



SMARTDATA FABRIC® SOFTWARE PRODUCT DATA SHEET SUMMARY

REVISION 1.1

SmartData Fabric® enables solutions that solve data problems, and fills the three main gaps in the current data management and analytics markets.

Data problems statement

- Data is everywhere in multiple locations/countries, sources, source types, formats and platforms.
- Cannot/will not copy/move ALL data to a single location, e.g., multi-jurisdictional/data sovereignty and third-party ownership.
- Some data is not readily useable and needs discovery, identification, classification, security, cleansing, transformation, standardization and normalization.
- Data needs to be connected and integrated.
- Many data sources do not have the query capabilities or load capacity for external queries by conventional data virtualization/federated data access/query engines.
- Large investment in existing systems and solutions.
- Need for rigorous enterprise-wide access control, and data governance, security and privacy.

The three main gaps in the current data management and analytics markets

1. Data issues are not addressed BEFORE the first query is made on data sources or data lakes, including data and master data management. Most data and master data management occurs AFTER data is extracted from sources on query result-sets/data extracts or landed in data lakes.
2. Not all customers want to, or cannot, copy data to a centralized location, data lake or large data warehouse – even conventional data virtualization is typically two-tier and tends to land data in a data lake, repository or cache.
3. No middle tiers that allow independent edge processing to address data source and data issues, including data and master data management, and create and maintain derived values and pre-aggregated, pre-calculated and pre-joined views. These views can accelerate reporting, BI and analytics queries, and entity views such as customer 360.



Conventional data solutions are a choice between a rock and a hard place

**ROCK =
CONVENTIONAL
DATA
VIRTUALIZATION/
FEDERATION**



**HARD PLACE =
DATA
WAREHOUSE**

Each conventional data solution has its own pros and cons.

Conventional data virtualization/federation has major cons of data source:

- CDV1. Data quality.
- CDV2. Query capabilities.
- CDV3. Query load.

A data warehouse has major cons of:

- DW1. All data needs to be copied to a central location.
- DW2. ETL and source schema transforms to a one-size-fits-all target schema.

Data lakes are in-between a rock and hard place, whereby they address some IT issues by centralizing data, but have major cons of:

- DL1. All data still needs to copied to a single data lake or distributed data lakes.
- DL2. Not helping with data management => still requires ETL to a data warehouse/materialized views and then data marts, ELT or **an additional data management layer or fabric/mesh on top.**

SmartData Fabric overcomes the cons and supports the pros of the above three approaches.

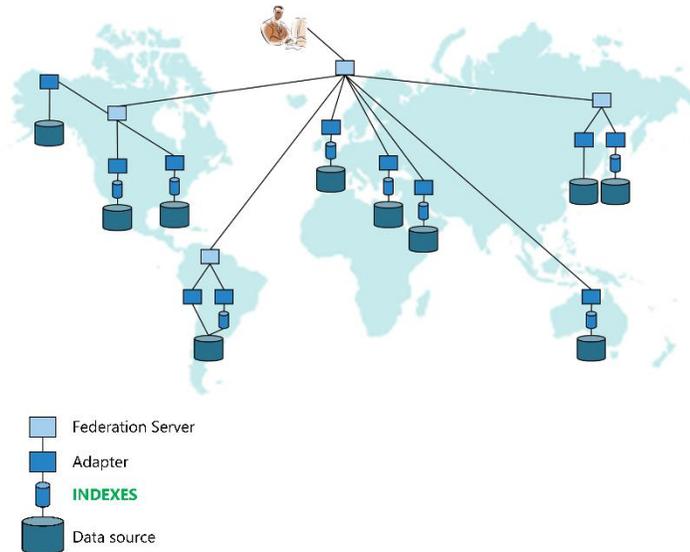
Note: The following text includes **blue-highlighted terms** that are specific to SmartData Fabric®.

SmartData Fabric® core architecture and components

- SmartData Fabric® consists of a multiple federated data source adapters and federation servers that access multiple adapters and other federation servers as if they are adapters.
- The highly flexible architecture enables a true data fabric/mesh across multiple data sources and almost any data source with structured, semi-structured data.
- There are **three types of federated data source adapters: indexed, conventional or non-indexed, and hybrid**, which is a combination of indexed and conventional.



- Each data source has at least one adapter and some data sources may have multiple adapters for scale and performance.



- There are significant benefits to using **indexed adapters** that can overcome data source and data issues, by addressing query processing capabilities, performance and load, and data quality and standards, and add features such as Master Data Management (MDM), data monitoring and event processing.
- Indexed adapters and the independently configurable federated architecture leverages, complements and is agnostic to existing systems, data sources, data virtualization software and query engines – avoids vendor lock-in.

SmartData Fabric® business benefits

- Lower Total Cost of Ownership (TCO) as lower implementation and maintenance costs.
- Faster and simpler implementation compared to the individual data source query optimization or ETL effort required of conventional data solutions.
- Return on Investment (ROI) much higher than alternatives because of additional capabilities, flexibility for current and future needs, and lower TCO.
- Incremental/phased implementation - start by addressing urgent needs first.
- True data fabric/mesh that enables and supports multiple use cases.
- Works with existing and future systems.

For more details and supporting material for the above features, please contact Gavin Robertson, CTO and SVP, WhamTech, Inc., gavin.robertson@whamtech.com, +1 (972) 991-5700 x706 (o)