demand and concurrency increase, performance decreases.

- Limited ability to process diverse data: Traditional systems were designed for structured data; big data platforms were designed for semi-structured data. Most organizations are forced to purchase both types of systems if they want to accommodate both types of data. Then, when the data inevitably needs to be combined for analysis, a long and convoluted data transformation pipeline needs to be created.

Getting Data to Analysts Can Be Challenging



Difficulty getting access to data

Costly, complex Infrastructure and competition for resources

Long complex cycle means slow time to insight

Reinventing the Data Warehouse for Modern Analytics

Snowflake is a data warehouse as a service that takes a new approach to getting data to the people who need it. Built from the cloud up, with no infrastructure to deploy and manage, Snowflake can work with both structured and semi-structured sources. As a result, users can work with any business data or workload, using standard SQL instead of complex programming languages. In particular, Snowflake addresses the current challenges faced by data users in several ways:

- Complete SQL Database: Snowflake is built to use standard SQL, so it does not require that data users learn new or specialized tools and skills to gain quick, easy access to the data they need. Since Snowflake is also ACID compliant, routine data updates and deletions are easy to perform, simplifying the analytics pipeline. We know that your data warehouse is just a part of your data platform, so we also partner with the leading BI and statistical tools to foster your analytics at every stage of the pipeline.

- All of Your Data: Snowflake can natively store and process diverse data, both structured (i.e., relational) and semi-structured (e.g., JSON, Avro, XML)—all in a single system, without transformation or fixed-schema requirements, and without sacrificing performance, especially for complex workloads. Since Snowflake is cloud based, you can also store as much data as you need to.
- All of Your Users: The Snowflake architecture separates compute from storage, which allows near-infinite scaling of data, compute, and user concurrency. You can create as many compute resources (called "Virtual Warehouses") as you need, and scale them up and down in seconds on the fly.
- Zero Management: Snowflake takes care of overhead and maintenance that would have been the customer's responsibility.
- Pay as You Go: Unlike other databases with large up front costs, with Snowflake you only pay for the compute and storage you use.

Snowflake Benefits Begin Immediately

Organizations that have implemented Snowflake have seen 15x–20x performance improvements, and their data users can perform 100 times more queries—all while reducing their costs significantly. Thus these organizations create business value for themselves by simplifying their data pipeline, removing complexity, and making data easily accessible. This enables the analysts to ask more questions and get quicker answers.

CAPABILITIES	LEGACY DATA WAREHOUSES	CLOUD WASHED DATA WAREHOUSES	BIG DATA SYSTEMS	SNOWFLAKE
Standard SQL database, ACID compliance	✓	✓		✓
Accommodates structured (i.e., relational) data				✓
Accommodates semi-structured (e.g. JSON, AVRO, etc.) data			✓	✓
Zero tuning or management				✓
Can spin compute up and down in seconds to match needs				✓
Can spin up new clusters automatically to address concurrency				✓
Partnerships with leading analytics tools	✓	✓		✓

Snowflake Computing, the cloud data warehousing company, has reinvented the data warehouse for the cloud and today's data. The Snowflake Elastic Data Warehouse is built from the cloud up with a patent-pending new architecture that delivers the power of data warehousing, the flexibility of big data platforms and the elasticity of the cloud – at a fraction of the cost of traditional solutions. Snowflake is headquartered in Silicon Valley and can be found online at snowflake.net.