A Data Services Marketplace, at Your Service

SOLUTION
Data Virtualization for Data Services Marketplaces

WEBSITE
www.denodo.com

PRODUCT OVERVIEW
The Denodo Platform offers the broadest access to structured and unstructured data residing in enterprise, big data, and cloud sources, in both batch and real-time, exceeding the performance needs of data-intensive organizations for both analytical and operational use cases, delivered in a much shorter timeframe than traditional data integration tools.

Leverage data virtualization to enable full-featured data services.

With the constant proliferation of digital interactions, and the availability of increasingly voluminous, less expensive storage solutions, organizations are often in possession of more data than they can handle. Established companies also often have extra data sets gained through years of acquisitions. In such organizations, stakeholders are often unaware of what data is available, let alone where it is stored, or how it needs to be accessed. Rather than finding the best source of information for a given task, analysts often go with the first source they can find, diminishing the value of the data.

One solution is a data services marketplace, which places all of an organization's data sources behind a single data access point, similar to the front end of an application or operating system.

However, because data services marketplaces open up an organization's data to a significantly larger population of users, and a much greater number of use cases, it is critical that such solutions overcome four key challenges:

1. **Performance and Service Quality.** Data must be delivered in a timely fashion, so as not to impede the flow of business and the fulfillment of service level agreements (SLAs).

2. **Security.** All data in transit must be encrypted and effectively secured.

3. **Privacy.** Personally identifiable information (PII) must not be exposed to unauthorized individuals. Access must be fully auditable, to facilitate compliance with privacy regulations.

4. **Data Governance and Veracity.** Stakeholders must have confidence that the data is trustworthy, corporate-approved, and accurate.

Data virtualization is a flexible, modern data integration technology that can serve as the foundation for an effective data services marketplace, while overcoming each of the above challenges. In this brief, we explain how data virtualization meets these criteria and close with two stories of companies that have successfully leveraged data virtualization to build data services marketplaces that deliver powerful results.

> " *The Denodo Platform enables us to build and deliver data services to our internal and external consumers within **a day** instead of the **1-2 weeks** that would take with ETL"*
>
> Jay Heydt, Manager, DrillingInfo   **drilling**info

Data Virtualization and Data Services Marketplaces

Data virtualization is a data integration technology. But whereas most data integration solutions move a copy of the data from disparate sources into a new, consolidated source, data virtualization offers a completely different approach.

Rather than moving the data, data virtualization provides a view of the integrated data, leaving the source data exactly where it is. This means that companies do not have to pay the costs of moving and housing the data, and yet they still gain all of the benefits of data integration. Also, virtualized views abstract users from the complexities of access, such as where the data is stored or what type of system it is stored on.

Because data virtualization accommodates existing infrastructure in its existing state, it is relatively easy to implement, compared with other solutions. And because it provides data in real time, from a variety of systems that are normally very time consuming to integrate, such as transactional processing systems and cloud-based storage systems, it supports full-featured data services marketplaces.

Because data virtualization is deployed as an architectural layer above the disparate sources, serving as an organization's single enterprise-wide data access layer, it enables further benefits: Security, privacy, and governance protocols can be administered across the disparate sources from a single point of control. For example, across the board, organizations can mask social security numbers from all users or from select users, even chosen on a per-user basis, if desired.

With data virtualization, companies can establish data services marketplaces that:

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1. **Provide real-time data**, integrated across multiple sources, to applications or directly to analysts.

3. **Protect all personally identifiable information (PII)** so that it is reliably, consistently hidden from unauthorized eyes.

2. **Secure all shared data** using standard, consistent protocols and encryption techniques, regardless of the specific capabilities of the individual sources.

4. **Enable uniform data governance** across the enterprise, and implement enterprise-wide rules for establishing the veracity and authority of all sources.

Case Studies

Next, we present the case studies of two companies that have leveraged data virtualization to enable successful data services marketplaces.
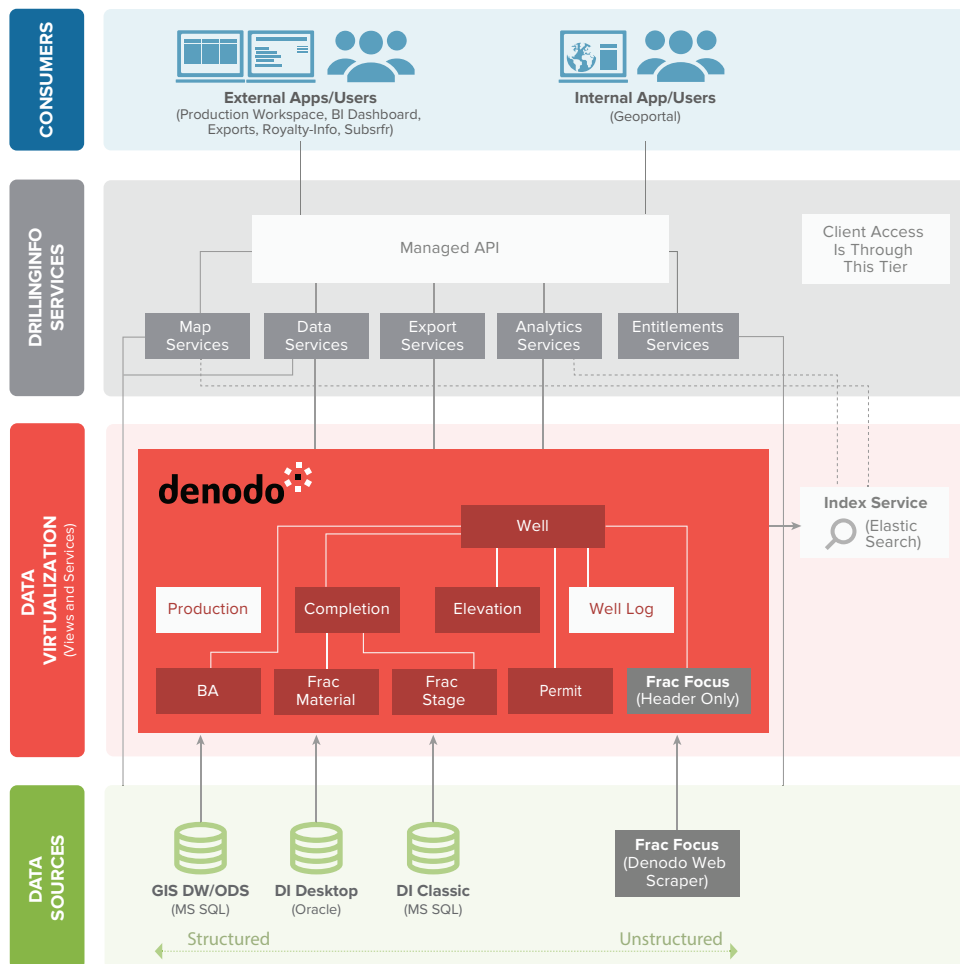
Drillinginfo

Drillinginfo delivers specialized, curated information to oil and gas companies that helps them to excel and stay competitive. The company collects data from drilling rigs across the U.S., as well as from regulatory well surveys and completions, lease/well production volumes, well permitting information, and other sources. The company then enriches the data and runs proprietary analytics on it, before packaging it up for delivery.

Because Drillinginfo is relied upon for the timely delivery of relevant data, the company needed to reduce time-to-value from the data preparation cycle by as much as possible. Traditional, ETL-based solutions did not promise a sufficient reduction in time-to-value, so Drillinginfo sought a solution that could expedite the cycle.

The Solution

Drillinginfo leveraged the Denodo Platform, which leverages data virtualization to provision data from the myriad sources and establish a data services marketplace. The Denodo Platform enabled Drillinginfo to set up entities across the sources that use common, understandable terms to streamline the use and re-use of the data services and facilitate search and discovery. Because Drillinginfo is actually selling the data using this marketplace, the company set up a proprietary data services layer above the Denodo layer. The data services layer uses a managed API to orchestrate delivery between the Denodo layer and direct sources, which do not need to go through the Denodo Platform.

Results

With the Denodo Platform in place, Drillinginfo was able to reduce the data preparation cycle time from 1-2 weeks to less than one day, dramatically reducing time-to-value. The Denodo solution also requires far fewer resources.

A Leading National Life Insurance Firm

This mutual life insurer reported over $7 billion in capital and over $1 billion in operating income in 2015. Like many of the larger insurance companies, this is an established company that has made numerous acquisitions, and was rapidly heading toward a tipping point beyond which the company would no longer be able to effectively manage its data assets. Employees routinely did not know where to find the data they needed, or how to access it.

The Solution

The company leveraged the Denodo Platform to establish the provisioning layer for a data services marketplace. The company established its own Enterprise Data Service Registry above it, facilitating the delivery of data services to reporting tools, portals and dashboards, applications, and a proprietary data services interface that adopts an ecommerce look-and-feel, with search and browse functionality to inspire widespread adoption.
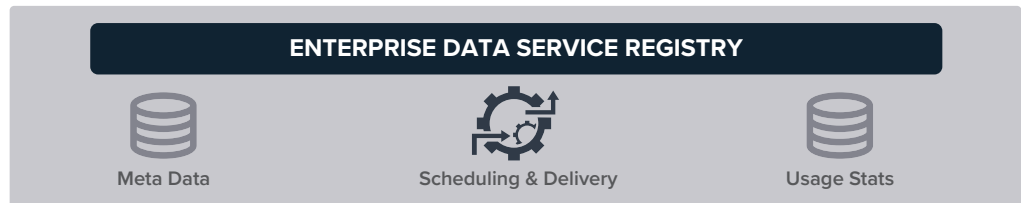
BUSINESS SOLUTIONS
Access
Information-as-a-Service

BI, CPM and Reporting Portal & Dashboards Applications Enterprise Data Marketplace
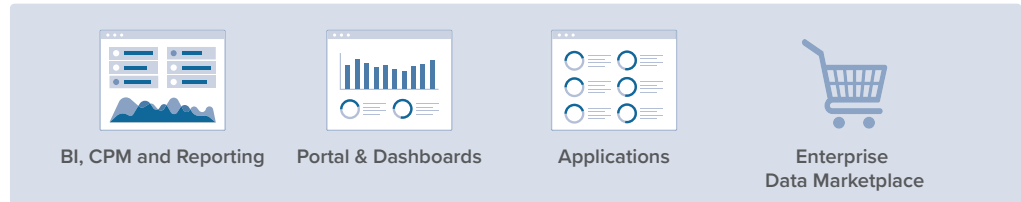
ENTERPRISE DATA SERVICE REGISTRY
Standard metadata and enterprise data services

ENTERPRISE DATA SERVICE REGISTRY

Meta Data Scheduling & Delivery Usage Stats

DATA VIRTUALIZATION
Abstract layer for data services

VIRTUAL DATA LAYER

Virtual Data Marts Reuse DataServices Virtual Operational Data Stores

DISPARATE DATA
Any Source, any Format

Files Big Data NoSQL Packaged App RDBMS Web Services
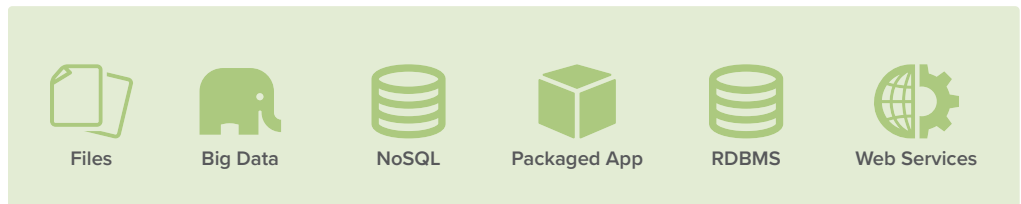
Results

With the Denodo Platform in place, the company was able to establish a data services marketplace that simplified companywide data access. Stakeholders were easily able to find and access any data asset owned by the company, no matter where it was stored. This, in turn, streamlined vital business processes across the company.

About Denodo

Denodo is the leader in data virtualization providing the industry's first fully RESTful linked data services. It enables customers to deliver agile BI leveraging logical data warehouses, big data and cloud, and agile data services for both SOA and RESTful applications for mobile and cloud. The Denodo Platform allows easy discovery, optimized access and unified governance via a unified virtual data layer across any enterprise, Web or unstructured data source at lower cost. Founded in 1999, Denodo is privately held.