# IT Infrastructure Modernization

**Create successful modernization initiatives with a high ROI for IT leaders.**

The biggest challenge of CIOs is achieving a good return on investment (ROI) from infrastructure modernizations, which might include migrations to foundational cloud systems or the implementation of improved data and IT operations. Overall, such initiatives seek to enhance the ways that an organization works and serves customers, all while striving to minimize the impact that such initiatives can have on day-to-day business operations.

Successful IT infrastructure modernization initiatives require organizations to overcome a number of key challenges, including:

- **Data governance, privacy, and security issues.** IT infrastructures are typically characterized by data and organizational siloes, which inhibit global efforts to govern, protect, and secure data.
- **Large volumes of diverse data types.** Data volumes are steadily increasing, and data is stored in multiple sources, in varying forms, and often of questionable data quality. Semi-structured data, such as JSON and Internet of Things (IoT) log files, might need to be mixed with transactional data to get a complete picture of a customer buying experience, while emails and social media content might need to be interpreted to understand customer sentiment to enrich operational decisions, machine learning (ML) models, or decision-support applications.
- **Infrastructural rigidity.** As the data and artificial intelligence (AI) needs of the business increase, so does the burden on IT infrastructure to adapt. Organizations need infrastructures that take into account a distributed data landscape, those that are not bound by particular formats and data structures, and those that are agile enough to meet complex business demands quickly, without major changes to the underlying infrastructure.
- **Downtime during migrations and modernization activities.** Finally, organizations need to ensure that during any changes to the IT infrastructure, the impact on daily operations is minimized.

The Denodo Platform, the leading logical data management platform, establishes a unified data-access layer that abstracts business consumers from changes in underlying infrastructure, while also ensuring their workloads are optimized for their respective analytics and operational use cases. This brief covers how the Denodo Platform overcomes each of the above challenges, and we close with the story of Prologis, a company that has successfully leveraged the Denodo Platform for significant results.

## SOLUTION

IT Infrastructure Modernization

## WEBSITE

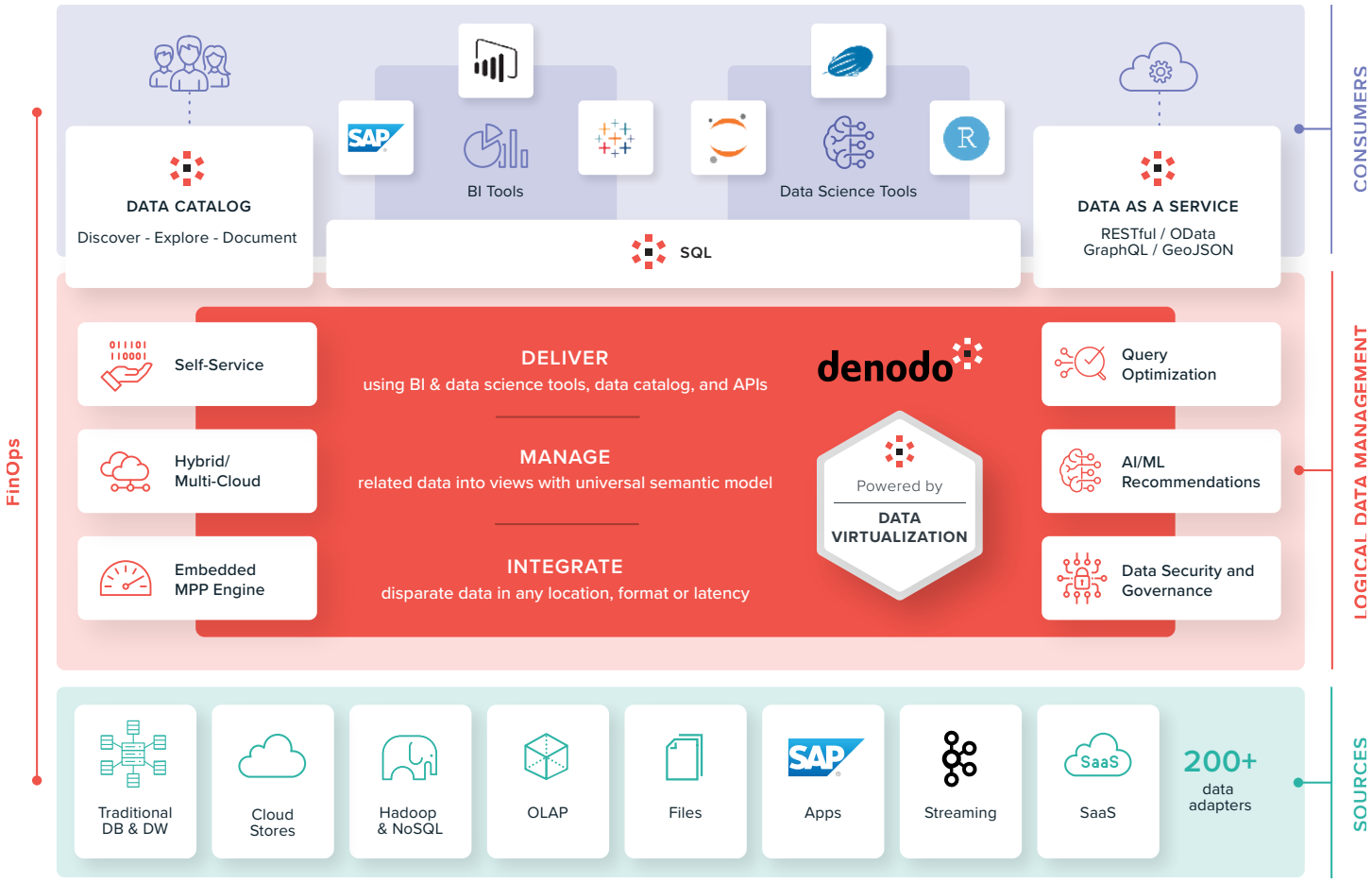
www.denodo.com

## PRODUCT OVERVIEW

The award-winning Denodo Platform is the leading data integration, management, and delivery platform using a logical approach to enable self-service BI, data science, hybrid/multi-cloud data integration, and enterprise data services. Realizing more than 400% ROI and millions of dollars in benefits, Denodo's customers across large enterprises and midmarket companies in 30+ industries have received payback in less than 6 months.

## The Denodo Platform's Logical Data Architecture

The Denodo Platform leverages a logical approach to data management and integration. Unlike traditional data management approaches that rely on physical replication, the Denodo Platform provides a unified data delivery platform that abstracts access to disparate 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 Denodo Platform's logical approach to data integration and data management supports data fabric, data mesh, and data hub architectures and is realized by data virtualization, a logical data integration technology that enables real-time access to disparate data without replication. Data virtualization maximizes the value of data assets to organizations by abstracting complexity and enabling higher productivity.



# Facilitating IT Infrastructure Modernization

Next, let's look at how the Denodo Platform overcomes each of the challenges listed on the first page.

## ENHANCING DATA GOVERNANCE, PRIVACY, AND SECURITY

The Denodo Platform is deployed as an enterprise-wide data-access layer, yet this layer itself contains no data, only the metadata required to access the different sources. By centrally managing metadata, the Denodo Platform not only enables seamless access across disparate systems, but it also enables organizations to manage data governance, privacy, and data security policies from a single point of control, across the entire organization. The Denodo Platform's data catalog supports data-lineage tracking, tagging entries, and implementing semantic policies above the available data. With its support for diverse technologies and use cases, the Denodo Platform also enables data architectures specifically designed to manage data in geographic locations, for example by only exposing summary-compliant information to external consumers.

## EFFECTIVELY MANAGING LARGE VOLUMES OF DIVERSE DATA

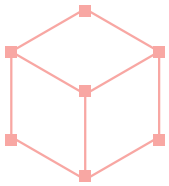
The Denodo Platform supports extremely large data volumes and myriad formats and types, including streaming and historical, and structured, semi-structured, and completely unstructured data. The Denodo Platform can accommodate these large, diverse volumes and enable rapid data management, decreasing data delivery times by 65% over extract, transform, and load (ETL) processes. The Denodo Platform automatically integrates disparate data sources, optimizes query requests, and builds in a centralized governance architecture so organizations can access the data they need, faster. With the Denodo Platform, organizations can create complex data sets leveraging real-time data across multiple data sources.

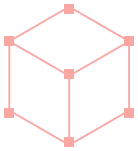
## ENABLING INFRASTRUCTURAL AGILITY

With the unified data-access layer that the Denodo Platform enables above organizations' existing data infrastructure, organizations can adapt to myriad innovations without having to perform extensive changes to the underlying infrastructure. Fundamentally, the Denodo Platform is built for highly distributed data landscapes. In addition, the Denodo Platform can automate the integration of data across disparate sources using AI/ML, enabling data scientists to quickly get what they need to build models and develop insights. By enabling a unified semantic layer above the data sources, the Denodo Platform provides data scientists – and other data stakeholders – with the agility to work iteratively, again without affecting the underlying data sources.

## ENABLING ZERO-DOWNTIME MIGRATIONS AND MODERNIZATIONS

Similarly, by shielding business users and consuming applications from the underlying complexities of data infrastructure, the Denodo Platform ensures business continuity during migrations from on-premises or legacy applications to the cloud. These same capabilities also streamline mergers and acquisitions, which often involve bringing together disparate IT systems and data sources.

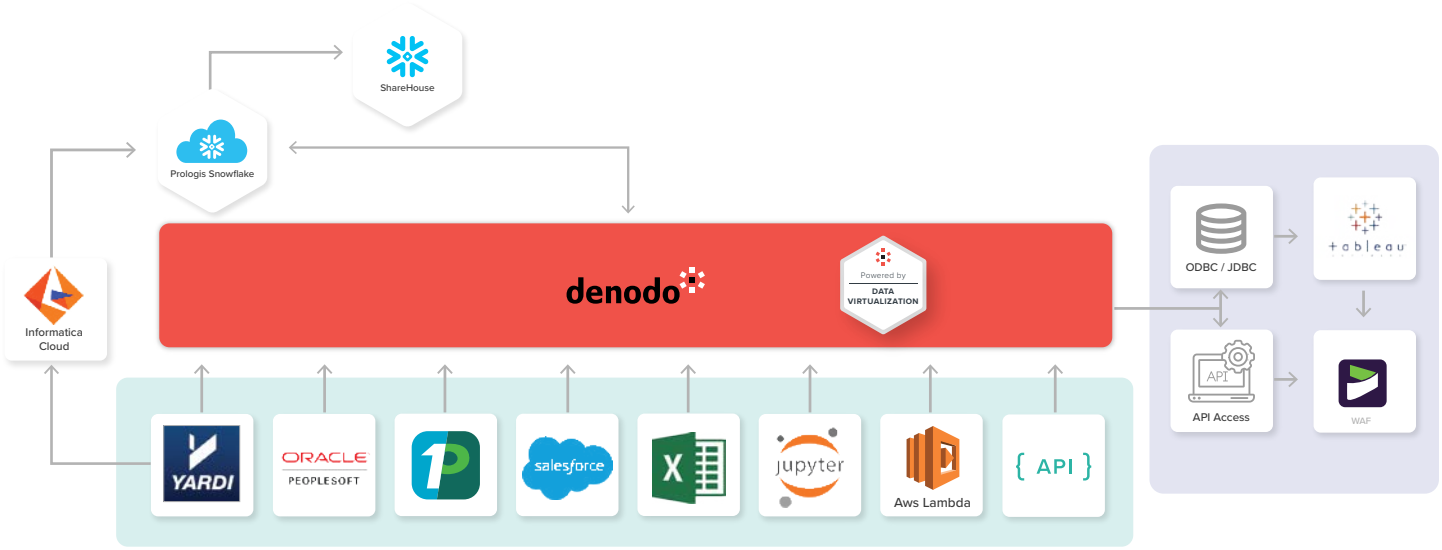




# Case Study: Prologis

Founded in 1983, Prologis provides the world with efficient logistics real estate solutions. For many years, the company managed its data via a global, on-premises data warehouse comprised of 27 servers supporting a series of databases, integration servers, and reporting servers. Prologis wanted to modernize its data infrastructure to include cloud capabilities, as well as to introduce efficiencies that would accelerate analytics. However, Prologis would not engage in any modernization efforts that would cause undue downtime resulting from interruptions to the existing system.

Prologis leveraged the Denodo Platform to integrate data in real time from the company's existing data sources. The Denodo Platform acts as an intelligent data-access layer between Prologis data sources and data consumers, abstracting the company's data consumers from the complexities of access.




This enabled Prologis to establish a logical data warehouse architecture that provides real-time access to data across on-premises, cloud, and other sources, simultaneously. The Denodo Platform also facilitates Prologis' implementations of global governance provisions, including standard definitions and nomenclatures, as well as security protocols, across the diverse data sources comprising the Prologis global enterprise. Finally, the Denodo Platform enabled a seamless migration to Snowflake, without impacting business operations.

denodo

Denodo is a leader in data management. The award-winning Denodo Platform is the leading logical data management platform for delivering data in the language of business, at the speed of business, for all data-related initiatives across the organization. Realizing more than 400% ROI and millions of dollars in benefits, Denodo's customers across enterprises in 30+ industries all over the world have received payback in less than six months.