



Real-time Analytics with External Data

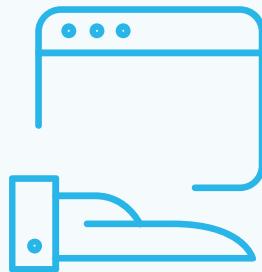
Jason Shull – TN / AL / MS
Solution Architect

Mike Lindsey – Southeast
Enterprise Solution Architecture Manager



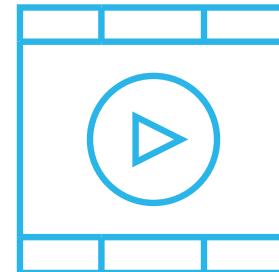
WELCOME

Sign up for your
Snowflake free trial

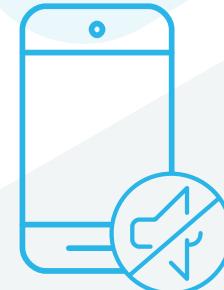


<https://trial.snowflake.com>

Slide deck will be made
available



Cell phones
on silent



AGENDA

Intro to Data Sharing	15 mins
Live Demonstration	15 mins
Hands-on Workshop	30 mins



OUR MISSION

**ENABLE EVERY ORGANIZATION
TO BE DATA-DRIVEN**



OUR STORY

SQL data warehouse built for the cloud

Founded 2012
by industry
veterans



~ \$1B in
venture funding from
leading investors



Over 3,000
active customers



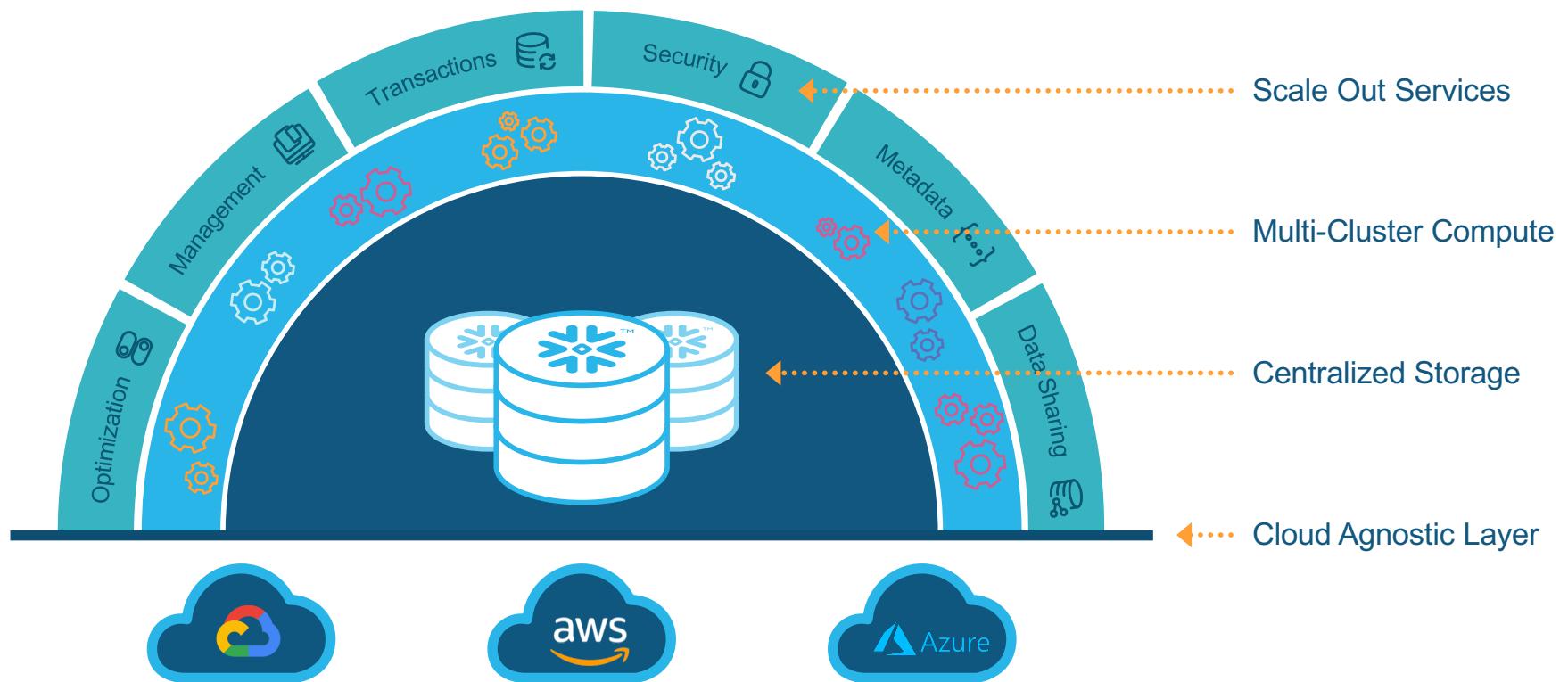
First customers 2014,
general availability 2015



Gartner and
Forrester “Leader”



SNOWFLAKE ARCHITECTURE



ACCESS TO EXTERNAL DATA IS A TOP PRIORITY FOR MOST ORGANIZATIONS

76%

have launched, or plan to launch, initiatives to **improve ability to source external data.**

80%

want to **expand their use of external data.**

48%

are sharing or selling their data externally.

Source: Forrester Research

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A BETTER WAY TO SHARE DATA



Data Providers

No data movement

Share with unlimited number
of consumers

Data Consumers

Ready to use

Consumers can immediately
start querying

Live access

Data consumers immediately
see all updates

THE SNOWFLAKE DATA EXCHANGE



THE SNOWFLAKE DATA EXCHANGE

The screenshot shows the Snowflake Data Exchange interface. At the top, there's a navigation bar with icons for Databases, Shares, Data Exchange (highlighted with an orange arrow), Warehouses, Worksheets, History, Account, Partner Connect, Help, Notifications, and FAA De-ACCOUNT. Below the navigation bar is a blue header with the text "DATA EXCHANGE THE WORLD'S DATA + YOURS" and three icons: INSTANT, LIVE, and SECURE.

Browse datasets (orange box with arrow) points to the left sidebar under "Categories". It includes links for All, Business, Cyber, Demographics, Financial, Government, Marketing, Transportation, and Weather. The "All" link is highlighted.

Inside the Product UI, visible to all Snowflake customers (orange box with arrow) points to the top right corner of the screen.

Standard and Personalized Data Sets (orange box with arrows) points to several dataset cards. One card for Braze Raw Events has a "Personalized" badge. Another card for data.world Humanitarian Aid Funding Data also has a "Personalized" badge. A third card for Intricately Cloud Infrastructure Spend and Product Adoption has a "Personalized" badge.

Dataset Cards (Left Column):

- Braze Raw Events**: Receive your Braze Currents data in Snowflake to understand your customer behavior / engagement. (Business, Continuously)
- data.world IRS 990 Data**: Nonprofit tax information filed annually with the IRS. (Government, Annually)

Dataset Cards (Middle Column):

- Braze Engagement Benchmarks**: Compare your engagement results across channels and industries to improve your marketing strategies. (Business, Daily)
- Envronics Analytics NA Demographic, Wealth and Household Spending Data**: Selected Variables at the Market Level. (Demographics, Annually)

Dataset Cards (Right Column):

- Computable Real-time Urban Mobility Data**: Gain real-time intelligence on urban mobility. (Transportation, Every 5 min)
- data.world Humanitarian Aid Funding Data**: Outgoing and incoming humanitarian aid funding for 217 countries. (Government, Daily)
- Intricately Cloud Infrastructure Spend and Product Adoption**: A smarter way to market & sell cloud infrastructure. (Business, Hourly)

REQUEST ACCESS TODAY

The screenshot shows the Snowflake Data Exchange homepage at <https://www.snowflake.com/data-exchange/>. The page features a navigation bar with links to PRODUCT, SOLUTIONS, PRICING, CUSTOMERS, PARTNERS, and RESOURCES, along with a 'START FOR FREE' button. The main section is titled 'FEATURED DATA PROVIDERS' and displays eight data provider cards in a 2x4 grid. The cards are: Braze (Customer Engagement Benchmarks), data.world (Premium Data Catalogue), Environics Analytics (Census Data); Heap (Web & Mobile Behavioral Data), Intricately (Cloud Spend and Product Adoption), Lacework (Automated Cloud Security); and People Data Labs (Person Data). A cursor arrow points to the 'VIEW DATASET' button in the Braze card.

← → ⌂ ⌂ https://www.snowflake.com/data-exchange/

snowflake PRODUCT SOLUTIONS PRICING CUSTOMERS PARTNERS RESOURCES START FOR FREE

FEATURED DATA PROVIDERS

braze
CUSTOMER ENGAGEMENT BENCHMARKS

See how transportation networks operate in real time, including ridesharing services like Uber and Lyft

VIEW DATASET

data.world
PREMIUM DATA CATALOGUE

ENVIRONICS ANALYTICS
CENSUS DATA

HEAP
WEB & MOBILE BEHAVIORAL DATA

INTRICATELY
CLOUD SPEND AND PRODUCT ADOPTION

LACEWORK
AUTOMATED CLOUD SECURITY

People Data Labs
PERSON DATA

DEMO



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PERSONALIZED SHOPPING DEMO

Demo: <https://s3.us-east-2.amazonaws.com/posenet/Snowstore/index.html>

Data Share Account: <https://sv75331.snowflakecomputing.com/>

Reader (Consumer) User Name: Snowstore



WORKSHOP



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HANDS-ON EXERCISES

1. Activate trial
2. Create a second user logon
3. Create a database
4. Create a tables from shared SNOWFLAKE_SAMPLE_DATA
5. Create secure views
6. Create a reader account
7. Grant access to the secure views to the reader account
8. Log in to Snowflake with the reader account and query the secure views

HAND OUT

Download *Snowflake Hands-On Workshop 20190910.docx* at

<https://github.com/jshull-sfc/Real-time-Analytics-with-External-Data-Workshop>





THANK YOU



APPENDIX



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CURRENT PROBLEM



Siloed, Diverse
Data



Scale and Speed
Issues



Complex, Costly
Infrastructure



Slow, Limited
Decision Making

- Many data sources/stores
- Semi-structured data
- Cannot easily share

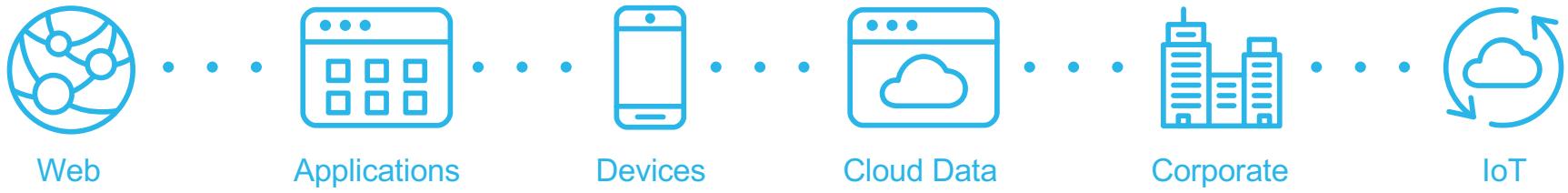
- Cannot scale up/out easily
- Slow queries & ingest
- Resource contention

- Costly software & hardware
- Over-provisioned
- Lots of maintenance/tuning
- Many languages

- Limited queries & users
- Data is stale & incomplete
- Cannot optimize revenue & costs



SILOED, DIVERSE DATA

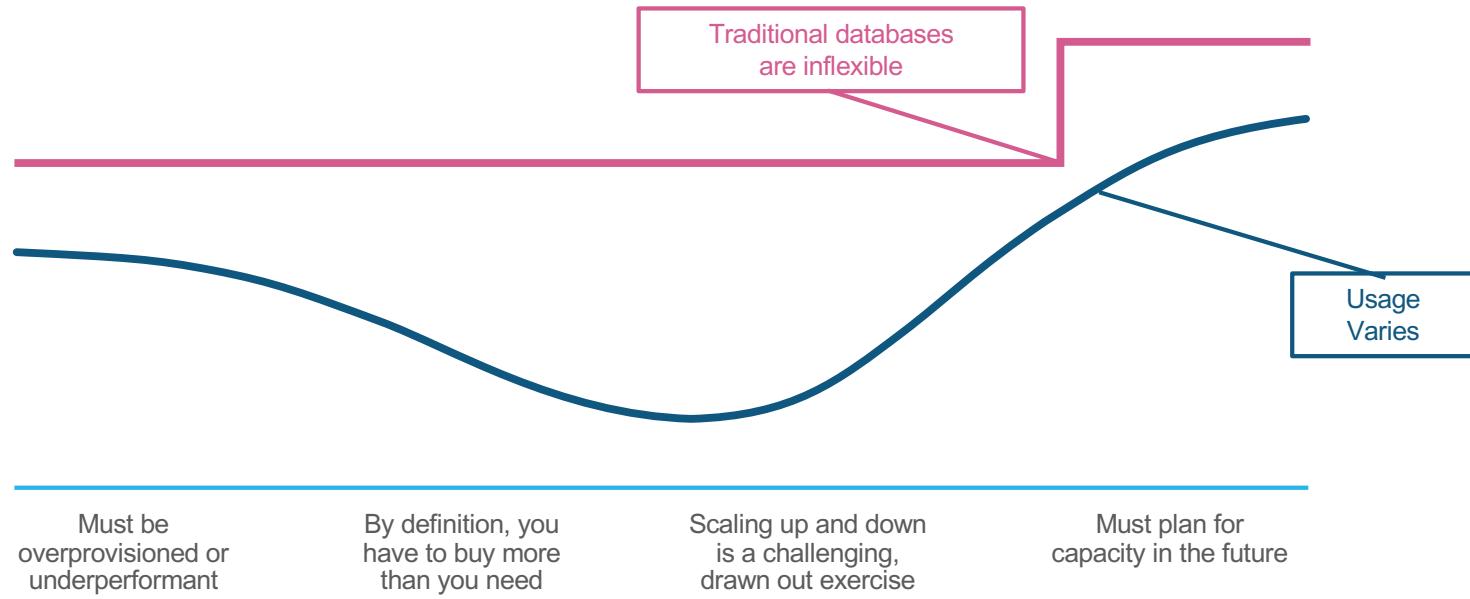


Organizational complexity – Everyone has their own tools and data stores

Data type proliferation – It isn't just CSV's anymore



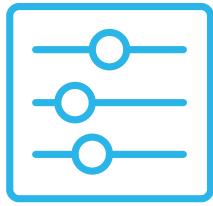
SCALE AND SPEED ISSUES





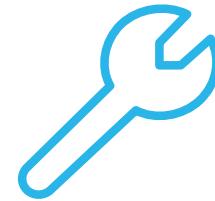
COMPLEX, COSTLY INFRASTRUCTURE

Manual tuning



Manual tuning methods (index, sort) require constant maintenance to be effective

Software licenses, hardware



Costly software licenses and hardware costs



SLOW, LIMITED DECISION MAKING

Restrictive viewpoints



At many companies, data is like a sacred text, meant to be analyzed and interpreted by only a small priesthood of people. For this reason, BI tools are often not shared with the entire company.

Concurrency



Even when they have access to data and the tools they need, many people experienced delays and queues due to concurrency

SNOWFLAKE SOLUTION

Unique architecture built for the cloud



All data centralized,
shareable



Unlimited, automatic
scale and speed



Simple, cost effective
infrastructure



Faster, better
decision making

- All data, structured and semi-structured
- Single source of truth
- Securely share live data with partners

- Separation of storage & compute
- All workloads get proper, isolated resources
- Handles spikes

- No hardware
- Fast time to value
- Less maintenance
- Pay as you use
- Complete SQL

- Unlimited queries & users
- Fresh and complete data
- Optimize revenue & costs

SECURE BY DESIGN

Authentication



- Embedded multi-factor authentication
- Federated authentication available

Access control



- Role-based access control model
- Granular privileges on all objects & actions

Data encryption



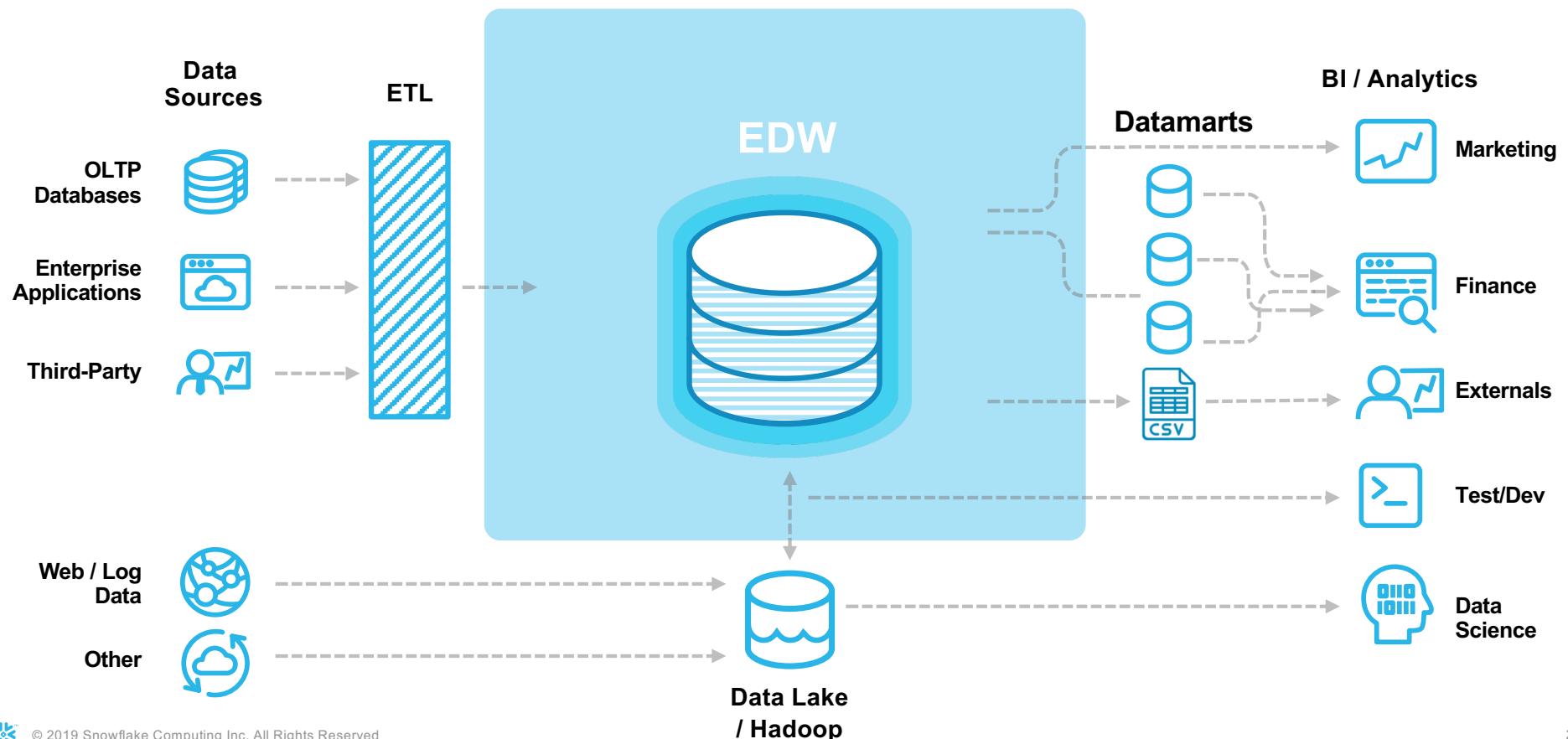
- All data encrypted, always, end-to-end
- Encryption keys managed automatically

External validation

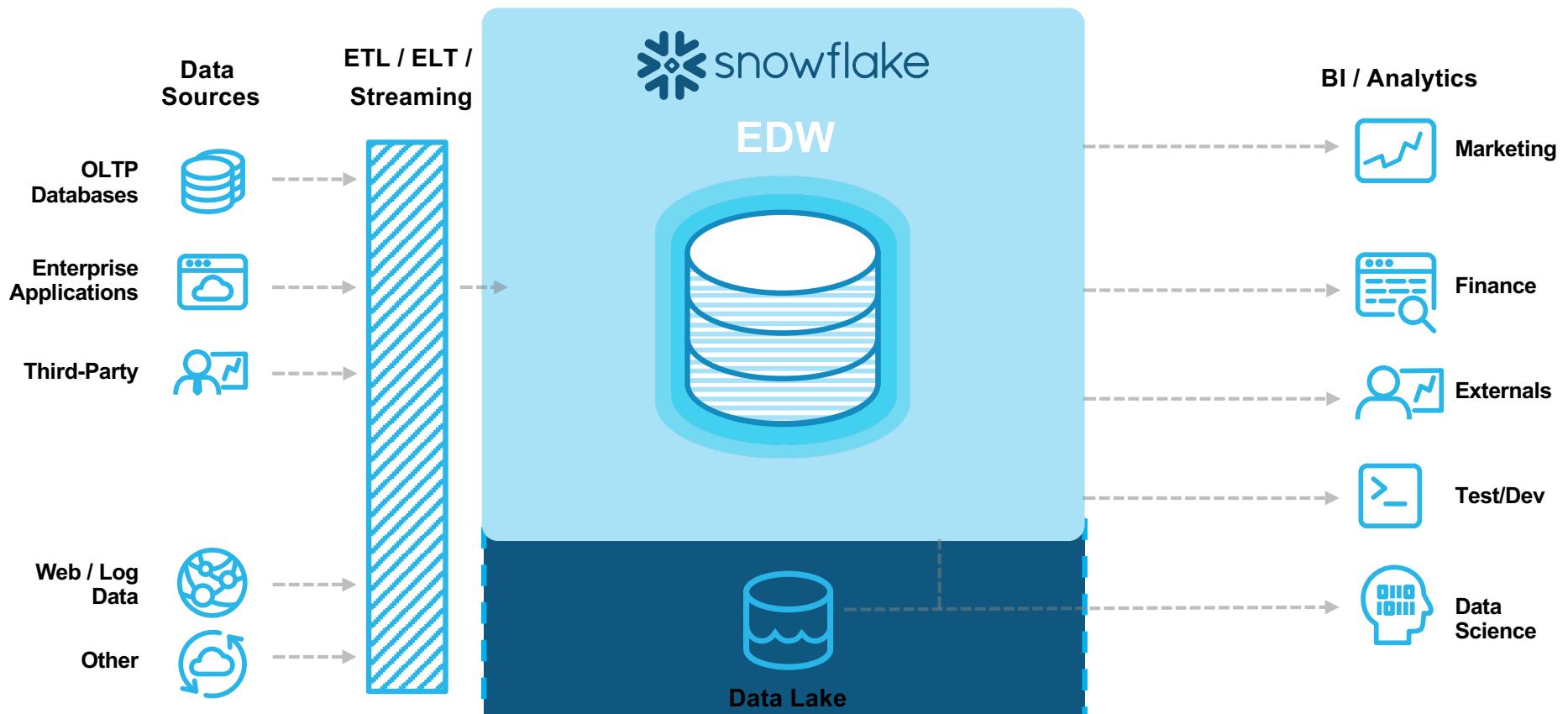


- Certified against enterprise-class requirements
- PCI and HIPAA available

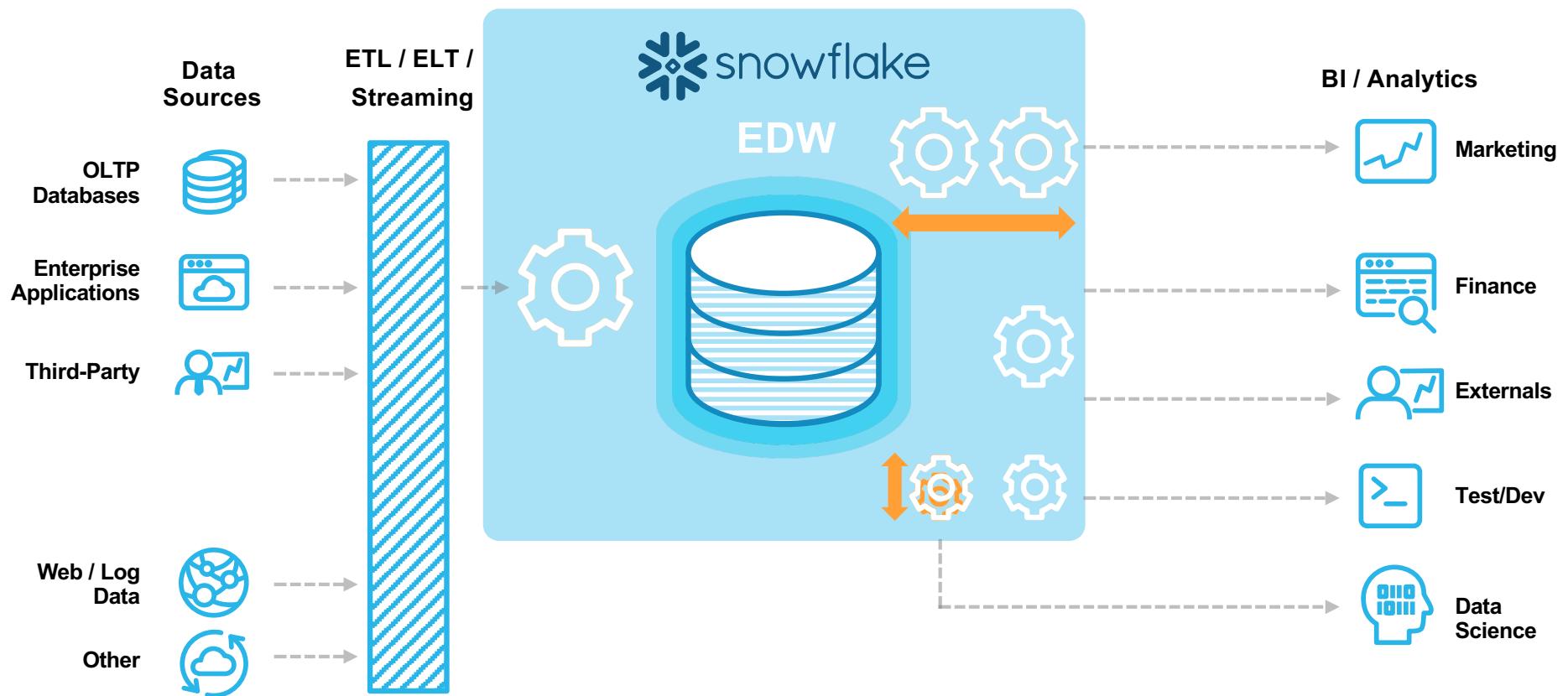
LEGACY ARCHITECTURE (BEFORE)



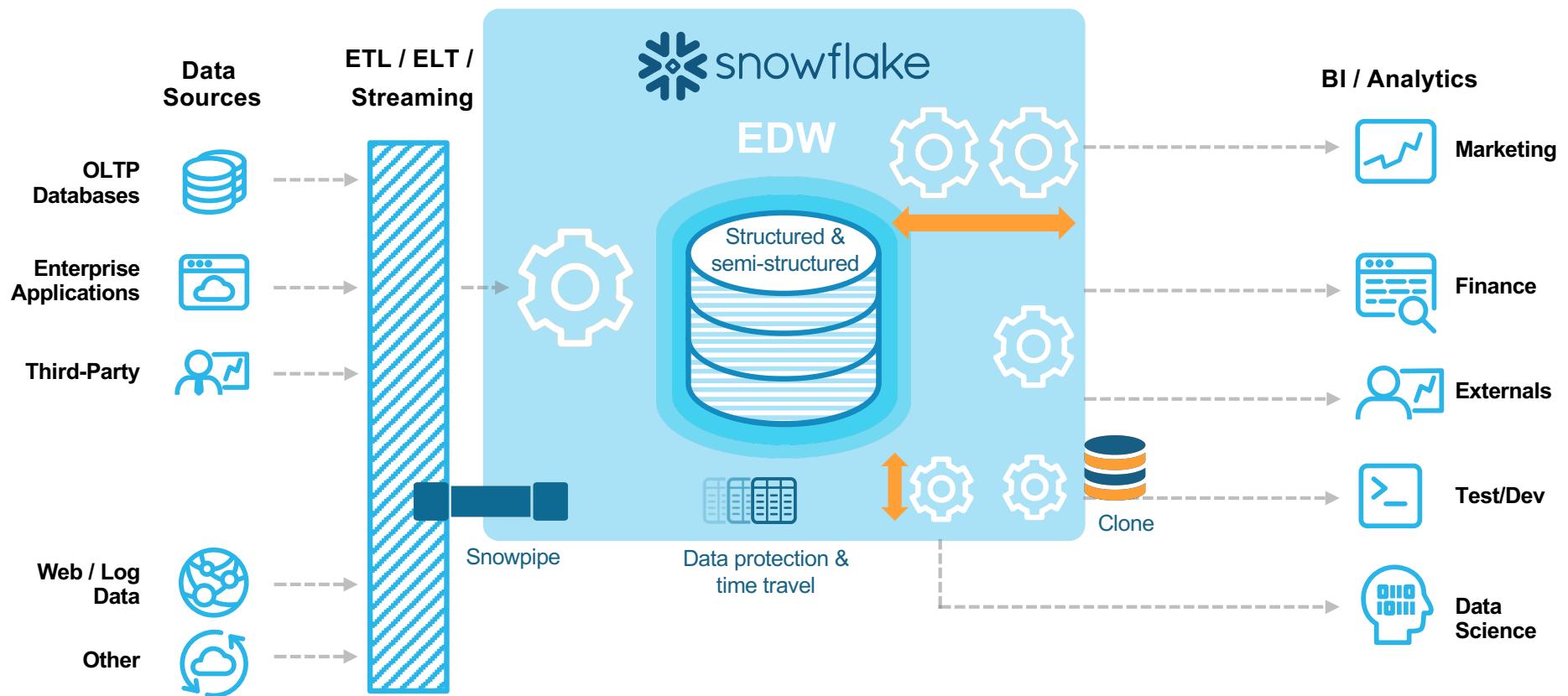
MODERN ARCHITECTURE WITH SNOWFLAKE

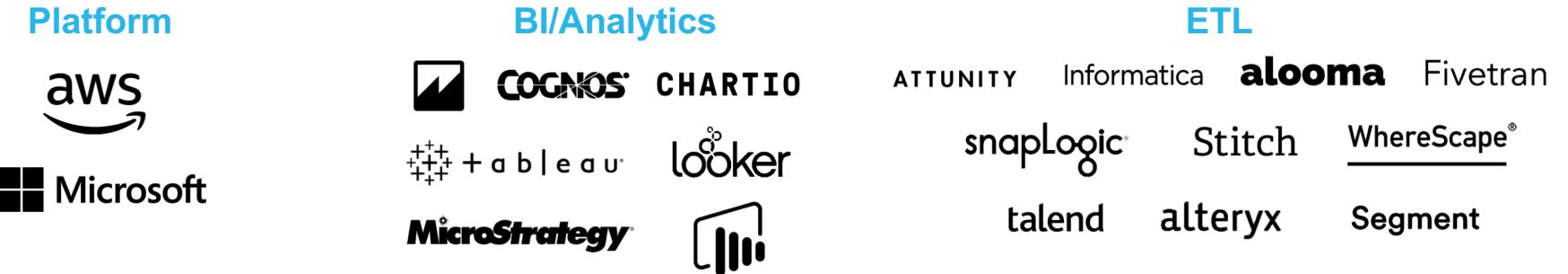


MODERN ARCHITECTURE (AFTER)



MODERN ARCHITECTURE (AFTER)





EVER EXPANDING ECOSYSTEM

Data Science



Services



BENEFITS TO THE DATA PROVIDER

- Access to leads & distribution
- Lower COGS: no API, FTP, copying data to cloud storage
- Tighter data governance and controls: zero copies of data
- Higher customer satisfaction: real-time data distribution

BENEFITS TO THE DATA CONSUMER

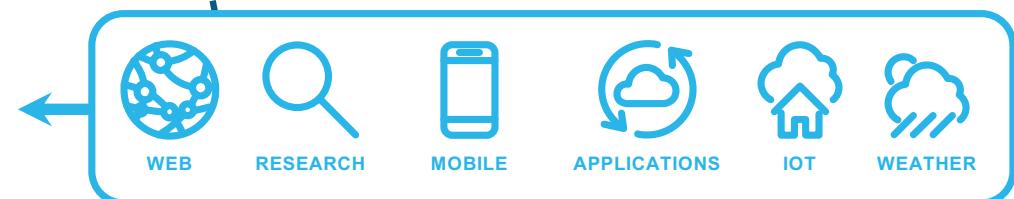
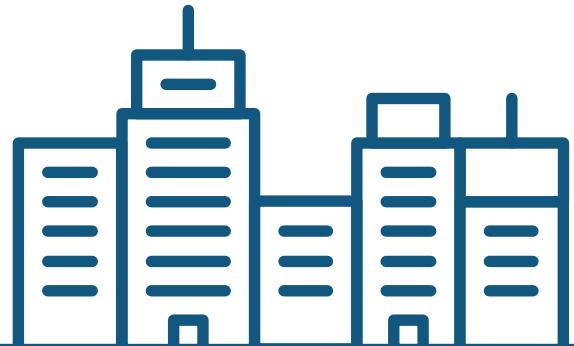
- Access to new data sources
- Lower Operational Cost: maintenance, support, storage
- Instantly consume data without having to load and transform it
- Real-time access to data via their BI tool, SQL, etc.

HOW TO SHARE DATA

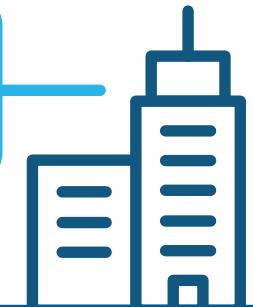
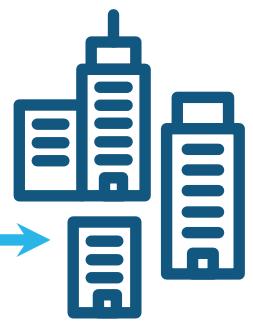


Break down internal data silos

Collaborate on shared data with partners



Enrich your analytics with external data



SHARE DATA INSTANTLY

