SNOWFLAKE ELIS 2026

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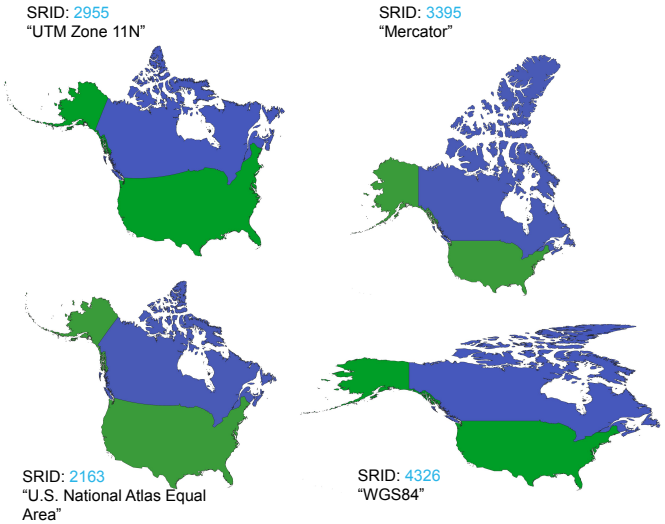
NATIVE GEOSPATIAL CAPABILITIES IN SNOWFLAKE

TWO NATIVE DATA TYPES



GEOGRAPHY

Models Earth as an Ellipsoid
Supports WGS84 (4326) SRS

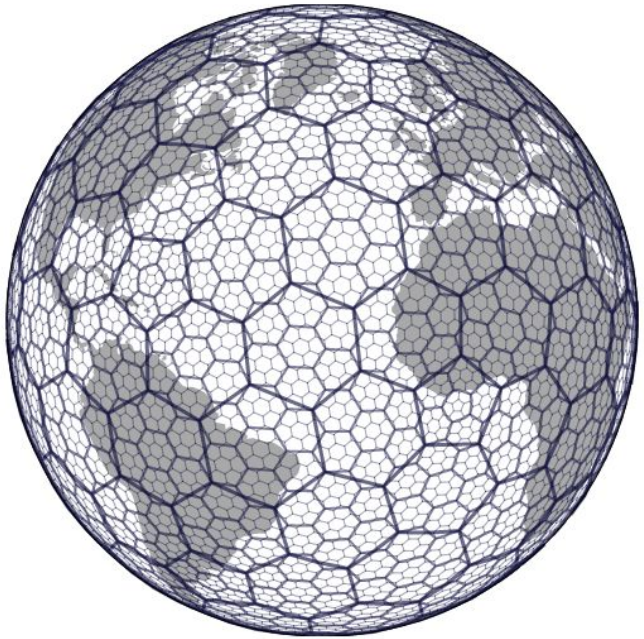
GEOMETRY

Models Earth as a Cartesian plane
Supports many Spatial Reference Systems
Can be faster for local spatial calculations

DISCRETE GLOBAL GRID H3

A hierarchical grid that divides the world into hexagonal cells of equal sizes

- Maps any coordinate point onto a hexagon
- Hierarchical system
- Divides the world perfectly into hexagons
- Each cell has a unique ID (String or Integer)
- Cells have 16 different sizes (resolutions)



FUNCTIONS TO SUPPORT ALL NEEDS

Any vector object
- Valid/invalid shapes

Measurement functions
- ST_DISTANCE
- ST_AREA

Relationships
- ST_INTERSECTS
- ST_CONTAINS

Transformations/Aggregations
- ST_COLLECT
- ST_UNION

Support for various SRIDs
- ST_SRID
- ST_SETSRID
- ST_TRANSFORM

Discrete Global Grid: H3
- H3_LATLNG_TO_CELL
- H3_POLYGON_TO_CELLS
- H3_COVERAGE

Discrete Global Grid: Geohash
- ST_GEOHASH
- ST_GEOGFROMGEOHASH
- ST_GEOGPOINTFROMGEOHASH

User Defined Functions
- Python
- JavaScript
- Java

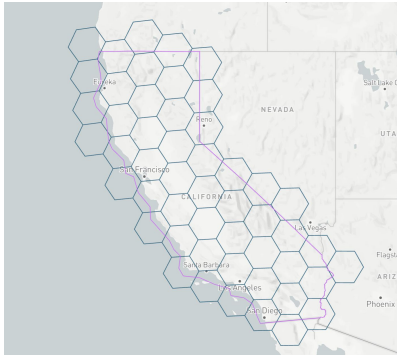
External Functions
- E.g. for Routing

Partner Functions
- CARTO Spatial Extension
- Mapbox GEO
- SedonaSnow
- Travel Time

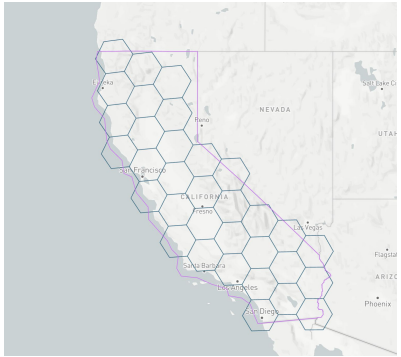
H3 FUNCTIONS

H3_LATLNG_TO_CELL
H3_POINT_TO_CELL
H3_CELL_TO_BOUNDARY
H3_CELL_TO_CHILDREN
H3_CELL_TO_PARENT
H3_CELL_TO_POINT
H3_COVERAGE
H3_GET_RESOLUTION
H3_GRID_DISTANCE

H3_GRID_DISK
H3_GRID_PATH
H3_INT_TO_STRING
H3_POLYGON_TO_CELLS
H3_STRING_TO_INT
H3_IS_PENTAGON
H3_IS_VALID_CELL
H3_COMPACT_CELLS
H3_UNCOMPACT_CELLS



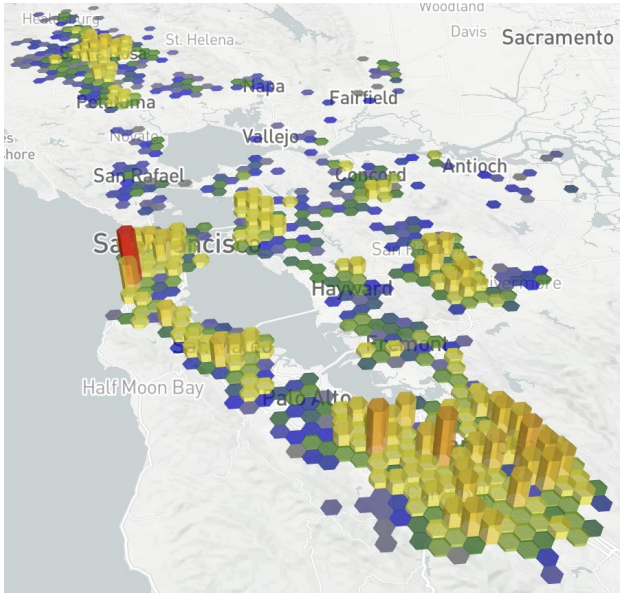
H3_COVERAGE



H3_POLYGON_TO_CELLS

GEO VISUALISATION IN STREAMLIT

Build GEO dashboards in Snowflake



Use, Folium, Plotly, Pydeck etc. to visualize vector and H3 datasets

ArcGIS COMPARISON

VS SNOWFLAKE

	ArcGIS	Snowflake
Workflow	GUI → import → tool → export	Single SQL query
Data movement	Export from DB → load into GIS	Zero — query where data lives
Real-time	Requires GeoEvent Server add-on	Query always hits live data
Accessibility	GIS analyst with license	Anyone with SQL (or natural language via Cortex)
Cost	$10K+/yr per seat	Pay-per-query, low cost
Scale	Desktop memory-bound	Cloud elastic compute
Automation	Python + arcpy scripting	SQL in any pipeline, Streamlit, or agent

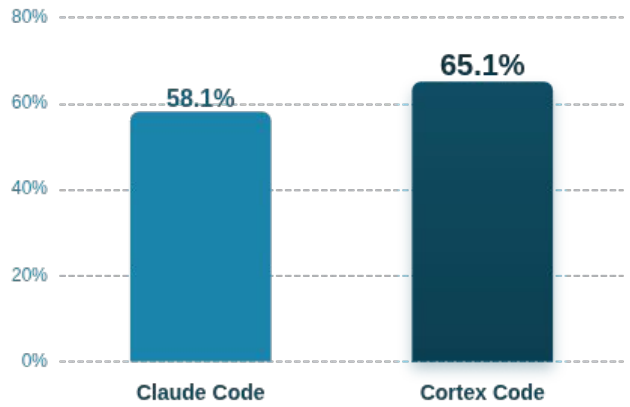
HOW DOES AI MIX GEO?

SNOWFLAKE INTELLIGENCE + CORTEX CODE

Cortex Code Is the World's Best Data Coding Agent

Pass Rates on ADE-Bench

Higher is better (43 total tasks)



Model Version: Opus 4.6

BENCHMARK RESULTS

Cortex Code achieves comparable rates but demonstrates superior execution efficiency, with a **15.7% higher efficiency score** compared to Claude Code.

TOOL CALLS

854 ↓ 48%

vs 1,657 (Claude)

AVG STEPS

19.9 ↓ ~50%

vs 38.5 (Claude)

OPERATIONS

File Reads	2x Fewer
Bash Cmds	4x Fewer

Why Cortex Code is More Efficient

TARGETED VS. EXHAUSTED

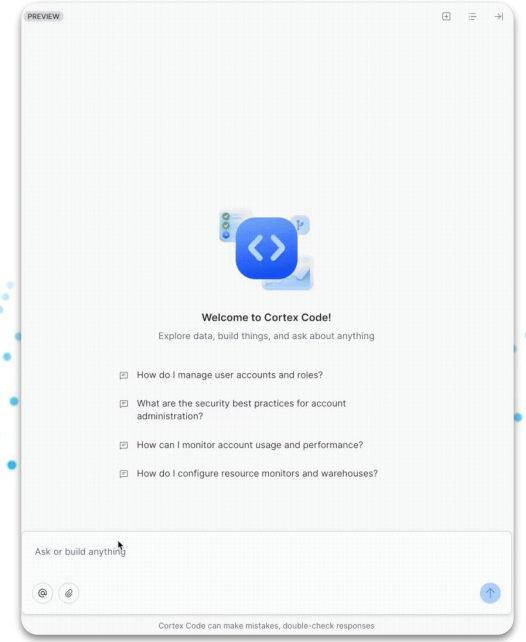
Cortex performs targeted exploration rather than exhaustive scanning, significantly reducing IO operations.

SQL-NATIVE APPROACH

Utilizes **snowflake_sql_execute** for native execution, avoiding heavy reliance on bash tools common in Claude's workflow.

* Analytics and Data Engineering Benchmark by DBT

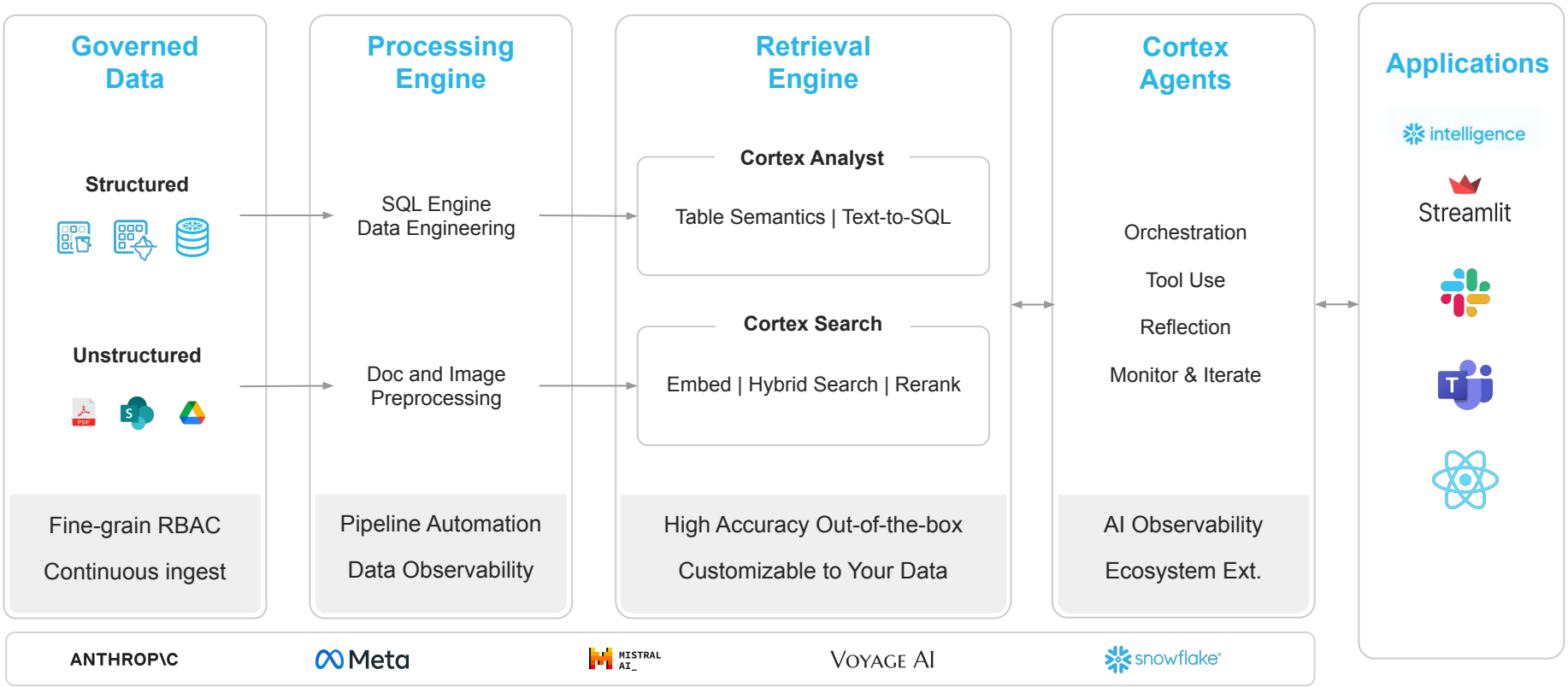
Where to Access Cortex Code



Snowsight

CLI

AI Applications Framework



Snowflake Semantic Views

Unlock conversational analytics

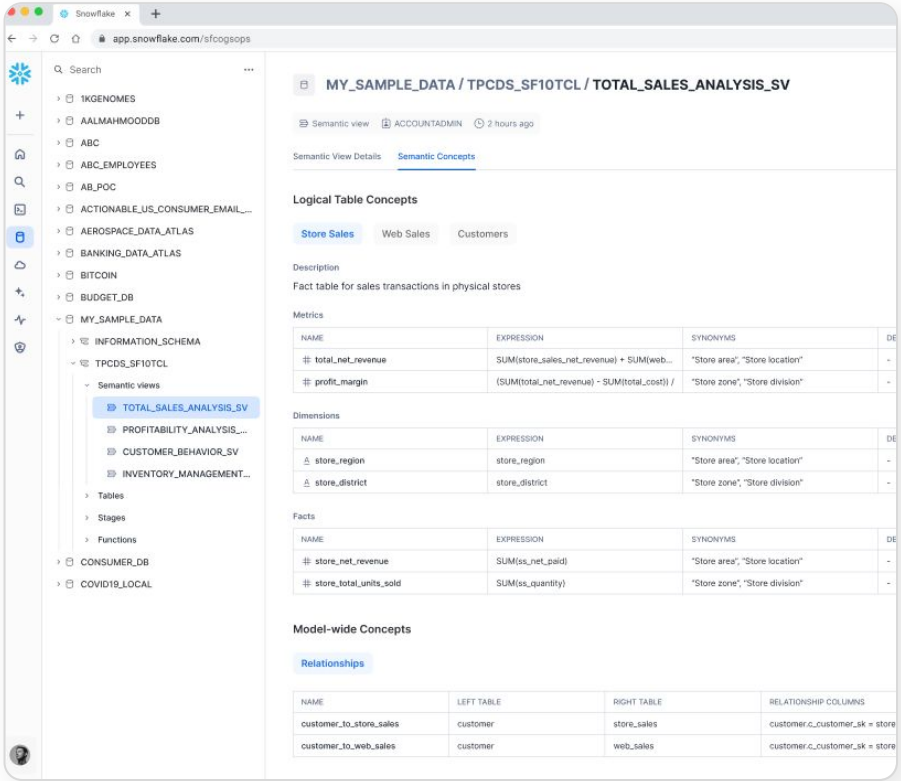
Semantic Views enable high quality, consistent, and governed conversational analytics in Cortex Analyst, Snowflake Intelligence, and other text-to-sql clients.

Extensible across agents/apps

Whether you are talking to your data, writing a SQL query, or using a BI client, Semantic Views help ensure that all analytics consumers get consistent answers, regardless of the UI.

Governance

Semantic Views are securable schema, support object-level RBAC and respect underlying data access controls. Replication and DR capabilities are built- in.

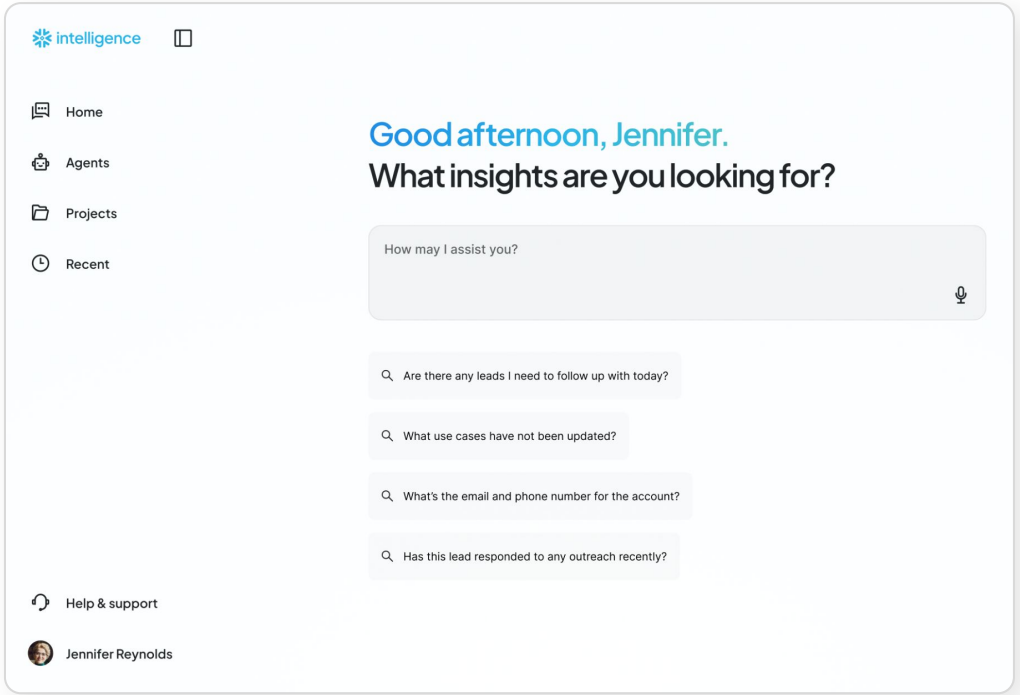


Introducing Snowflake Intelligence

Deep research on your enterprise data

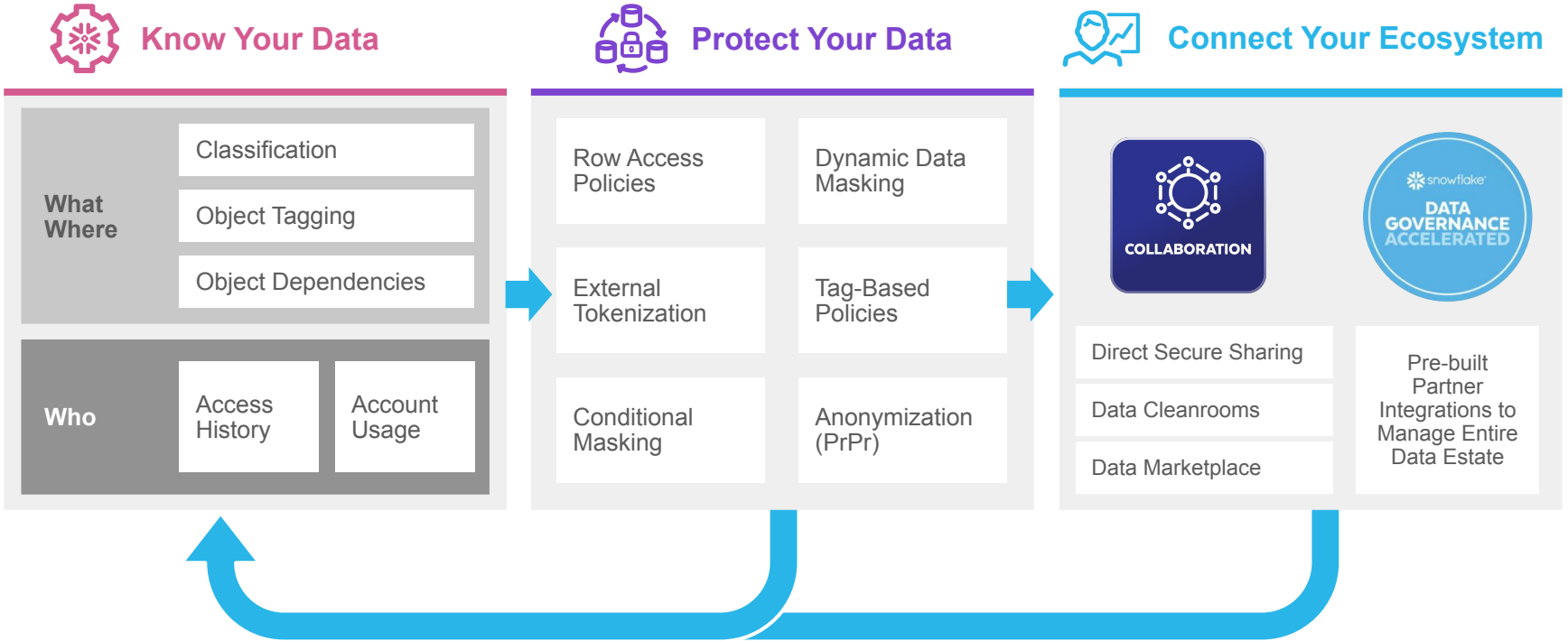
Agentic Deep Research

- Natural language interface to get insights from **structured** & **unstructured** data
- Integrated with Snowflake **governance** and access controls
- Enable **business users** to **self-serve** answers freeing data teams
- **No dashboards or SQL** needed



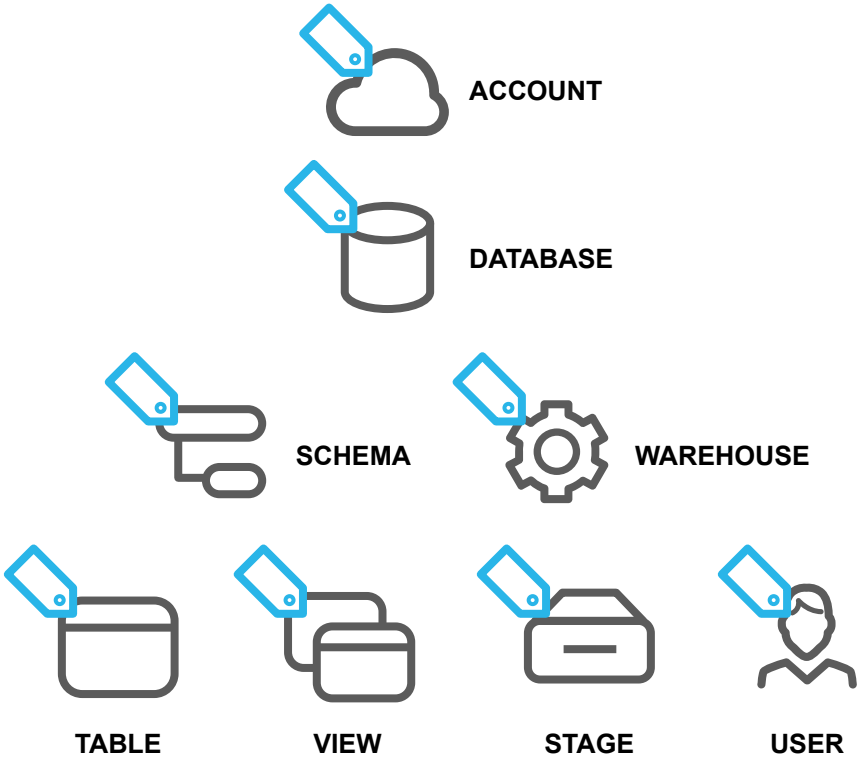
QUICK NOTE ON GOVERNANCE

Unified, Cross-Cloud Governance



Object Tagging

Track sensitive data and compute objects



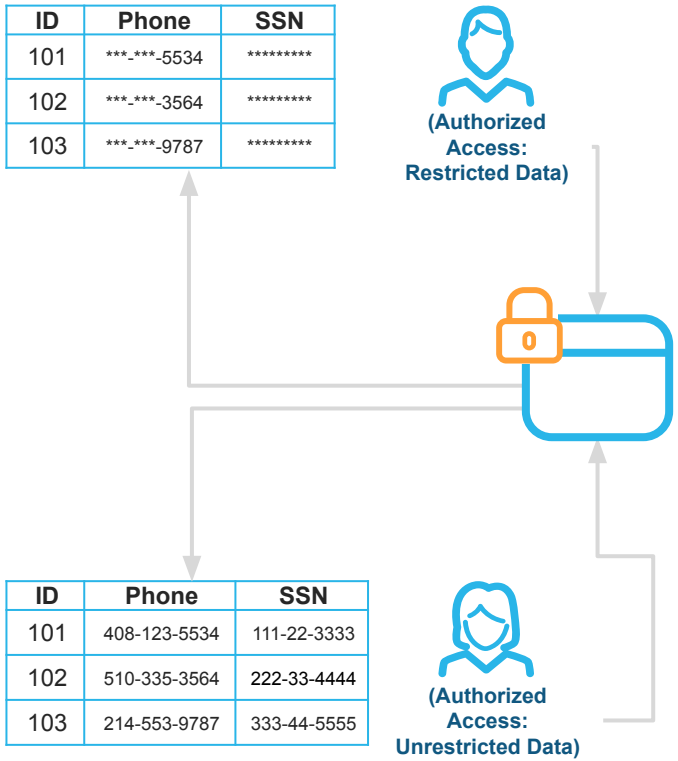
Track sensitive and PII data

Track resource usage for cost visibility and attribution

Flexible privilege management options

Dynamic Data Masking

Column-level Security



Dynamically mask data at query time

Centralized policy management

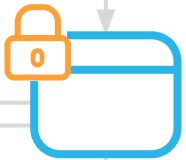
Apply one policy to many columns

Row Access Policies

Row-level Security

Customer	Spend	Region
ACME	$820,000	North America
Koko	$2,100,000	North America

ROLE:
EU_NA



Customer	Spend	Region
AGM	$5,757,000	Europe

ROLE:
EU_RL

Filter unauthorized rows at query time

Use mapping tables for authorization

Apply one policy to many tables

DEMO - PORT OF QUEBEC USE CASE

GENERATED WITH CORTEX CODE

SHOWCASING STREAMLIT + SI

EXTRA FEATURES

GEOSPATIAL MARKETPLACE

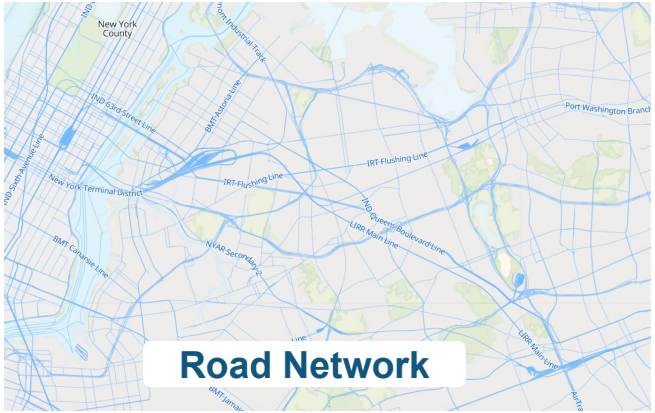
More than 200 geo datasets

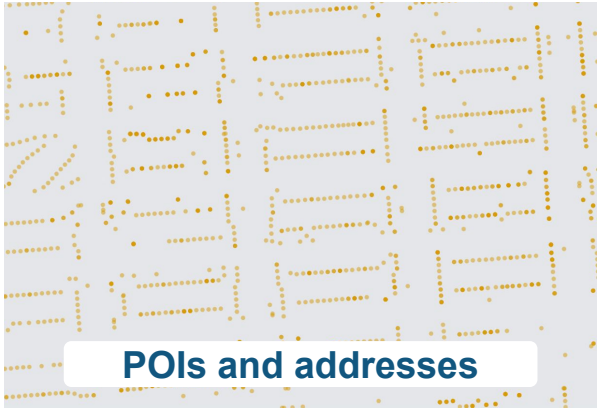
Data Providers

CARTO, Mapbox, Precisely, Sonra, Safegraph, Foursquare, Lifesight, PredictHQ, MetOffice, Ordnance Survey etc.

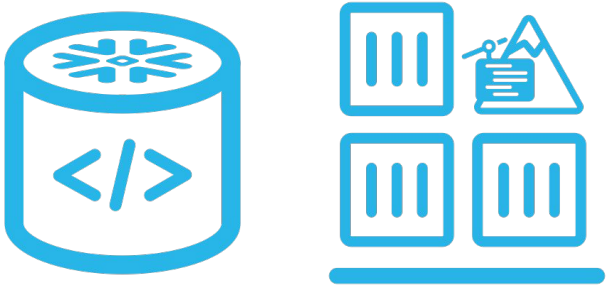
Overture Maps Datasets

- Divisions (administrative areas)
- Buildings
- Road Network
- POIs
- Addresses

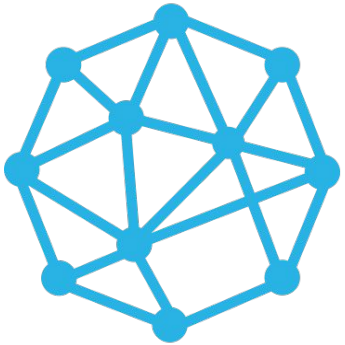




SNOWFLAKE FOR GEO APP BUILDERS



Build Apps
using Snowflake Native Apps
and Snowpark Containers



Distribute and Monetize
on Snowflake Marketplace

SedonaSnow From Wherobots

Works natively with Snowflake

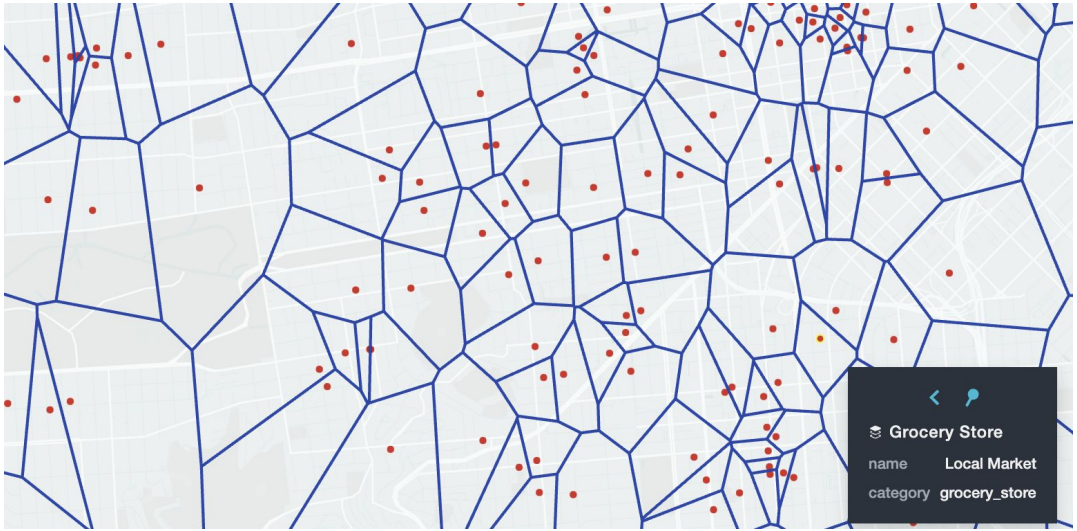
Wherobots

Apache Sedona

Wherobots founded by the original creators of Apache Sedona.

Making solutions for geospatial *analysis & discovery* more accessible, scalable, and cloud-efficient.

SedonaSnow provides 130+ ST_ functions that extend core Snowflake offering.



Example: "Identifying areas served by the nearest grocery store"

- Using **`ST_VoronoiPolygons`** SedonaSnow Spatial SQL function

We are about to hit an Iceberg

Future is Open – with open data formats

Both geo types:

- GEOMETRY
- GEOGRAPHY

Geospatial Support

Geography Type

- Store and analyze POINTs, LINESTRINGs, POLYGONs
- Input/Output as GeoJSON, Well-Known Text (WKT), and Well-Known Binary (WKB)
- Spherical model of earth

OGC-Compliant Functions

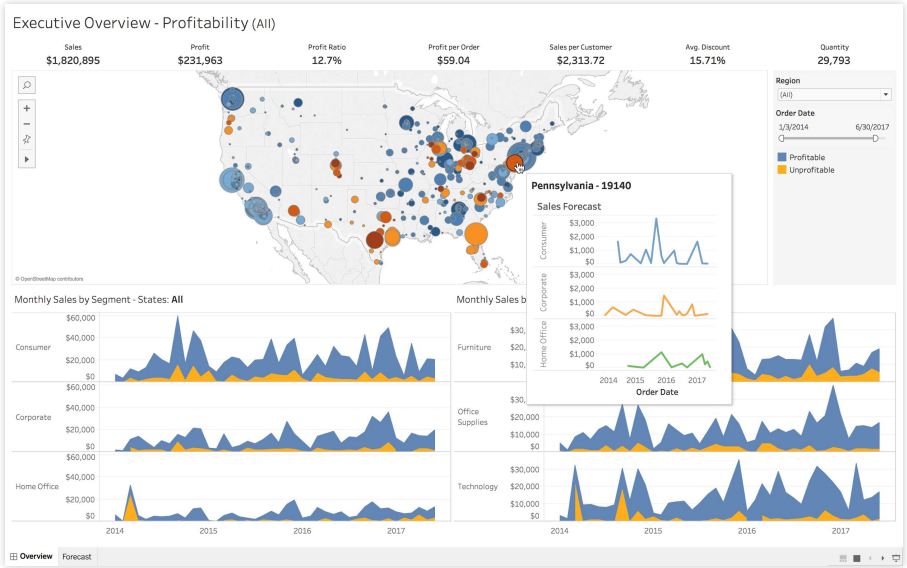
- CONTAINS, INTERSECTS, DISTANCE, DWITHIN, and more

Performance

- Pruning and joins on geospatial predicates (Q2)

Ecosystem

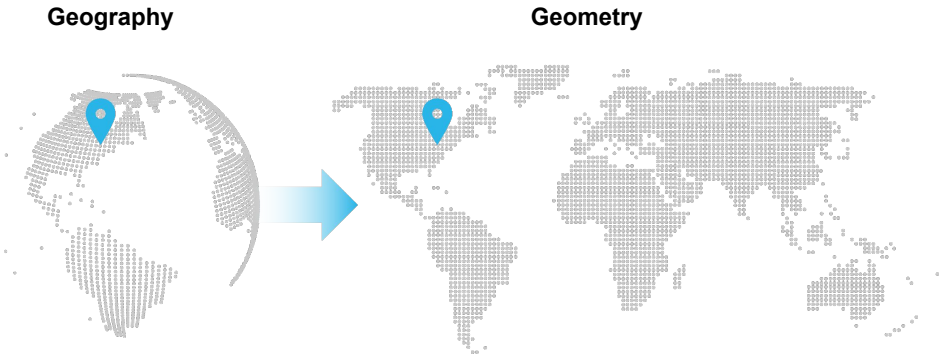
- Integrates with BI tools for visualization
- Works with spatial ETL tools for data integration



Geospatial Innovations

What is new?

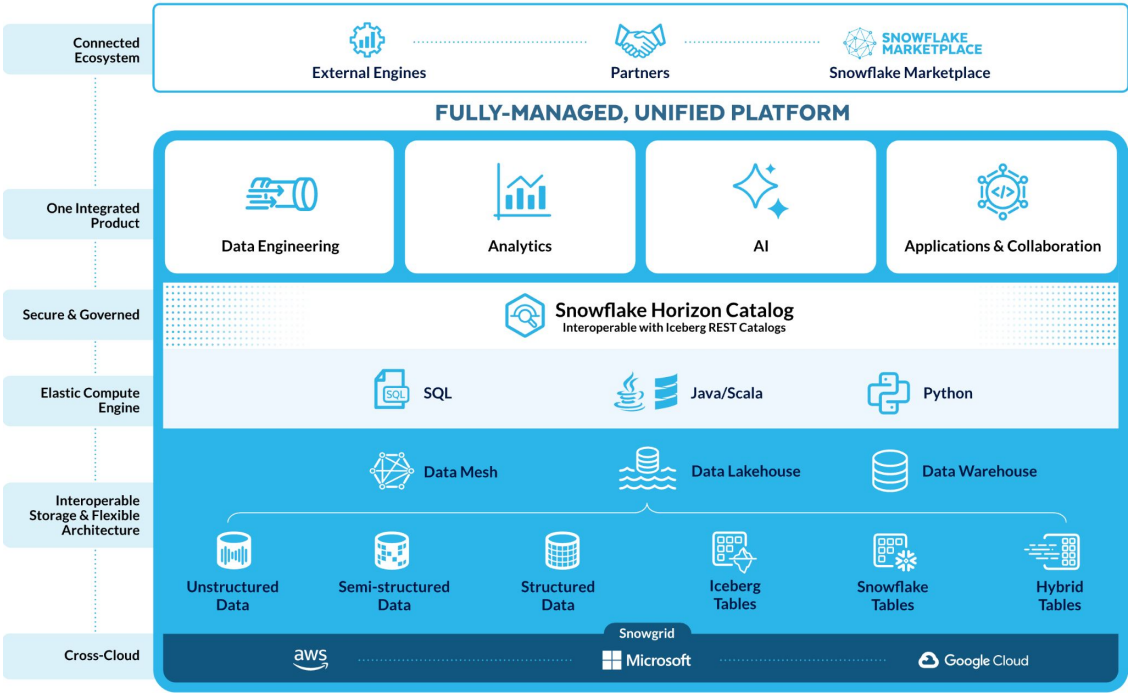
- The new **Geometry** Data Type supports multiple spatial reference systems
- Easily switch between spatial systems with **ST_Transformation**
- We are also announcing support for invalid shapes for both **Geometry** and **Geography** and new functions for the **Geography** data type



Value

Enable geospatial use cases in manufacturing, government, and infrastructure. Snowflake can now ingest any type of spatial vector object, allowing customers to process all types of vector geospatial data

Snowflake Platform Architecture



BRING AI TO YOUR DATA

Reduce complexity and optimize across quality and cost

BUILT-IN GOVERNANCE

Secures both data & AI models

SOLID DATA FOUNDATION

Helps improve quality & reduce hallucinations

Native AI & Agents Inside Snowflake

Cortex Code

AI coding agent that generates and iterates on Snowflake-native code (SQL, Python, Streamlit, etc.) grounded in your data and environment.