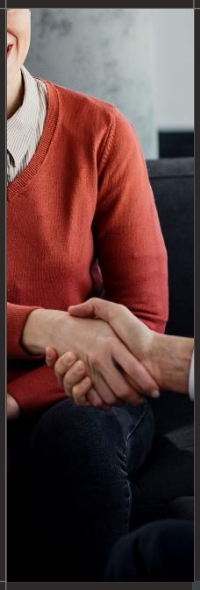
Tiger Analytics

## Tiger Analytics helped a Fortune 500 insurance company build a D&A platform to meet critical needs through a single source of truth



Tiger Analytics developed a unified Data and Analytics platform for supporting multiple analytics and ML use cases, as well as a robust D&A platform that hosted all data types in an analytics-friendly format. This approach helped accelerate query performance and increase agility in using business insights and made data provisioning more seamless while presenting a single reliable source of centralized data.

# The Background

Our client is a USA-based Fortune 500 Life Insurance company. The need of the hour was to build a unified Data and Analytics (D&A) platform to support multiple analytics and Machine Learning (ML) use cases. They also wanted this D&A platform to act as an Information Mart for Advanced Analytics, hosting structured, semi-structured, and unstructured data in an analytics-friendly format. Furthermore, the client expected this platform to support various analytics and reporting needs.

## Key Challenges

- **Disjointed data reservoirs:** Data silos were proliferated across multiple Enterprise Data Warehouses (EDWs). This resulted in only selective integration, causing a fragmented view and ineffective decisions.

- **Scalability Strains on ETL and Reporting:** The client's existing ETL (Extract, Transform, Load) jobs and reporting queries grappled with performance challenges. These hitches stemmed from scalability limitations, hindering quick data extraction.


# Our Solution

Tiger Analytics implemented a four-pronged solution to meet the client's specific requirements. The team developed a **Data Vault Architecture** based on a granular data modeling approach to track data and its lineage. This agile framework could easily scale up and accommodate vast data volumes. An important highlight was its ability to bridge the gap between multiple data silos and help the client harness a single source of truth without migrating all source systems simultaneously. It also established a consolidated layer to deliver all data, including history, to downstream systems. Other highlights of the Data Vault Architecture included:

- Agile data modeling with shorter implementation cycles
- Flexibility and scalability to manage beneficial changes
- Parallelization for real-time or near-real-time data inserts

The team developed a robust **Data Quality Framework** (Great Expectations) for comprehensive data tracking. Its functions ranged from raising alerts for data changes and pinpointing the changes to determining the pipeline step causing the failure and preventing the consumption of bad data in downstream processing.

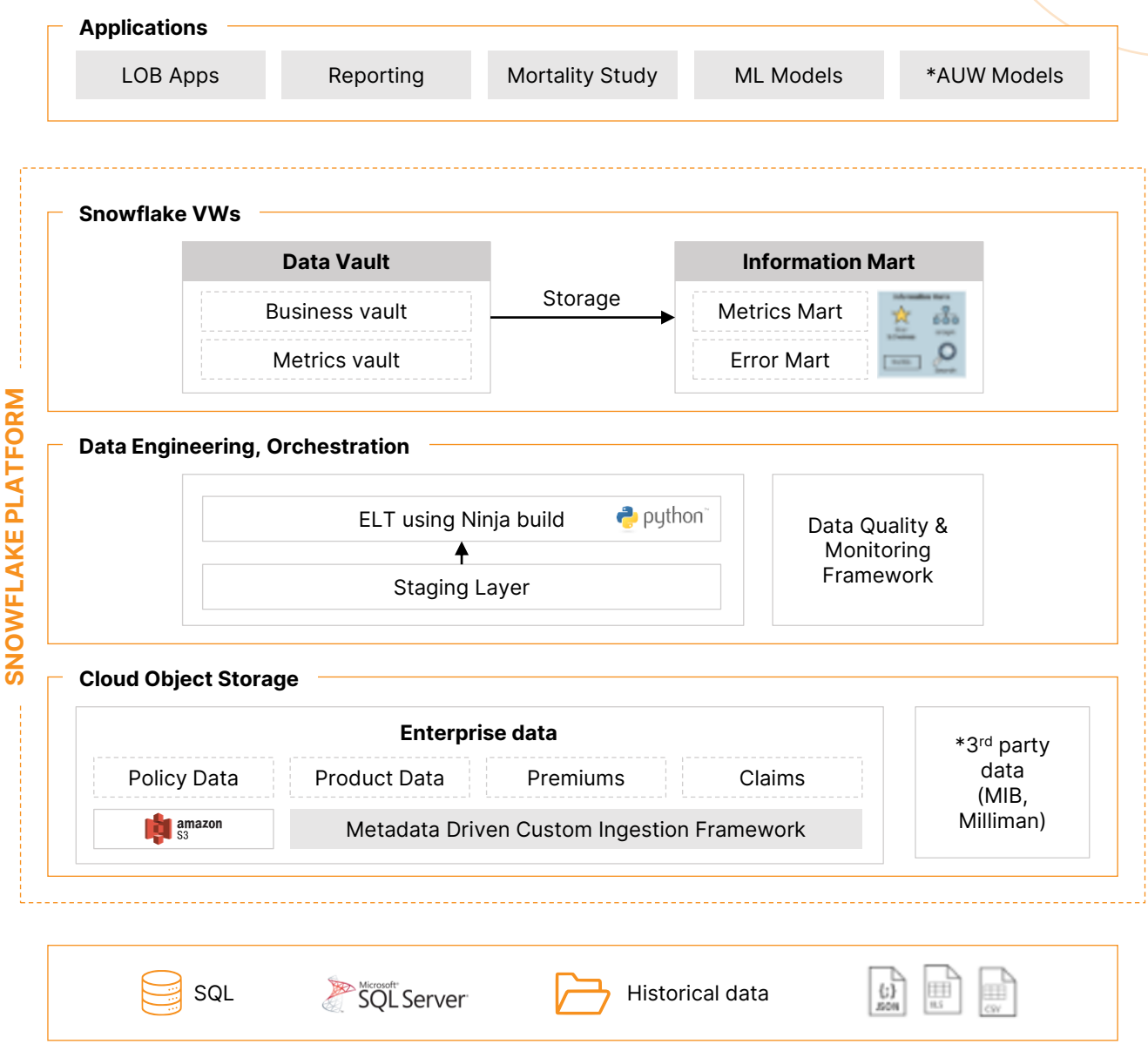
The team leveraged Snowflake as our **Data Lake** to further centralize our data infrastructure landscape. This platform handled the most important data workloads, combining structured, semi-structured, and unstructured data, irrespective of format.

Finally, the team helped develop an **Asset Store**, which acted as a functionally modeled Information Mart customized per the use case. These marts classified attributes as assets and grouped them into tables based on domain categories. Depending on the requisites of the downstream applications, the Information Mart entities are modeled either as flat structures or through dimensional modeling.

# Tech Stack

/ MySQL
/ Python
/ Snowflake
/ Tableau

# Solution Architecture



# Value Delivered

**Query performance became a lot faster**, enabling agility in business insights.

**Data provisioning to business users** vastly improved through Snowflake.

The load on **transactional systems reduced significantly** with data provisioning enabled to application systems without ETL congestion.

**A single trusted source of data** made it easier for the client to leverage business-critical information.

# About Us

Tiger Analytics is a global leader in AI and analytics, helping Fortune 1000 companies solve their toughest challenges. We offer full-stack AI and analytics services & solutions to help businesses achieve real outcomes and value at scale. We are on a mission to push the boundaries of what AI and analytics can do to help enterprises navigate uncertainty and move forward decisively. Our purpose is to ***provide certainty to shape a better tomorrow.***

Being a recipient of multiple industry awards and recognitions, we have 4000+ technologists and consultants, working from multiple cities in 5 continents. www.tigeranalytics.com

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