denodo

I www.landsbankinn.is/en

Industry
Financial Services

Profile
Landsbankinn hf. is the largest financial institution in Iceland. It was founded in 2008 and is the successor to Landsbanki Íslands, established in 1886. Its largest shareholder is the Icelandic State Treasury (98,2%). It boasts 40% of the retail and 32% of the corporate banking market share in Iceland.

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"The logical data warehouse built on the Denodo Platform has extended the reach of data across the organization for real-time, informed decision-making while meeting Landsbankinn's operational and BI reporting requirements."

- **Sylvain Dutilh**, Information Intelligence Specialist – BI Administrator at Landsbankinn

Landsbankinn Leveraged the Denodo Platform to Enable Self-Service Analytics and a Data Sharing Culture

Landsbankinn wanted to accelerate its key operational and BI reporting capabilities and provide real-time data for informed decision-making across all kinds of users in the organization. To streamline its data infrastructure and integrate more than 45 data sources, Landsbankinn implemented a logical data warehouse using the Denodo Platform.

Business Need

Before implementing a logical data warehouse, Landsbankinn had a large number of data sources and three main reporting platforms for reporting including general reporting, risk reporting, and KPI reporting to top management and board. The total number of data sources at Landsbankinn is around 45, including five Oracle traditional databases, two data warehouses, and around 10 Microsoft SQL Server databases. On top of this, flat files, Excel files, XML files, APIs from internal and external data sources are also used. Despite having traditional BI and a data warehouse in place, users were often not able to find and access the data they needed. Business rules and logics were scattered, creating trouble for obtaining the lineage of the data. The large, extensive query points and business objects made the situation worse. Also, access controls restricted access to a database, or certain columns of the database, making it arduous to identify the problem. These experiences led Landsbankinn to the idea of housing all business rules and security protocols together. But to consolidate these data sources and feed the demand of the various user groups such as the board of management, customers, general reporting, risk reporting, and operational reporting, Landsbankinn needed a novel data integration solution that was cheaper, easier to implement, and technology agnostic.

The Solution

The large number of disparate data sources at Landsbankinn needed to be integrated to build a data-driven, holistic overview of business activities, so the company could use that integrated data to optimize operations and improve the customer experience. Landsbankinn implemented a logical data warehouse (LDW) using the data virtualization capabilities of the Denodo Platform. The LDW logically aggregates data from the disparate data sources, transforms the data based on the applied business rules, and makes it available to the consuming application through a variety of APIs, such as JDBC, ODBC, and REST.
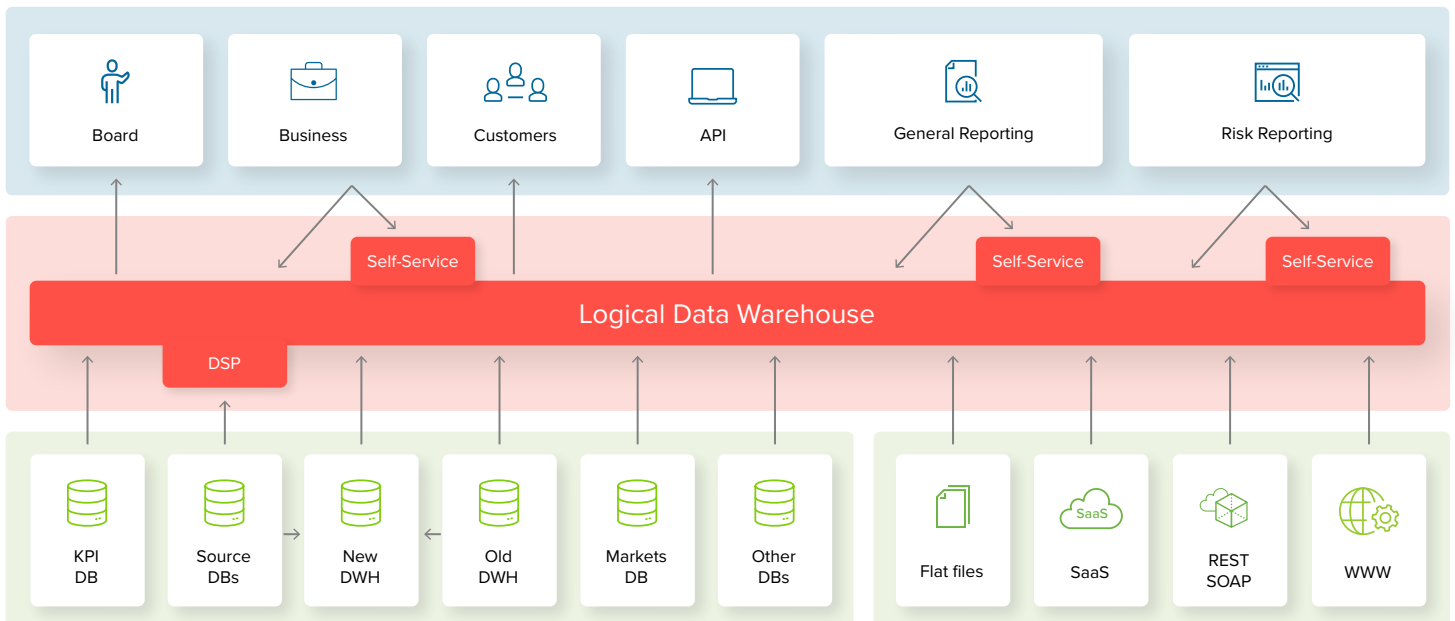
The LDW at Landsbankinn was implemented in three phases:

1. In the first phase, data virtualization was used to create a single data access layer to the unified enterprise data, sourced from a variety of disparate source systems, and make it available to reporting tools, analytics, and APIs.

2. In the second phase, data virtualization capabilities were expanded by connecting new BI and analytics platforms to the data virtualization layer, enabling business systems to query the data virtualization layer, and adding more data sources including flat files, SaaS platforms, National Statistical data, Central Bank data, and some open data platforms as well.

3. The third phase involved creating a data sharing platform (DSP) in which a domain developer working on the source database itself would create the sharing view. These views can be accessed by users working in different domains. This data sharing platform makes it easier for the information intelligence team to know what a database contains.

Landsbankinn is leveraging the LDW to streamline its data infrastructure in a variety of ways:

- The overarching, central LDW is now used primarily for traditional BI, and all the data preparation now takes place in the LDW.
- A self-service analytics platform has been built, using Tableau, which heavily uses the Denodo Platform's data catalog to identify the relevant data sets among the shared data sets.
- Web services such as REST APIs are being used to connect natively to Microsoft Excel to retrieve data and enable users to experiment. Excel is still heavily used for ad-hoc data extraction at Landsbankinn.
- APIs are also being used for connecting operational systems, such as CRM systems, to the warehouse.

Figure1: The modern data architecture at Landsbankinn, with a central logical data warehouse, built on the Denodo Platform, acting as the backbone of the entire data infrastructure.

Benefits:

- The logical data warehouse has extended the reach of data across the organization. Around 80% of the targeted users are now using the LDW in one way or another. Adoption for the remaining 20% is in full swing.
- The data can now be used by all kinds of users within the organization, even the ones with limited data/IT skills, to make informed decisions.
- Landsbankinn gained significant improvement in terms of time and resources required to perform operational reporting and traditional BI reporting.
- Data security is now revamped in a central, global repository that is the LDW, using row-level restrictions and corporate directories.
- Self-service analytics was extensively used to provide specific dashboards relative to the COVID-19 crisis, for the board and managing directors.