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Industry
Pharmaceutical

Profile
Sanofi is a global life sciences company committed to improving access to healthcare and supporting the people it serves throughout the continuum of care. From prevention to treatment, Sanofi transforms scientific innovation into healthcare solutions in human vaccines, rare diseases, multiple sclerosis, oncology, immunology, infectious diseases, diabetes and cardiovascular solutions, and consumer healthcare. More than 110,000 people at Sanofi are dedicated to making a difference in patients' daily lives, wherever they live, enabling them to enjoy healthier lives. In 2020, Sanofi had a revenue of over $40 billion.

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Sanofi Reinvigorates Supply-Chain Logistics with The Denodo Platform

Supply chains were never under as much scrutiny as they have been since the start of the pandemic. Even though supply chains across the industries were overdue for a transformation long before the pandemic hit, the need for a robust data and analytics infrastructure for building trustworthy supply-chain analytics was never felt so strongly as during the pandemic. Read this case study to learn how Sanofi leveraged the Denodo Platform to simplify its data landscape, lay the foundation for a robust and adaptable data architecture, increase the visibility of its supply-chain activities, reduce risk, and build trusted analytics.

Business Need

Sanofi is a company in rapid transformation. Being in the pharmaceutical industry, the COVID 19 pandemic has had a significant impact on its business priorities, specifically regarding its global, complex supply chain.

Even before the pandemic, a lack of relevant information-sharing across supply-chain processes caused delays and pushed up costs. Working capital remained locked in managing inventory, and stockouts were potentially causing the loss of sales. Additionally, the data landscape at Sanofi was rigid and complex, restricting the company's ability to react to rapidly changing market needs.

In response to these challenges, Sanofi wanted to engage in a holistic supply chain transformation program, underpinned by an adaptable and robust data and analytics infrastructure. To raise Sanofi's ability to track supply-and-demand disruptions, improve information sharing between various stakeholders, and more effectively identify near-term risks and vulnerabilities, Sanofi outlined the requirements for a solution the company called the "Datahub."

The Datahub solution was to be implemented within the current data infrastructure landscape and was expected to gradually replace existing interfaces and functionalities. Given the disparity of data at Sanofi, that the solution had to meet a long list of requirements, including:

- Smooth Integration in the SCCore (Supply Chain Core) multiple applications landscape: The Datahub solution must be able to integrate in the current landscape of applications and solutions in the SCCore program. This landscape is made up of other different solutions, and the integration of the new platform should not disrupt the existing business continuity.

- The solution should be able to harmonize, simplify, and provide data, in real time or near real time data, to different consumer applications. The data must be synchronized between different time zones and should always be consistent.

- The solution must reduce impact on the source systems: It must be able to provide mechanisms for reducing the impact of extracting data from the sources in terms of capacity, availability, and resource consumption.

- The solution must allow for keeping data in an external storage component according to business needs and should support the configuration of data persistence options.

- The solution should provide push capabilities to enable the use of database processing power.

- The solution should be able to process and fetch a massive amount of data, with lower time responses to manage this data. This solution should provide capabilities for caching and processing (transforming, filtering, applying business rules, publishing, etc.) this massive amount of data according to defined business rules.

- The solution should provide secure, encrypted access to the data source systems.

In short, Sanofi needed the Datahub to connect the different systems in its vast data landscape to gain a holistic view of its supply chain and all the associated transformation models. The company's legacy extract, transform, and load (ETL) processes were not up to the task, as they were complex and time-intensive to maintain and consumed considerable computing resources.

The Solution

The Denodo Platform satisfied all of Sanofi's requirements. To consolidate the existing data in multiple formats from different source systems, Sanofi implemented the Denodo platform, which is based on data virtualization technology. The platform was used to build a logical data layer that aggregates data from all kinds of source systems and delivers the consolidated data to the consuming applications in near real time, enabling a perfect sync between all systems. All the large SAP systems used for master data collection, such as materials billing information, vendor master data, customer master data, transactional data, purchase orders, sales orders, and event reports, are now connected through the Denodo Platform.

The required transformations and mappings of the integration of these systems are performed within the Denodo Platform, leaving no transformations needing to be performed by the sources. Due to high volumes, Sanofi has implemented a clustering configuration, to ensure high availability, scalability, and improved performance. Through the platform, more than 500 daily jobs are being perfectly scheduled with their times and dependencies. The scripts managed by the Denodo Platform are heavily used to enable the timely delivery of more than 300 input files in their correct sequence, while also providing monitoring, backup, and consistency capabilities.

Sanofi is also leveraging the Denodo Platform's data catalog, mainly for the end-users who want to access the Oracle database. So instead of giving access to individual users, the users themselves can access the Oracle database through the data catalog, avoiding the organizational overhead of user management and security. The Denodo Platform also plays a key role in Sanofi's data quality management (DQM). Based on business rules, Sanofi can verify the integrity and accuracy of all data. For example, Sanofi can verify whether or not the Material Master table has been correctly populated according to the purchase order. There are a total of 200 such business rules already implemented. Besides that, the Denodo Platform is also being connected to an Amazon data lake and other ERP systems to increase the overall credibility and confirmability of all the sourced data.

"Denodo's data virtualization layer enabled us to simplify the existing data landscape and enabled the timely delivery of data. Since implementing the Denodo Platform, we have been able to provide 100% accurate data without errors or delays, according to business requirements and expectations."

- Fernando Tidei, Head of ITS Integration & Architecture at Sanofi SCCore

Figure1: The modern data architecture at Sanofi with a central data layer – built on the Denodo Platform – that consolidates data from myriad ERP systems. Interfaces flow in both directions.
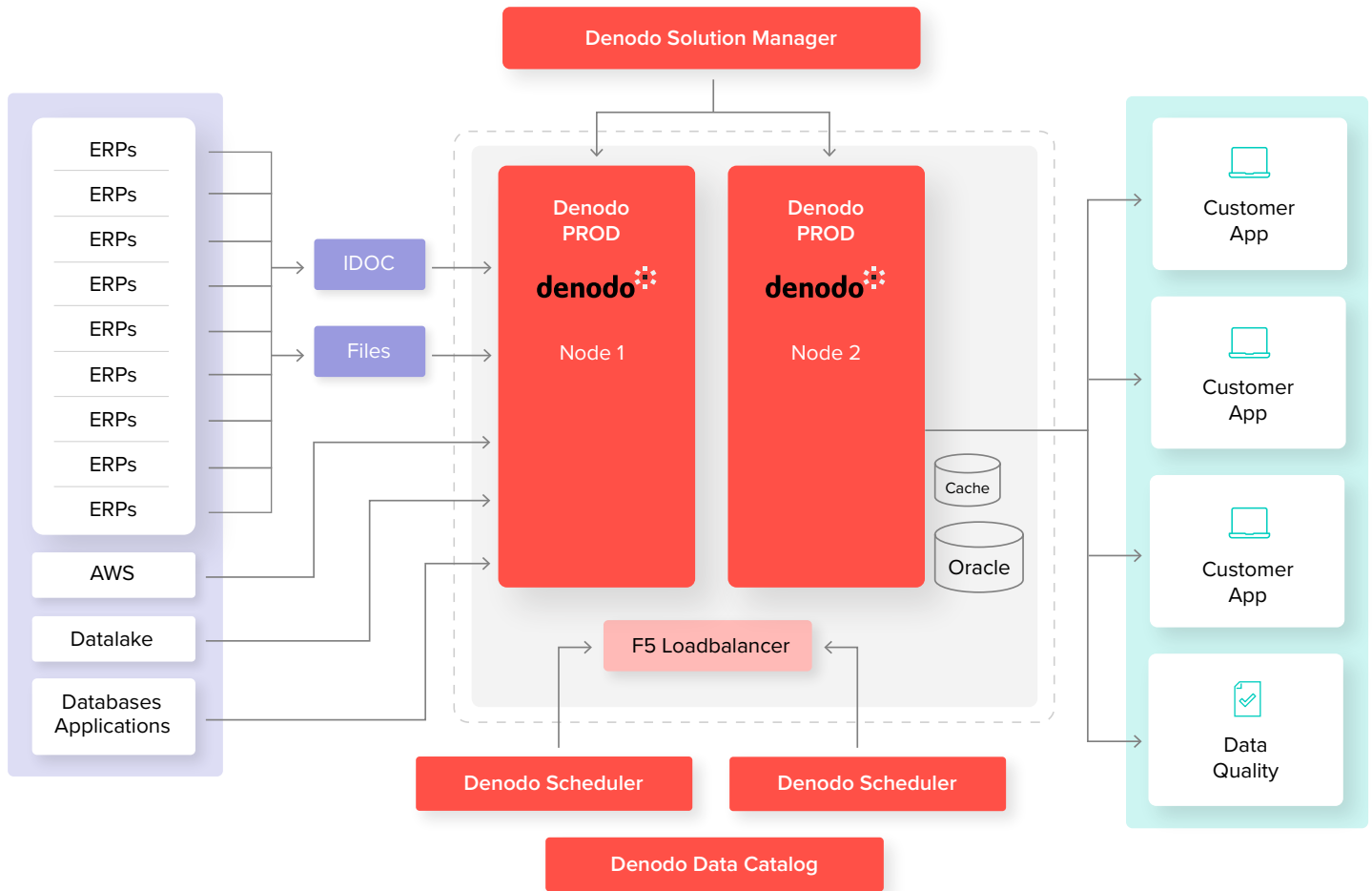
Benefits:

The Denodo Platform simplified Sanofi's data infrastructure landscape and reduced ITS and support costs.

The Denodo Platform harmonized interfaces across different sources and objects and has improved trusted analytics with more reliable data.

Data delivery delays have become a thing of the past. With the Denodo Platform, data delivery is 80% faster than conventional data interfaces.

The ease of use of the Denodo Platform significantly reduced the time for new project implementation (a minimum of 50% time reduction) and deployment. This resulting efficiency, coupled with no errors and no defects, has significantly improved Sanofi's time-to-market and overall data costs.

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