

Retail Transformation, for Maximum Agility in an Ever-Changing Landscape



The pandemic had a profound impact on the retail industry, perhaps more than any other. In just a few weeks, stores closed and shifted to online-only operations. Now that many stores have reopened, retail organizations remain committed to their online presences, perhaps for the foreseeable future. Today, not only do retailers need to maintain strong online and offline presences, but they also need to enable seamless experiences between both. They need to establish “digital bricks” that provide compelling opportunities for synergy. Many retailers need to develop such capabilities while also striving to achieve net-zero-emission status, which puts a strain on operations.

To accomplish these capabilities, established and modern retailers alike need to adopt hybrid marketing and branding strategies that embrace physical and virtual stores, simultaneously. Such strategies require a deep digital transformation that involves one or more of the following areas:

1. Competitive Intelligence
2. Quality Control
3. Customer Propensity Analysis
4. Multi-Channel Integration and Analytics
5. Targeted Marketing and Product Customization
6. Supply Chain Optimization

A logical data fabric powered by data virtualization is best suited for such retail transformation as described above, without requiring an end-to-end infrastructure replacement, which would impact not only net-zero initiatives, but also daily operations. Below, we illustrate how such a transformation can be accomplished across each of the six areas listed above. After that, we present four case studies of retail companies that leveraged data virtualization to gain powerful results.

SOLUTION

Logical Data Fabric for Retail

PRODUCT OVERVIEW

The Denodo Platform is the industry’s only data integration and management platform that offers all the capabilities necessary to build a logical data fabric. Powered by data virtualization, it provides a common semantics layer to expose data more quickly to business, a dynamic data catalog for semantic search and enterprise-wide data governance, industry leading query acceleration supported by machine learning, automated infrastructure management for multi-cloud and hybrid-cloud scenarios, and embedded data preparation capabilities for self-service analytics, faster time-to-insight, better privacy and compliance, greater automation of data management processes, and avoiding vendor lock-in.

What Is a Logical Data Fabric?

Logical data fabric is a vision of a unified data delivery platform that abstracts access to multiple data systems for business consumers, hiding the complexity and exposing the data in business friendly formats, while at the same time guaranteeing the delivery of data according to predefined semantics and data governance rules. The logical data fabric vision is realized by data virtualization. Whether you are looking for a data integration and management solution for a simple project such as dashboarding or reporting, or a complex project such as data management in hybrid/multi-cloud scenarios, or even a prescriptive or predictive analytics project, one of the Denodo subscriptions has the right features and functionalities to fit your budget and needs.

Benefits of a Logical Data Fabric Powered by Data Virtualization

- ✓ Better data discovery and self-service through an integrated data catalog
- ✓ More flexibility with the use of a single, integrated Design Studio.
- ✓ Improved query performance in highly distributed data environments
- ✓ Automation across the board using activity metadata combined with AI-based recommendations
- ✓ Centralized security and governance to enforce security and governance across the organization



The Denodo Platform and the Retail Industry

The Denodo Platform enables retail companies to develop strong capabilities in each of the seven areas introduced at the beginning of this brief.



COMPETITIVE INTELLIGENCE

Like every company, retail companies need access to competitive intelligence, but for today's retail company, this intelligence is often needed in real time, to optimize pricing. The challenge is that gathering intelligence takes time, especially when such activities involve manually scanning the web. The Denodo Platform can assist in establishing a competitive intelligence hub that gathers all applicable sources.

Because the Denodo Platform accommodates unstructured data, such as competitive intelligence that may appear on the web, it can automate web harvesting efforts and deliver the consolidated intelligence over a number of standard reporting tools.



QUALITY CONTROL

Quality control is a challenge because of the many stops that products make on their way from the manufacturer to the customer's hands. To streamline such efforts, companies need to be able to visualize the entire journey, going back to the original factory, if necessary. But this data is fragmented across the many parties involved.

The Denodo Platform offers a seamless, non-intrusive way to unify data that is geographically, organizationally, and technologically disparate, and present it in near-real-time, so that stakeholders can gain full visibility into all of the necessary background data for prioritizing and fixing quality control issues.



CUSTOMER PROPENSITY ANALYSIS

Understanding customer needs and propensities is, of course, the key to providing better service and exposing more successful upsell opportunities. On the web, this process is challenging enough. But it becomes increasingly difficult to gain a complete view of the customer that combines online and in-store transactional activity, products purchased, and calls made to customer service. This is because often, this information is stored in different, traditionally incompatible systems, such as analytical and transactional systems.

The Denodo Platform creates a unified view of each customer and makes that view available to all representatives across the company, online and off, so customers feel as though the online and offline stores are part of the same company. Also, with an extremely rich amount of knowledge about each customer, each representative is in a better position to make relevant offers.



MULTI-CHANNEL INTEGRATION AND ANALYTICS

Similarly, if a customer contacts a company by phone, text, in person, or over email, they expect each recipient to have the same information. Unfortunately, that is often not the case, because each channel reaches a different department within the company, and they might not have the same information at the same time.

Just as the Denodo Platform creates a single view of the customer, it can also create an omnichannel view of the customer. By providing each channel recipient with the consolidated view of the customer, customers, once again, feel as though talking with the retailer is a seamless experience, no matter how they talk to the retailer.



TARGETED MARKETING AND PRODUCT CUSTOMIZATION

Retailers are trying to deliver more personalized marketing communications to customers, reflecting their proper segments and each customer's unique history. Once again, the Denodo Platform facilitates this process with complete, integrated, dynamic views of each customer in motion, drawn from myriad sources without replication.



SUPPLY CHAIN OPTIMIZATION

Finally, the Denodo Platform can play a key role in logistics, which the pandemic has proven to be a critical piece of the puzzle, one that requires continuous reinvention. Retail companies can leverage the Denodo Platform to create virtual data marts serving data from all applicable systems to enable teams to access the required data and easily aggregate positions by currency, geography, products, and other parameters. In this way, the Denodo Platform facilitates NSFR, LCR, and other types of liquidity ratio reporting, and enables companies to quickly build inventories that combine numbers from a store, in transit, the factory, suppliers, and other parties, to better predict stock-outs and overstock.

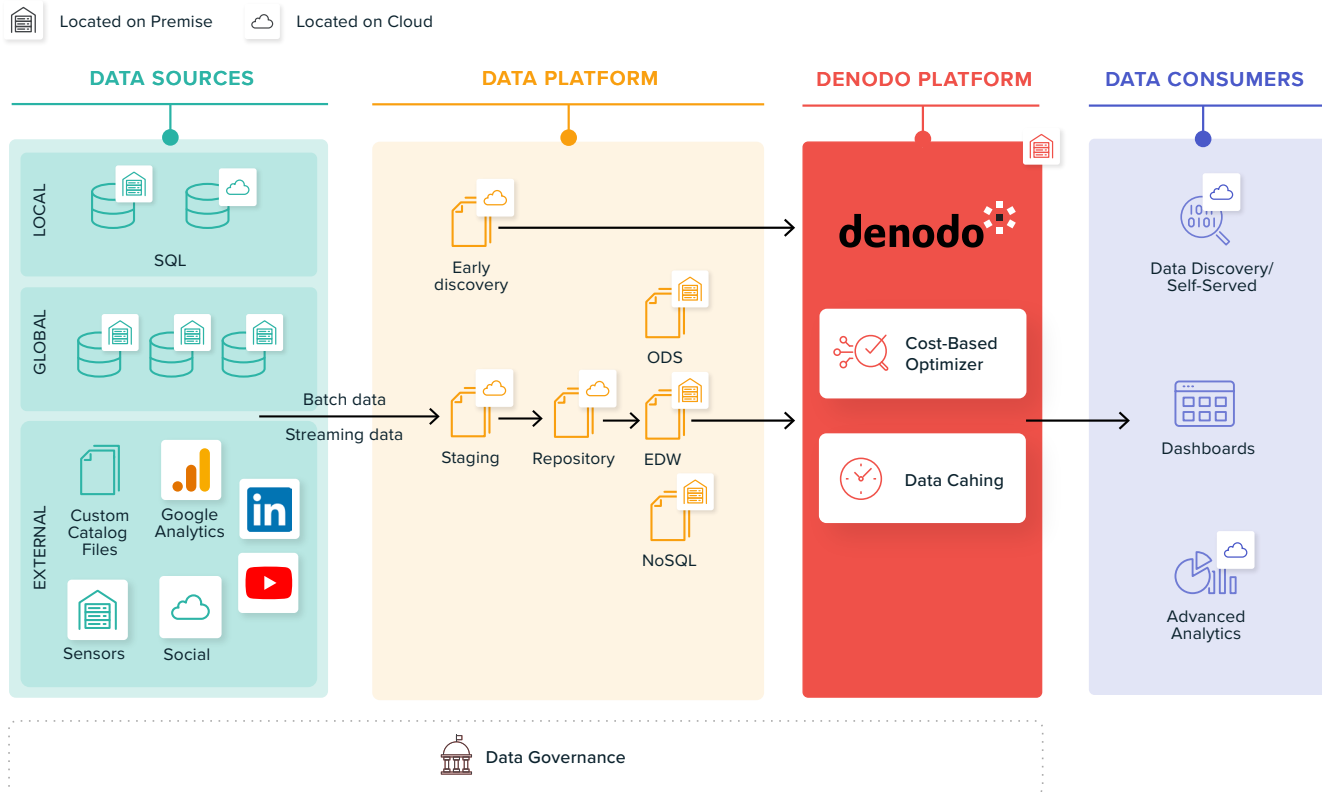
CASE STUDIES

We now move to four case studies of retail companies that have gained tremendous benefits from the Denodo Platform.

Walmart Mexico

Walmart Mexico, also known as Walmex, is the largest division of Walmart outside the U.S. As of April 2021, Walmex operated 2,653 retail outlets in Mexico, under the Walmart Supercenter, Superama, Sam's Club, Bodega Aurrerá, Mi Bodega Aurrera, Walmart Express, and Bodega Aurrerá Express banners.

Recently, Walmex realized that many of its business processes were fragmented. Online order-fulfillment was delayed, resulting in items being sold without being available, leading to order cancellation, lost revenue, and bad customer experiences. The company's fragmented data landscape resulted in an accounting nightmare consisting of over 200 different payment methods and associated tax accountabilities. Querying the data lake was very slow. Additionally, Walmex faced data governance and security challenges due to having to manage thousands of point-to-point connections between data-consuming applications and data sources.



Walmex turned to the Denodo Platform, which consolidated the company's data systems in real time while increasing data visibility. The Denodo Platform enabled Walmex to immediately access required information without having to examine the different sources. The company gained significant savings, which became more evident with the COVID-19 pandemic, when the organization's requirements grew more complex.

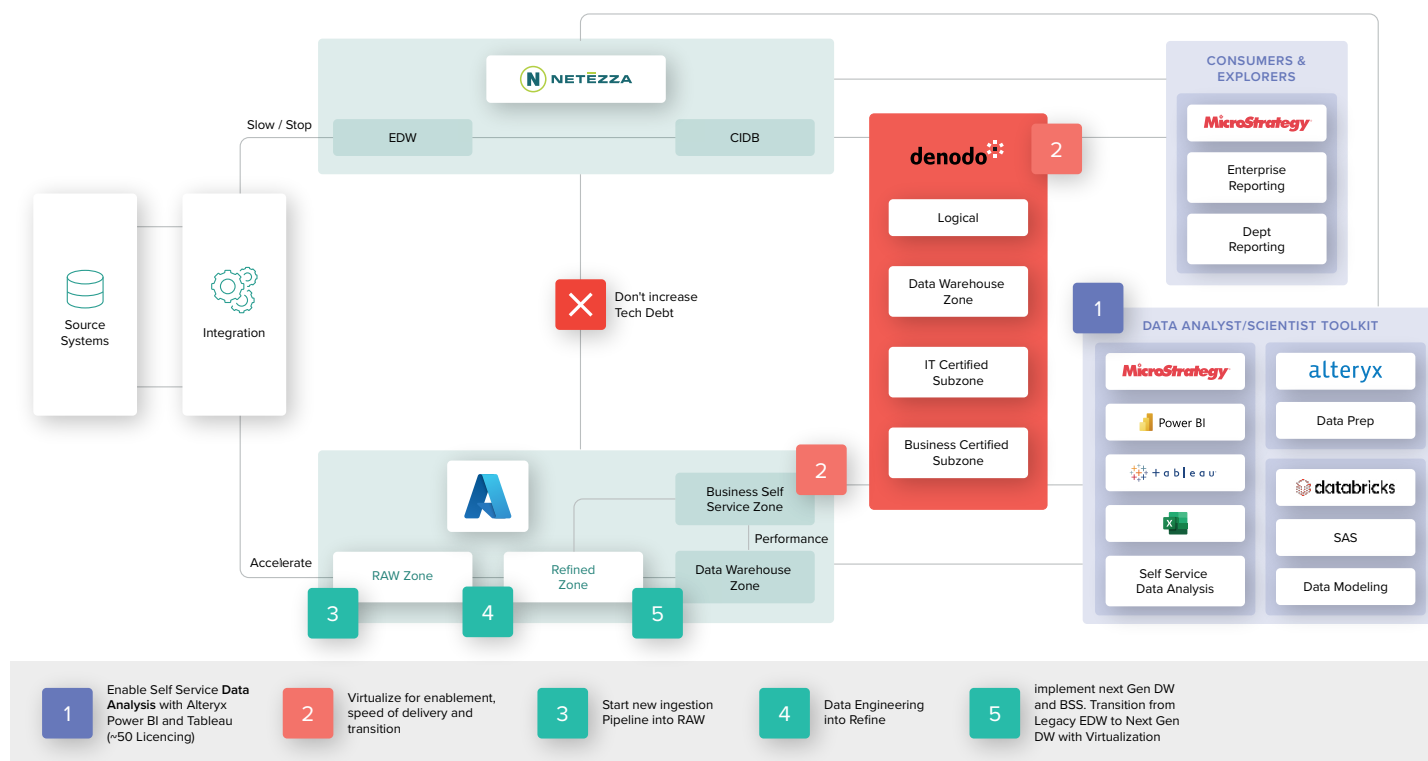
By implementing the Denodo Platform Walmex was able to:

- ✓ Gain real-time access to e-commerce data sources, optimizing inventory
- ✓ Accelerate data processing for a variety of reporting purposes
- ✓ Streamline data governance, security, and compliance initiatives through self-service and a single point of data entry

Large Retailer from North America

This large North American retailer offers a full line of pet care supplies and a wide range of services, including training, grooming, boarding, veterinary, and adoption. This retailer runs over 1,600 retail locations in the U.S. and Canada, as well as over 200 PetsHotel boarding facilities, with an employee base of 56,000.

Recently, this retailer assessed its IT infrastructure, and determined that it would not be able to support the company's data accumulation, storage, integration, and analysis requirements. This retailer knew that it would not be able to support the company's future needs in the areas of advanced analytics, machine learning, and distributed storage.



To modernize its IT infrastructure, the retailer leveraged the Denodo Platform, which provided seamless, real-time data integration between the company's enterprise data warehouse, a new cloud-based big data enterprise data warehouse on Azure, and business unit consumers, to implement and deliver consolidated, curated datasets across the company. The Denodo Platform enabled the retailer to migrate from the existing data warehouse to the cloud-based data warehouse without impacting daily operations. Business users access data directly from the Denodo Platform, ensuring that the most current data is delivered, and only to authorized users.

By implementing the Denodo Platform, the retailer gained:

TECHNICAL SAVINGS

The new cloud-based data warehouse is more cost-effective (and extensible) than the company's original data warehouse. The Denodo Platform enabled multiple data sources to be available without IT intervention or wait-time.

BUSINESS VALUE

By implementing the Denodo Platform, the retailer reduced manual queries and joins by 30%, and reduced the time required to build executive dashboards by 50% (from 10 weeks to 5).

ADDITIONAL BENEFITS

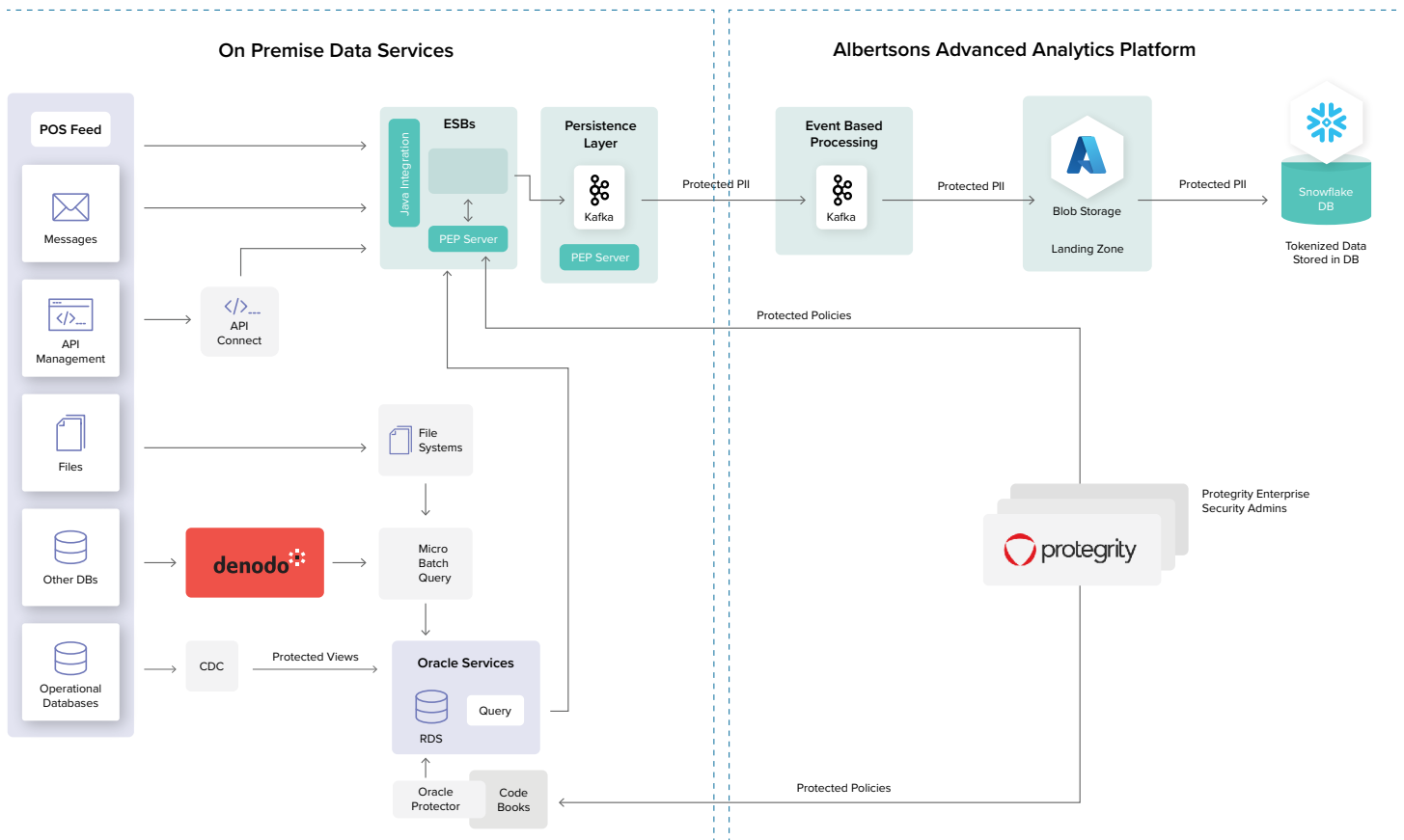
The Denodo Platform provided a seamless transition, for all users, to a modernized, future-proof IT infrastructure.

Albertsons

Albertsons Companies, Inc. is an American grocery company founded and headquartered in Boise, Idaho. Albertsons operates more than 2,200 retail food and drug stores and is the second largest supermarket chain in North America. The company operates stores across 34 states and the District of Columbia under 20 well-known banners including Albertsons, Safeway, Vons, Jewel-Osco, and Shaw's.

Recently, Albertsons engaged in a program to modernize its data infrastructure and move its critical data assets to Microsoft Azure Cloud. However, the company did not entirely trust Azure's security features and was concerned about potential data breaches. At the same time, Albertsons wanted to continue to run personalized online marketing campaigns and launch advanced analytics program on its customer data. The company's goal was to find a secure way to mask the customer data and ensure that only authorized individuals could run campaigns to access the data.

Albertsons leveraged the Denodo Platform to control and secure access to millions of rows of customers' personal information. An on-premises Denodo Platform instance provided access to detokenized PII/PHI data only to a specific group of authorized users, through a virtualized interface.

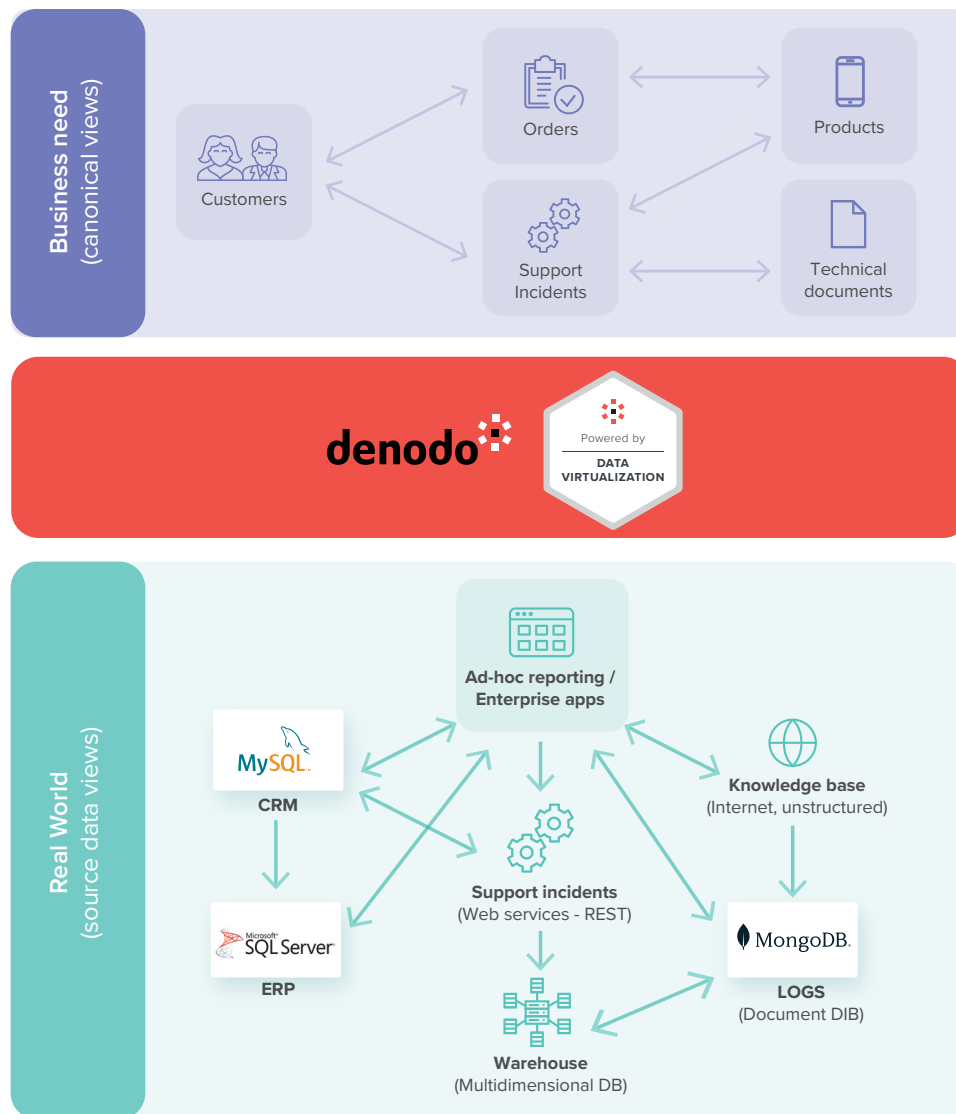


The Denodo Platform enables Albertsons to manage its customer-restricted data (PII/PHI/PCI) using replacement tokens in the Azure public cloud environment. This in turn enables Albertsons analytics teams to perform advanced customer analysis on this data while significantly reducing access to restricted data elements, improving the protection of customer privacy.

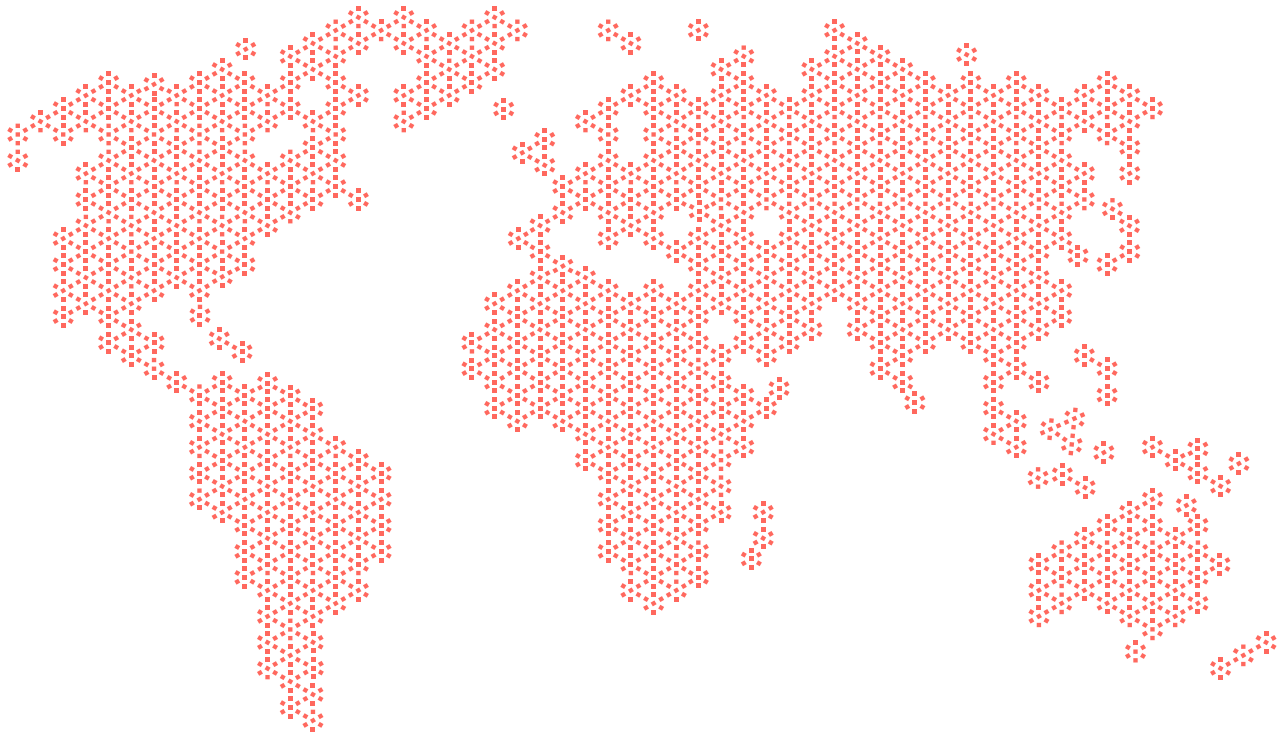
Global Supermarket Chain (“The Firm”)

Founded in 1969, The Firm is a supermarket chain with over 1,000 outlets spread across Spain. Recently, the company wanted to engage in a push to better understand its customers, but customer data was fragmented across more than 30 data sources including CRM and ERP systems, call log data, and a variety of enterprise applications containing critical client, product, ad-hoc reporting, and support incident information.

The Firm established the Denodo Platform as a data virtualization layer above the disparate systems, and the data is now aggregated in real time, creating a single view of the customer. Because the Denodo Platform can support unstructured data, The Firm’s single view is expanded to include Internet-based unstructured data. New sources can easily be added, including transactional sources, for a fully expanded, 360-degree view of each customer.



Before the Denodo implementation, The Firm’s marketing team wanted to know “everything about the customer,” and the Denodo Platform delivered. Supported by the Denodo Platform, The Firm relies on the consolidated client information to drive high levels of customer satisfaction, customer loyalty, and revenue-per-customer. The Firm was able to create a new loyalty card, engage in granular segregation, and improve the security of personal information.



Denodo Technologies is the leader in data virtualization providing agile, high performance data integration, data abstraction, and real-time data services across the broadest range of enterprise, cloud, big data, and unstructured data sources at half the cost of traditional approaches. Denodo's customers across every major industry have gained significant business agility and ROI.

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