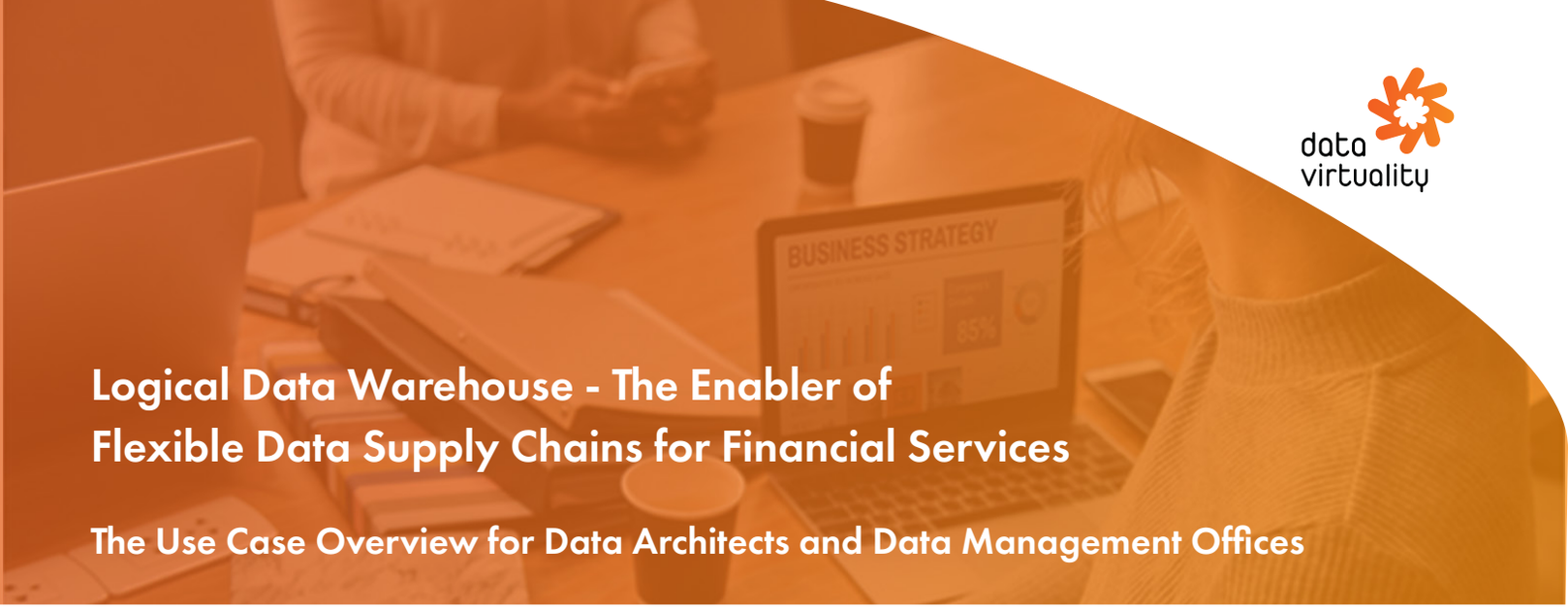



# Logical Data Warehouse - The Enabler of Flexible Data Supply Chains for Financial Services

## The Use Case Overview for Data Architects and Data Management Offices

Digitalization and increasing regulatory requirements in the financial services market are driving the demand for a flexible data management solution. A promising solution is the Logical Data Warehouse which can support various use cases.

There are three essential elements to the Data Virtuality Logical Data Warehouse: Data virtualization, Caching, and Materialization (automated ETL).

**Data virtualization** offers a lot of flexibility. It quickly provides initial results and supports rapid prototyping and agile development. Also, real-time data can be queried from various data sources in different data formats without copying and physically moving the data beforehand. However, data virtualization on its own does not scale well for large amounts of data or large number of users.

To compensate for that, many data virtualization solutions, incl. Data Virtuality use **caching** to increase the performance of the queries. But, caching only solves performance challenges for smaller datasets. For larger datasets, caching is not adequate as it leaves with very little control and flexibility to how the data is loaded and stored. Furthermore, caching falls short when it comes to batch data import, data historization, complex multi-step data transformations, and dealing with large amounts of data.

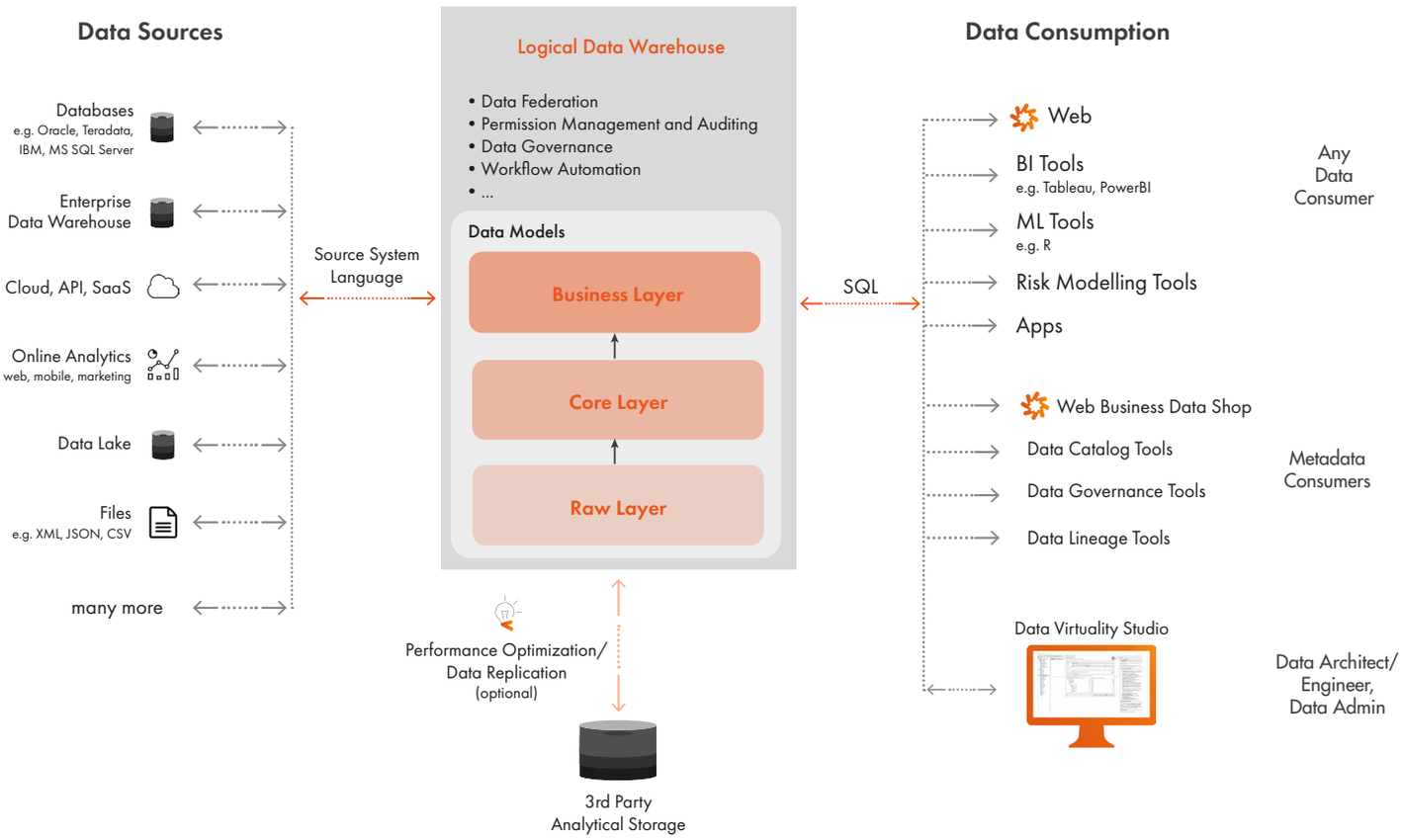
**Materialization**, enabled by the ETL capabilities of Data Virtuality, scales beautifully and provides semantic business-friendly data element naming and modeling. High performance is ensured and data historization can be facilitated. But, on its own, it lacks agility and real-time data access.

Conclusion: The **combination of these three technologies** gives the **flexibility and high performance** needed to serve various use cases of financial services institutions.

Further essential functionalities of the Logical Data Warehouse that empower the use cases are:

- **200+ integrated connectors** which give immediate access to any data source or system, even in real-time. Data Virtuality provides full maintenance service for all connectors so you can solely focus on your main work.
- Even complex data transformations can be done with **procedural SQL**

## How the Data Virtuality Logical Data Warehouse (LDW) Works




### 1. CONNECT THE DATA SOURCES

After connecting the data sources to the LDW, all data can be queried by using SQL.

### 2. CREATE A CENTRAL DATA LOGIC

The LDW enables you to create a central data logic that covers the business logic and the logical connections between the different systems.

### 3. MAKE YOUR DATA ACCESSIBLE

The LDW supports the standard interfaces (JDBC, ODBC, REST) to deliver data to the data consumers.

### About Data Virtuality

- Founded in 2012 by Nick Golovin (PhD) in Leipzig, Germany after 8 years of research
- World's first Logical Data Warehouse, enabling instant data integration for digital businesses and enterprises through automation
- Offices: Frankfurt am Main, San Francisco, Leipzig
- Awards: Most Innovative Data Management Provider 2019 (A-Team Insights), 2019 Deloitte Technology Fast 50, Gartner Cool Vendor 2016, Forrester Wave 2017
- Solutions:
  Data Virtuality Logical Data Warehouse
  Data Virtuality Pipes Professional
  Data Virtuality Pipes

| Use Case | LDW Functionalities Involved to Enable the Use Case | | | | |
|---|---|---|---|---|---|
| | Real-time Access | Caching | Materialization | Connectors | Procedural SQL |
| **Breaking Data Silos and Creating a Single Source of Truth**<br>• Bridging operative and analytical data silos<br>• Master Data Management: makes many types of dimension data conform by utilizing the onboard data transformation and data persistence capabilities of the LDW *(some types of dimension data still require a dedicated master data management (MDM) solution)* | ✓ | | ✓ | ✓ | ✓ |
| **Hybrid and Multi-Cloud Architecture**<br>• Providing a single data access and delivery layer across different cloud providers and on-premises systems<br>• Built-in data movement capabilities facilitate data loading into cloud | ✓ | | ✓ | ✓ | |
| **Central Data Access Layer for Self-Service BI**<br>• All data sources are connected and the data is accessible (also real-time) in a central data access layer - built in the virtual layer of the LDW - to a large number of users<br>• Data is materialized in the predetermined analytical storage *(can also be automated)*<br>• Intelligent data materialization process: based on usage pattern, you get suggestions for materialization<br>• Web-based data marketplace supports self-service initiatives<br>• Data governance, data lineage, and data security are in place | ✓ | | ✓ | ✓ | |
| **Rapid Prototyping**<br>• Data virtualization provides the flexiblity to test, adjust, and implement new ideas<br>• The built-in recommendation engine analyzes the usage of the prototypical data and makes suggestions on how to optimally store the data for productive use, incl. automatic database index creation and other optimizations | ✓ | | ✓ | ✓ | |
| **Data Quality Checks**<br>• Data virtualization is used to easily connect all systems and define the rules for checking data quality in a uniform way using SQL<br>• With the help of procedural SQL and materialization capabilities, complex rules for checking data quality (e.g. based on historical data) can be easily defined within the same platform | ✓ | | ✓ | ✓ | ✓ |