



INDUSTRY

Hi-tech

PROFILE

A hi-tech subsidiary of a multinational conglomerate, dedicated to managing the data infrastructure of the global parent company, is redefining the hybrid cloud experience by eliminating the complexity of traditional data management. The subsidiary offers the agility of the cloud with the control and performance of an enterprise-grade infrastructure through a range of scalable, high-availability storage, and software-defined solutions, to accelerate business.

“

We have leveraged a powerful combination of AWS and Denodo to create a modern data-as-a-service (DaaS) model. This enabled us to move from legacy 24-hour processing cycles to immediate, near real-time insights – all while keeping the infrastructure costs low.”

— Enterprise Data Solution Architect

Infrastructure Giant Sets Up a Data Foundation for Innovation with Denodo at its Core

With a vision to be the global data infrastructure and storage leader solving the world's most critical challenges, this organization wants to become a force for meaningful progress. The company is fueling AI innovation and analytics with high-performing digital infrastructure. It is helping organizations dynamically scale operations, reduce carbon footprints, and achieve seamless data experiences across the edge, the core, and the public cloud.

Business Need

The company was struggling with complex queries, managing sensitive data across multiple data sources, and slow information delivery to downstream applications. It needed a way to access live, uniform, governed data across on-premise, cloud, and hybrid environments.

The data infrastructure subsidiary faced the following challenges:



Complex data retrieval: Business users were struggling with using the company's data lake due to manual deployments and complex queries across disparate systems like ERP, CRM (Salesforce), and specialized pricing applications.



Data silos, fragmentation, and latency: Information was trapped in multiple sources, and the lack of a single, overarching data access layer resulted in fragmentation and slow information delivery to downstream applications like supply chain and forecasting systems.



Data security and governance challenges: Internal risk management across a growing number of data sources and applications was increasingly challenging. The company needed to manage sensitive data and control access, at both the row and column levels, in a centralized manner.

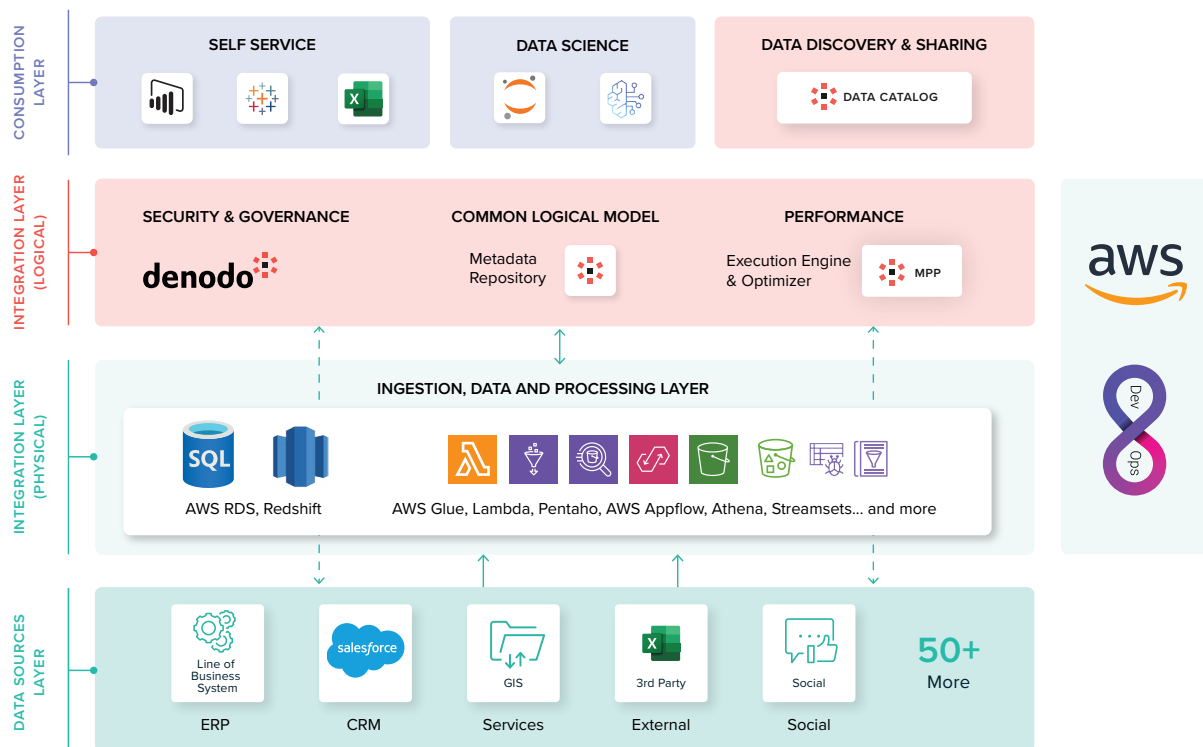
To solve for timely data retrieval, integration, and governance, the enterprise data and analytics team recognized the need for a unified semantic layer that would connect the company's data lake on AWS and other on-premises and multi-cloud data sources to the data consumption layer at the top.

The hi-tech subsidiary accelerated time-to-insight by >20x and established a data-as-a-service (DaaS) model with AWS and Denodo

The Solution

“We required a solution capable of connecting to downstream and upstream applications while supporting a modern, decoupled architecture,” explains their IT manager for enterprise data & analytics. “After exploring multiple solutions, Denodo stood out for its out-of-the-box implementation, connectivity, flexibility, and fair pricing.”

The result was a powerful DaaS model – powered by AWS and Denodo at its core. AWS provides the core infrastructure with S3, AppFlow, Athena with Iceberg, and Lambda; Denodo acts as a universal semantic layer, enabling users to run SQL queries across the ecosystem without the need for data movement.



As reflected in the diagram above, the architecture has four primary layers:

The bottom layer is the data source layer, which includes 50+ sources such as ERP, CRM (Salesforce), social media, and third-party external data.

The middleware, or the integration layer, is composed of a physical and a logical layer. The physical layer is managed by AWS services. Data is ingested through tools like AWS AppFlow into S3 Raw and Consumption buckets, powered by Iceberg. The logical layer is powered by Denodo and it manages the common logical model, metadata repository, and access controls.

On the right of the integration layer is the Dev-Ops lifecycle, a continuous cycle of software improvement based on feedback. With a goal to break down silos between development and operations, it enables the company to deliver software faster, more reliably, and with ongoing learning from production use.

Finally, the consumption layer sits at the top with business intelligence tools (like Power BI and Tableau), data science technologies (like Jupyter and Amazon SageMaker), and a data catalog, for information discovery.



Benefits

Having successfully established a DaaS model, the infrastructure giant is ushering in the next wave of AI innovation and data analytics, cementing its position as a leading global data infrastructure and storage provider. This shift has unlocked rapid decision-making across supply chain forecasting, customer analytics, and marketing effectiveness.

As a result of leveraging Denodo on AWS, the team has realized a multitude of tangible benefits:



Data Democratization: With a modern data architecture in place, users can now access, integrate, and deliver real-time, trustworthy data with agility and confidence. The consumption layer serves as a central hub for all business intelligence teams and users, supporting SQL against a single unified data model as the universal language for BI analysts.



Data Security and Governance: Integration with SSO and LDAP/Active Directory roles allows for the automatic mapping of users to specific virtual databases (VDBs). This enables a federated approach to data governance, with centralized management of business-unit-specific access and fine-grained row- and column- level security preventing users from interacting with unauthorized datasets. As a result, the company has been able to add new, high-sensitivity use cases, such as confidential HR data sets, knowing that access would be effectively controlled.



Cost and Time Savings: By enabling real-time zero-copy access to billions of rows of data, the company has been able to accelerate time-to-insight by over 20x, moving from 24-hour cycles to near real-time decisions. This model effectively eliminates the high costs of data replication and engineering overhead as they manage hundreds of BI developers that run over two million queries annually with the data being leveraged by 5000+ users in dashboards and other tools.



Building towards an Agentic Future: This hi-tech player's current AI strategy focuses on creating a robust data foundation for agentic AI – delivering live data, the right data, and trustworthy data from across the enterprise. The company is currently running pilots for both the Denodo AI SDK and AWS Bedrock.

By implementing Denodo on AWS, the infrastructure giant has removed the technical debt of legacy data movement, converting traditional overhead into pure operational speed.

“

We transformed our data landscape by building a modern, DaaS model on AWS with Denodo at its core,” said their IT manager. “This has streamlined data consumption for more than 5,000 dashboard users, managing billions of rows of data with enhanced security and governance.”

