



WHITEPAPER

Enabling flexible data supply chains for data architects



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 CData Virtuality which can support various use cases.

There are three essential elements to CData Virtuality:



Data virtualization

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.



Caching

To compensate for that, many data virtualization solutions, incl. CData 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.



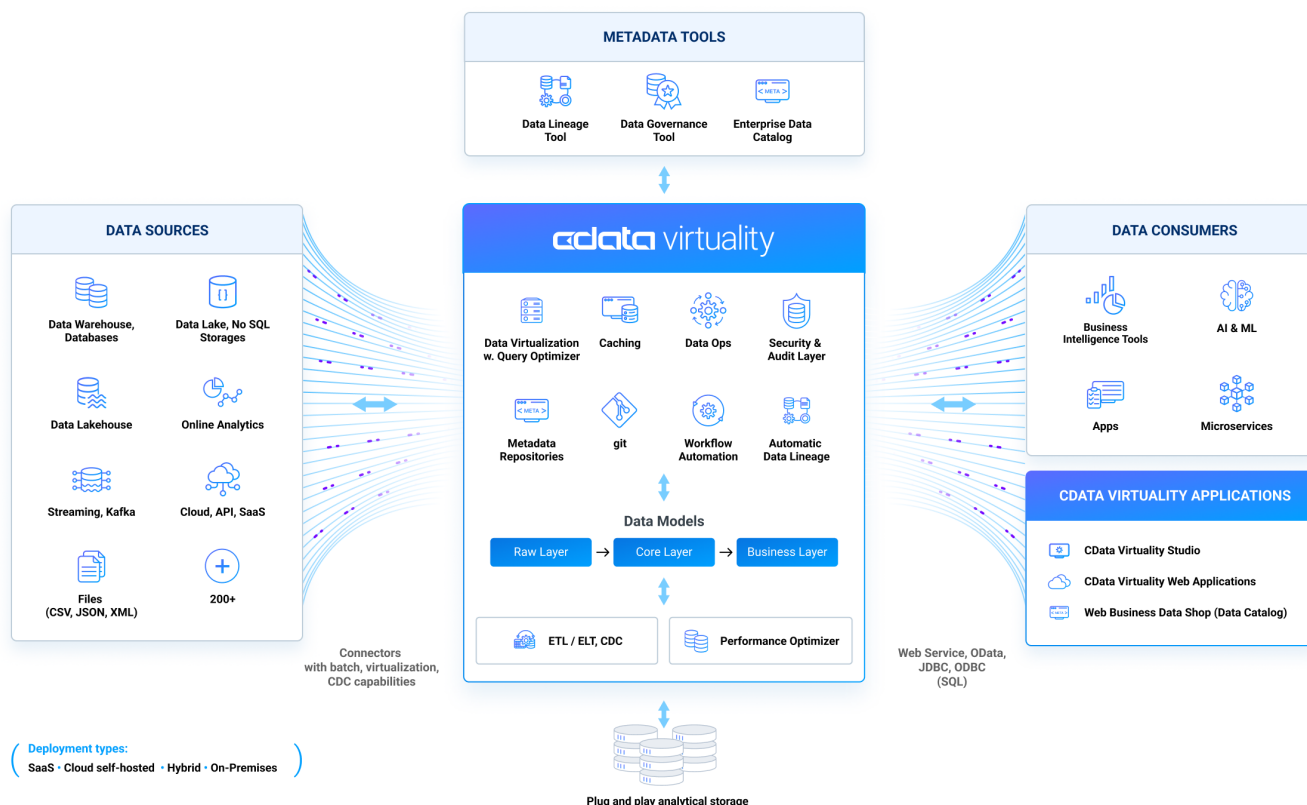
Replication (automated ETL)

Replication, enabled by the ETL capabilities of CData 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.

Further essential functionalities of CData Virtuality that empower the use cases are:

- 200+ integrated connectors which give immediate access to any data source or system, even in real-time.
- CData 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 CData Virtuality works



1: Connect the data sources

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

2: Create a central data logic

CData Virtuality 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

CData Virtuality supports the standard interfaces (JDBC, ODBC, REST) to deliver data to the data consumers.

Use case	CData Virtuality functionalities supporting the use case				
	Real-time access	Caching	Materialization	Connectors	Procedural SQL
Breaking data silos and creating a single source of truth <ul style="list-style-type: none"> Bridging operative and analytical data silos Master Data Management: makes many types of dimension data conform by utilizing the onboard data transformation and data persistence capabilities of the DV Platform (some types of dimension data still require a dedicated master data management (MDM) solution) 	●	●	●	●	●
Hybrid- and multi-cloud architecture <ul style="list-style-type: none"> Providing a single data access and delivery layer across different cloud providers and on-premises systems Built-in data movement capabilities facilitate data loading into cloud 	●	●	●	●	●
Central data access layer for self-service BI <ul style="list-style-type: none"> 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 DV Platform - to a large number of users Data is materialized in the predetermined analytical storage (can also be automated) Intelligent data materialization process: based on usage pattern, you get suggestions for materialization Web-based data marketplace supports self-service initiatives Data governance, data lineage, and data security are in place 	●	●	●	●	●
Rapid prototyping <ul style="list-style-type: none"> Data virtualization provides the flexibility to test, adjust, and implement new ideas 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 <ul style="list-style-type: none"> Data virtualization is used to easily connect all systems and define the rules for checking data quality in a uniform way using SQL 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 	●	●	●	●	●

CData Software is a leading provider of data access and connectivity solutions. Our self-service data products and connectivity solutions provide universal access to live data from hundreds of popular on-premises and cloud applications. Millions of users worldwide, including Salesforce, Office Depot, and Holiday Inn, rely on CData to enable advanced analytics, boost cloud adoption, and create a more connected business. Consumable by any user, accessible within any application, and built for all enterprises, CData is redefining data-driven business.

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