5
## REASONS

YOUR BUSINESS NEEDS A UNIVERSAL SEMANTIC LAYER TODAY

The demand for data continues to grow from inside and outside every organization and from machines now, too. However, having a surfeit of data is not enough. **Organizations must solve the complex challenges** of organizing, managing, and accessing data despite the complexity of their data stacks, the proliferation of siloed data, and inconsistent business definitions.

This is why organizations need a universal semantic layer, an emerging—and sometimes poorly understood—concept. **A universal semantic layer unifies data to create a single source of truth** with consistent metrics, centralizes and enforces fine-grained data access controls, and helps organizations achieve faster, more cost-efficient results from data.

The Demand for Data Continues to Grow

Machines

Coworkers

Customers
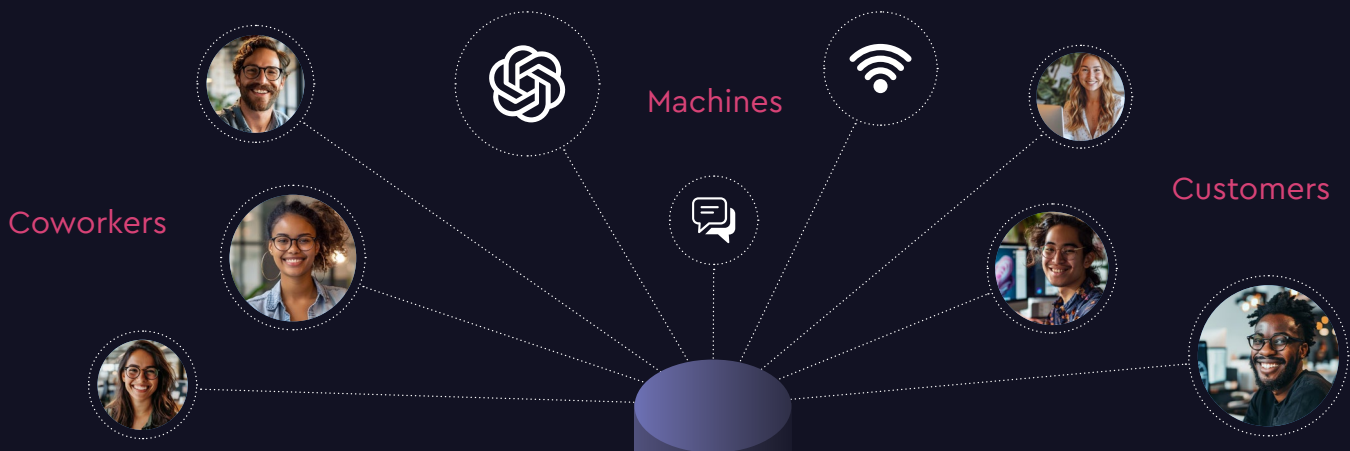
Why a Universal Semantic Layer?

While the concept of a semantic layer has existed since the 1990s, self-service analytics in the 2000s led to the fragmentation of business definitions spread across data consumers. To solve the problem, a few vendors have introduced the concept of a **universal semantic layer.**
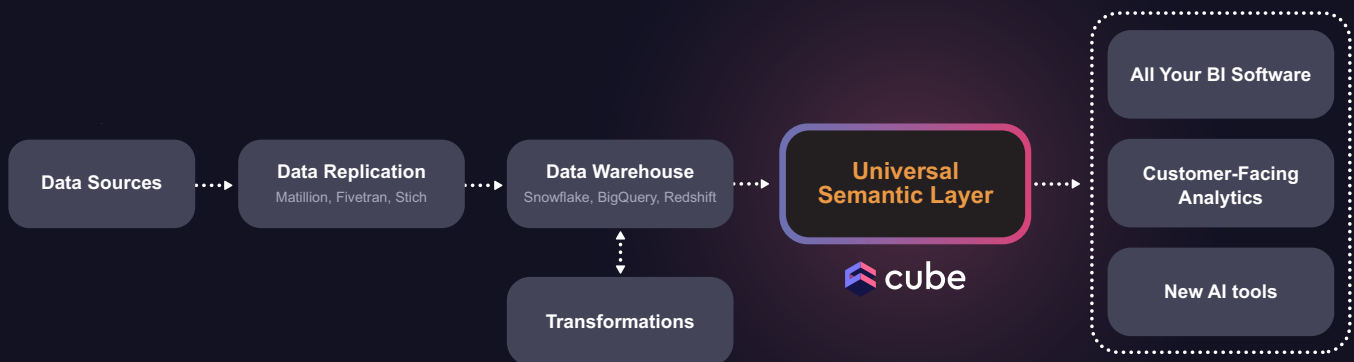
A universal semantic layer is an independent yet interoperable part of the modern data stack that sits between data sources and consumers.

It allows every data endpoint, whether business intelligence (BI) tools, embedded analytics, or AI agents and chatbots, to work with the same semantics and underlying data, leading to consistent and trusted insights and, ultimately, driving informed business decisions.

Although a universal semantic layer can't solve all business problems, it can help organizations use complete, consistent data insights to navigate uncertainty. Having massive amounts of data alone doesn't create value, but consistent, complete, trusted data for informed decision-making does.
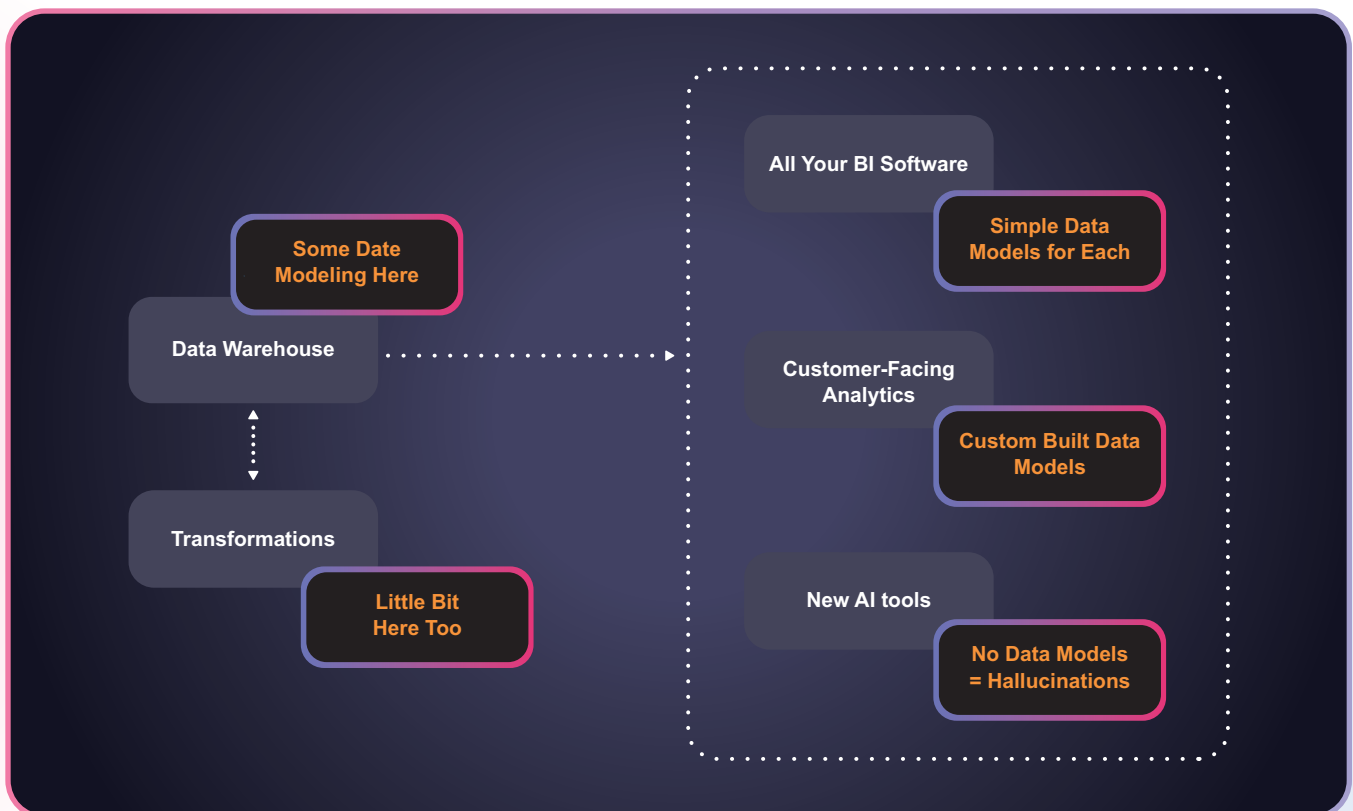
Your Business Needs a Semantic Layer

Here are five ways a universal semantic layer can help organizations solve problems associated with organizing, managing, and accessing data.

1 Unify fragmented business logic across the modern data stack

The democratization of data has led to the wide duplication of metric definitions, fragmenting the business logic across the organization. A universal semantic layer unifies the organization's business logic, acting as a single source of truth. This delivers consistent and accurate data to every data experience: BI platforms, embedded analytics, AI agents, and chatbots.

2 Connect data across BI tools and enterprise software systems

Forrester research indicates that 79% of data teams struggle to "enact real-time, insight-driven actions." This stems from siloed data in BI tools and other data applications. A universal semantic layer unites data and powers data applications, accepting that there will be many different tools for visualizing and using the data, and many different data sources where it is stored.

```
Some Date
Modeling Here

Data Warehouse  ·············>   All Your BI Software

                                 Simple Data
                                 Models for Each

                                 Customer-Facing
                                 Analytics

                                 Custom Built Data
                                 Models

Transformations

Little Bit                       New AI tools
Here Too
                                 No Data Models
                                 = Hallucinations
```

3 **Centralize and enforce fine-grained data access security controls for easier governance**

A universal semantic layer centralizes data access controls to make it easy to manage data access for internal and external data consumers without jumping from tool to tool. The semantic layer automatically rewrites queries and injects the appropriate security context, including user or role details, to ensure that only the proper users have access.
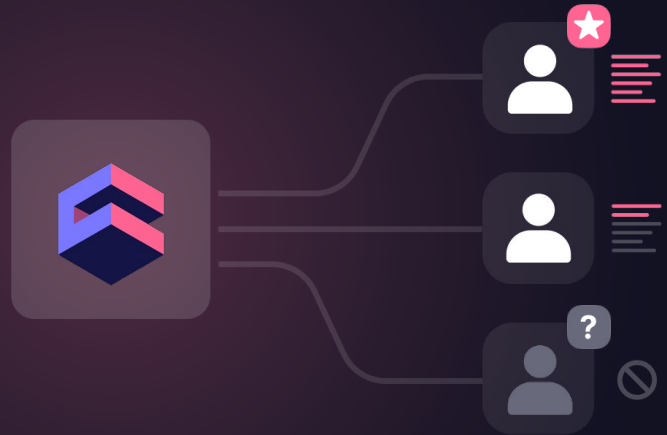
4 **Optimize query performance and control cloud data warehouse costs**

Through performance insights in the universal semantic layer, organizations can easily find redundant queries or other opportunities for caching and pre-aggregating query results, reducing the amount of data warehouse compute required. Organizations have seen huge reductions in data warehouse costs through this optimization.
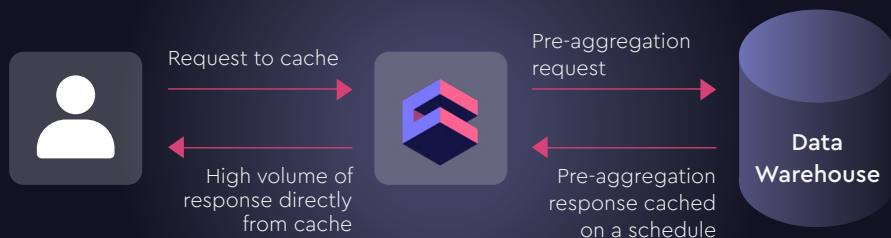
Save Money and Compute Resources

Today, Without Cube:
All queries hit the database

Request

Response

Data Warehouse

With Cube:
Query the database only when needed

Request to cache

High volume of response directly from cache

Pre-aggregation request

Pre-aggregation response cached on a schedule

Data Warehouse

5 **Every data team is being asked what their AI plan is**

A quick AI application for any data team is to enable internal and external customers the ability to ask natural language questions and get charts, commentary, and tables of data as the results. But you already know, GenAI needs more context to deliver accurate results. Only a semantic layer can provide this business logic to LLMs and avoid hallucinations. A universal semantic makes it easy to deliver modeled data to LLMs to create AI chatbots that can answer questions from a company's data.

## Text-to-Semantic Layer Scenario Improves Accuracy of Results
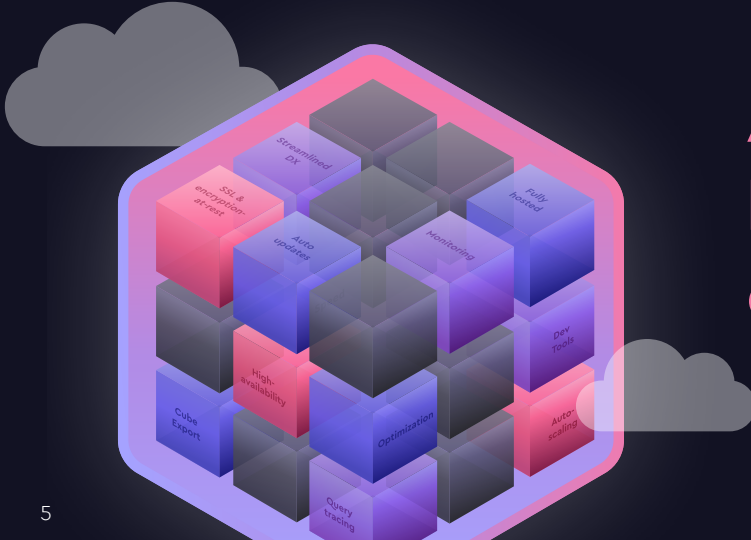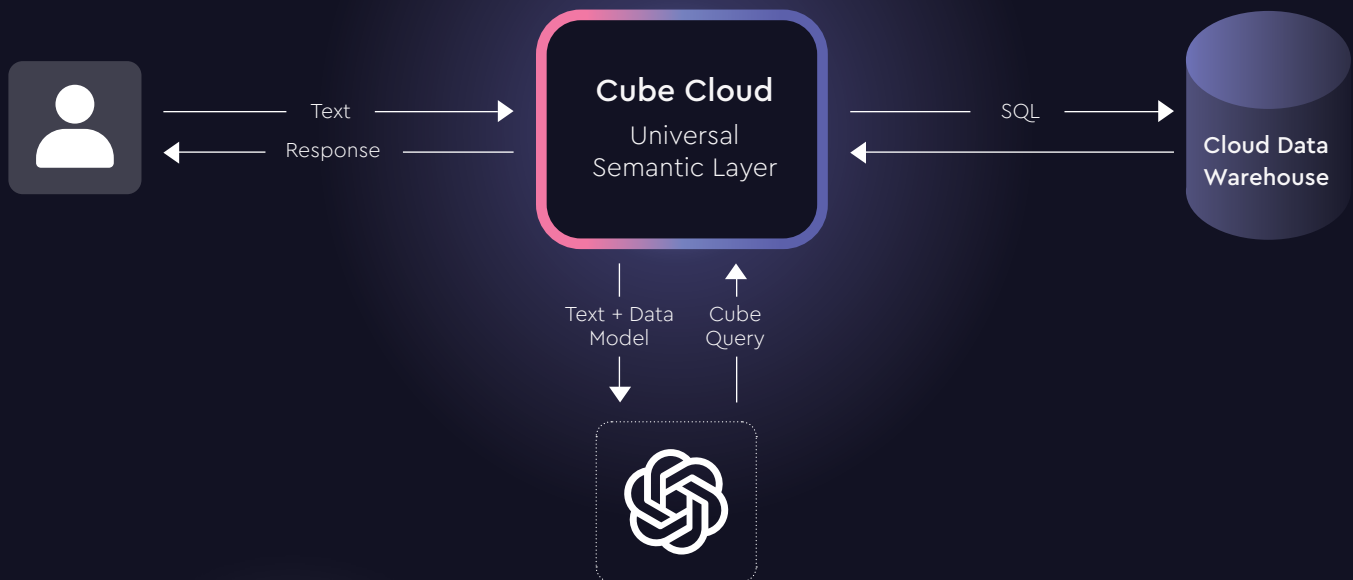
A universal semantic layer makes it easy to deliver modeled data

Your Business Needs a Semantic Layer

A Final Word

Effective organizations need uniform, accurate data to make actionable decisions. The organization's connective tissue, a universal semantic layer, links critical knowledge, information, and data assets. Regardless of the industry, a universal semantic layer allows employees to work together based on shared data definitions, ensure data governance and security, unite data silos, optimize cloud expenses and harness the power of AI. A universal semantic layer translates to meaningful competitive advantage — and for any organization, there's no substitute.
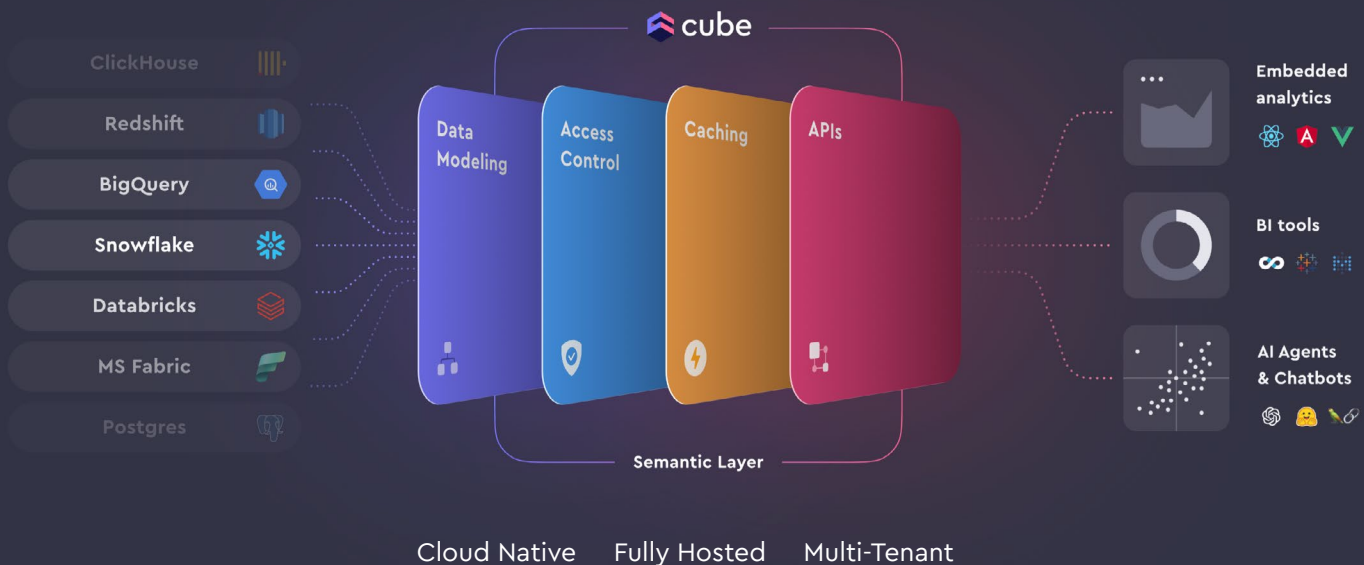
About Cube

Cube is the semantic layer that makes it easy to break down data silos, create consistent metrics, and deliver them to all your data endpoints – BI tools, customer-facing embedded analytics, LLMs, and AI agents. Cube Cloud delivers the Enterprise-ready semantic layer that connects to any data source. Robust developer tools, observability, security, and compliance make it easy to quickly deploy, monitor, and use Cube across any sized business.

Companies such as Linux Foundation, Drift, Cloud Academy, Intuit, Walmart, Security Scorecard, and IBM trust Cube to deliver amazing data experiences to their customers and employees.

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