



Reference Data Sharing

THE CHALLENGE

Reference data facilitates rapid, error-free execution of financial transactions and analysis across multiple geographical markets. Examples of reference data include equity data, fixed income data, and derivatives data. Making sure that reference data is clean, consistent, and sharable across trading locations worldwide is critical for many financial institutions.

Taking reference data from external sources like Bloomberg and Reuters, and loading it into internal repositories is half the battle. There are numerous approaches and products to take reference data feeds, cleanse the data, and load it into one or more golden source of reference data.

The bigger challenge is often times making sure that the golden version of reference data is used for trade execution, and not an out-dated or inaccurate copy. Challenges to effective reference data sharing firm wide include:

- Providing the most up-to-date reference and related master and operational
- Delivering it in sub-seconds.
- Sending it world wide.
- Supporting incompatible consuming applications.
- Maintaining accuracy and consistency.

THE COMPOSITE SOLUTION

The Composite solution provides a single virtual source for reference data and enables federation of additional master and operational data to complete a financial transaction or analysis. The Composite Data Virtualization Platform leverages best practices principles including abstraction, decoupling, reuse, and more, while also supporting a range of internal and industry data standards to enable financial reference data sharing in a simpler, faster, and more consistent manner. Composite supports several enterprise data sharing patterns so you can flexibly provide the reference data required to execute capital markets transactions and analysis.

BENEFITS AND ADVANTAGES

The Composite Data Virtualization Platform includes high-performance query middleware that rapid sharing and integration of reference data with operational data. Benefits and advantages include:

- Agile architecture – for reference data sharing.
- Easy to add – reference data sources and consuming applications.
- Scalable - to support world wide operations.
- Reduced operational risk – through centralized monitoring.
- Short deployment time – for quick time to solution.
- Reduced custom development – lowers cost and complexity.

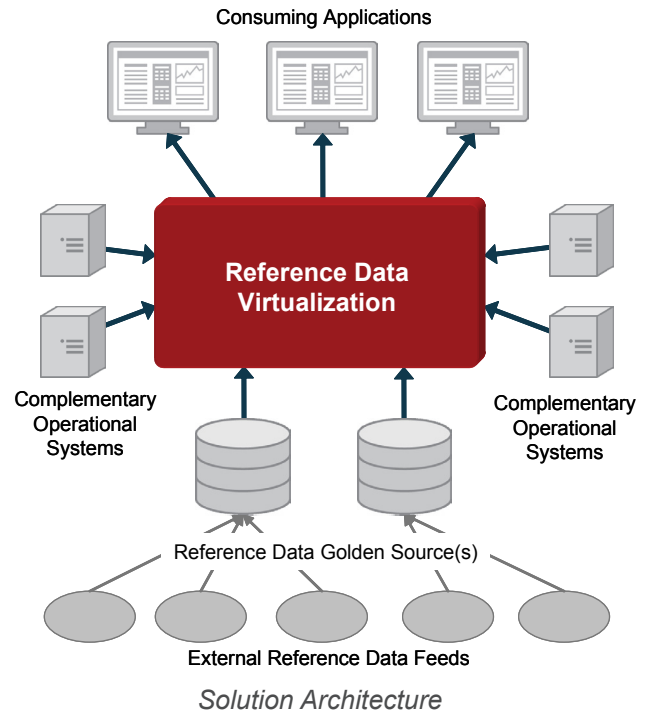
Composite capabilities for reference data sharing include:

- Optimizing real-time integration of reference, master and operational data.
- Transforming diverse data formats to match consuming applications requirements.
- Providing a single virtual source for reference, master and operational data.
- Delivering up-to-date reference, master, and operational data to numerous locations.
- Monitoring activities for compliance and control.

SOLUTION ARCHITECTURE

The Composite solution accelerates distribution of data from the golden sources of reference data to the far edges of the financial institution that require the data. Reference data starts from various sources and flows through the firm in roughly the following sequence:

1. External reference data is fed into one or more internal "golden copy" repository
2. The Virtualization Layer
 - a) Accesses gold reference data
 - b) Integrates reference data with master data and operational information
 - c) Delivers combined data to any location in multiple formats
3. Applications consume integrated data to execute trades, move funds, etc.



FUNCTIONS AND FEATURES

1. Reference Data Sources

- Gold copy
- Archive copy
- Backup copy

2. Virtualization

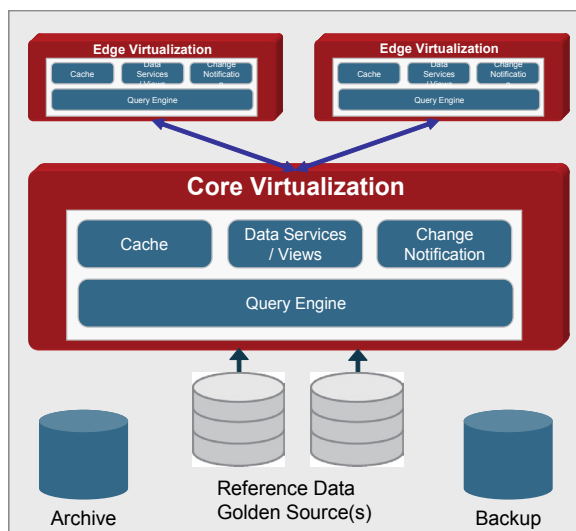
- Data Services / Views – Integrated view of reference, master, and operational data
- Cache – Materialized copies of reference and related data for improved performance
- Change Notification – Alert of priority changes in data that need dissemination.
- Query Engine – Optimized federated query to combine reference, master, and operational data at runtime

3. Core Virtualization

- Central virtualization of core reference, master, and operational data to be shared across the enterprise

4. Edge Virtualization

- Distributed sharing engine to facilitate access and improve speed
- Architecture similar to core virtualization to enhance consistency



Solution Functions