denodo

DNB

| https://www.dnb.no/en

Industry
Financial Services

Profile
DNB is Norway's largest financial services group and one of the largest in the Nordic region, based on market capitalization. The group offers a full range of financial services, including loans, savings, advisory services, insurance, and pension products for retail and corporate customers. It has over 2 million retail customers and 227 thousand corporate customers.

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"The Denodo Platform has eased data integration and data sharing and has provided a self-service data platform that follows data mesh principles. Combined with the rest of the IPA platform, this has enabled autonomous teams of data scientists to build pipelines, models, and applications without relying heavily on centralized IT functions. The result is a considerably faster time-to-value for numerous business cases across churn prevention, individual pricing, personalized communication, and more."

- **Olav Lognvik**, Lead Architect at DNB

Empowering Analytics and Data Science with the Denodo Platform

To harmonize the DNB data landscape, improve the productivity of data analytics users, and leverage the latest data science use cases, DNB implemented the Denodo Platform as a data marketplace for the data science team.

Business Need

DNB was maintaining a highly complex data landscape, with more than 40 data sources, including multiple on-premises data warehouses, built on technologies like Oracle and Teradata, and a data lake on Amazon Web Services (AWS) Cloud, which stores all transactional data (over 9B+ transactions).

In 2017, DNB set a goal to leverage data-driven insights to reconnect and deliver services that are relevant in the daily digital lives of its customers, and this led DNB to conceive of a self-managed analytics ecosystem, fully deployed in AWS, called Insights Platform for Analytics (IPA). One of the foundational ideas of IPA was to be able to support data and analytics everywhere for everyone in a distributed, decentralized IT Landscape. DNB employed a cloud-first technology strategy, including a fully operational cloud-based data science lab (also on AWS) to deliver advanced analytics use cases such as personalized pricing and better product recommendations. More than 200 active advanced data analytics users, including data scientists and analysts, use the lab to build and deliver such use-cases. DNB also saw an opportunity to optimize delivery lead times and create reusable data assets. The bank did not want its data scientists to spend most of their time on data preparation, but rather to focus primarily on building models for such activities as detecting churn and pricing mortgages.

Data scientists typically spend almost 80% of their time on ancillary tasks and only a little over 20% on core competence tasks such as selecting and training machine learning models. DNB needed a practical solution that would enable its data scientists to push the preparation-to-analysis ratio from 80:20 to 20:80 and help democratize data while controlling access rights to a complex suite of data assets.

The Solution

DNB needed a solution that could leverage all its data sources, including the multiple data warehouses, transactional database, cloud data lake etc., and simplify its architecture to assist its data science initiatives, and that is where the Denodo Platform came in. DNB leveraged Denodo's data virtualization platform to create a logical data fabric to connect the disparate data sources. This logical data fabric also acts as a data marketplace for the data science team, enabling data scientists to build their models using tools such as Visual Studio Code and RStudio. For DNB, the Denodo Platform was a good fit, as Denodo is a market-leading vendor in the data virtualization space with an expansive set of data adapters and a wide range of existing customers. The solution addressed a key capability gap in its data architecture, enabling it to accelerate and control access to data across the organization and most importantly enabling it to be adopted by business users with limited technical support. The Denodo Platform provides a single point of controlled access to over 4,000 enterprise data warehouse views, 9 billion customer transactions, and digital clickstream data from DNB's digital channels. The Denodo data catalog provides all the necessary metadata information and enables data scientists to quickly browse the data and figure out which data sets are most relevant for them.
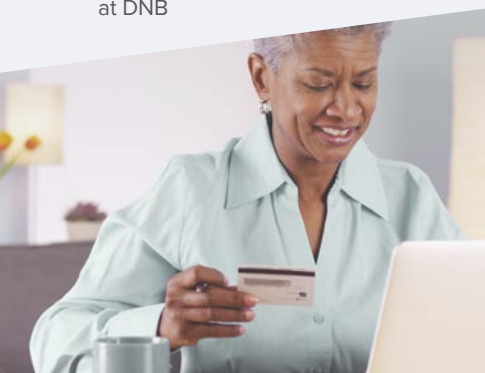
Figure 1: A blueprint of the IPA platform, consisting of multiple best-of-breed components for advanced analytics and data science, with the Denodo Platform providing enterprise-wide democratized access to data

Benefits:

1. The Denodo Platform, through its strong foundation for democratizing data assets across an organization, has enabled DNB data analytics users to browse and harvest value across a complex data ecosystem.

2. Through increasing data visibility and accessibility, DNB can now solve complex business use cases including generating digital leads, personalizing product pricing, recommending best offers, and supporting compliance solutions related to anti-fraud, AML, and GDPR. Some of the use cases include:

   • **Mobile Banking** - DNB built a serverless mobile banking application in AWS with data feeds via the Denodo Platform. The application already has nearly 1 million active users. It has become a critical tool for improving customer experience and retention, as 820,000 of these users leveraged the application as their personal finance management tool.

   • **Machine Learning (ML) and Advanced Analytics** - Over 200 active data scientists and analysts at DNB build on-demand models that are served via Denodo APIs for applications that provide individual pricing, and batch models for other purposes like churn prediction, leads, and next-best offers.

   • **Compliance** - Data delivered through the Denodo Platform supports some of the more traditional compliance and IT use cases. Security is a good example, and DNB has interesting models in place, such as anti-fraud, cybercrime, and anti-money laundering.

   • **Global Data Protection Regulation (GDPR)** - The Denodo Platform provides the data virtualization capabilities to integrate a lot of different systems at DNB for GDPR "Right of access" reporting.

   • **Business Intelligence (BI) Reporting** - From a traditional reporting perspective, DNB serves a large user base of MicroStrategy dashboards, fed by the Denodo Platform.

3. The Denodo Platform enabled DNB to rapidly build reusable data assets that could be easily accessed (in a controlled way) and consumed in exploratory analytics use cases.

4. The Denodo Platform has also fulfilled DNB's requirements for on-demand operations, auditing, and maximizing the utility of data assets and associated resources. DNB has reduced data access lead times for complex processes from months to weeks.