



CAPABILITIES, COSTS AND ROI COMPARISON WITH ALTERNATIVE APPROACHES AND VENDORS

REVISION 2.4

Introduction

WhamTech SmartData Fabric® (SDF) is broad and flexible data management software that uniquely addresses data virtualization, federation, integration (for a definition of these terms, see <http://www.b-eye-network.com/view/14815>), interoperability, analytics and security, among other capabilities. As such, alternative approaches and vendors with one or more of these capabilities are compared with SDF. Once the differences in capabilities are understood, customers understandably ask for a costs and ROI comparison.

Company Positioning

WhamTech SDF consists of innovative and unique External Index and Query (EIQ) Adapter software products and middleware that have been, and continue to be, sought out by large end-customers, system integrators and IT services companies. The reason why large companies seek out WhamTech, a relatively unknown smaller vendor, is because the established incumbent data management vendors do not have the innovative and unique capabilities of WhamTech SDF. While there are differences in important capabilities compared with alternative approaches and vendors, the overarching business drivers remain the same for both WhamTech and the alternatives. Ultimately, how any one approach or vendor addresses these drivers, taking into account capabilities, costs and ROI, will determine their customer suitability and selection.

Capabilities Comparison

WhamTech has published a separate series of comparisons with the approaches of data warehousing, conventional data virtualization, conventional federated data access, enterprise search, and specific vendors, including Denodo®, Informatica®, Red Hat® JBoss® Data Virtualization and Tibco® Data Virtualization (pka Cisco® Data Virtualization and Composite Software).

WhamTech SDF is primarily federated data access software and the ten main differences between SDF and all other conventional federated data access vendors are:

1. Pre-process data discovery, profiling, security, quality, standards, pre-aggregation, pre-calculation/analytics, pre-joins and links/relationships, and master data management (MDM), upfront, before any queries are submitted – not dependent for most of these on data source systems as conventional federated data access vendors are.
2. Build and maintain own wide range of independent indexes and indexed views, usually in near real-time, to process queries against, with data management pre-processing, listed in 1 above, performed during indexing and results retrieval from data sources - not dependent on data source systems as conventional federated data access vendors are.
3. High performance distributed parallel query processing against own indexes and indexed views. Data source-specific sets of indexes are distributed, and since indexes are separate columnar files, query load is distributed within each set of indexes. Indexes can also be deployed on high performance media, such as SSDs. Query processing is not dependent on data source systems as conventional federated data access vendors are.
4. Almost no load on data sources – only low-level disk reads on results retrieval – not imposing load on data source systems as conventional federated data access vendors do.



5. Seamless and automatic integration of master data with standard data access – transparent to both applications and data sources. Master data can be optionally updated in near real-time and optionally stored distributed in association with adapters and indexes to data sources for performance, security and privacy reasons - not centralized and separate as MDM systems from conventional federated data access vendors tend to be.
6. Monitor changes in data sources through index and indexed view updates, process events based on business rules, and drive BPM or stored procedure workflows, operational dashboards and alerts/notifications in near real-time – not regularly polling and imposing load on data source systems as conventional federated data access vendors do.
7. Decentralized, distributed, high performance, parallel processing and independently configurable and accessible adapters and middleware – not centralized management and processing as conventional federated data access vendors do (with maybe one or more exceptions, e.g., Tibco Data Virtualization).
8. No need for data or results cache and the issues associated with cache management to overcome deficiencies of conventional federated data access.
9. Built-in graph database, link analysis, and ontological model representation and query execution – not available from conventional federated data access vendors (with one or maybe more exceptions in some form, e.g., Informatica).
10. Data security – leave data in source, i.e., no cache or copy, queries modified depending on access control and permissions, and data masking, tokenization and encryption – usually available from conventional federated data access vendors in some form, but usually results data leaves sources before access control and permissions applied, which is particularly risky if results data is centrally processed.

Costs and ROI Comparison

Costs and ROI can be defined differently, therefore, here are some definitions:

- Perpetual License Costs = Initial product purchase (CAPEX) + implementation services (CAPEX or OPEX) + maintenance and support (OPEX)
- Lease Costs = Monthly/annual costs – assume includes maintenance and support (OPEX) + implementation services (CAPEX or OPEX)
- SaaS Costs = Monthly/annual costs – assume includes maintenance and support (OPEX) + implementation services (OPEX – recently ruled by the FASB as not being CAPEX)
- Maintenance and Support Costs (OPEX) – usually excluded from perpetual license costs after the first year or more and usually included in lease and SaaS costs
- TCO = Total cost of ownership includes all relevant costs above
- ROI = (Gains from project* (e.g., revenue gains and costs savings) – costs of project**)/costs of project**, approximately described as profit/costs

*Gains from project can be discounted to reflect the value of money over a period.



**Costs of project = Traditionally, investment CAPEX was used, but increasingly with the new options available for software, TCO is being used and can be discounted to reflect the value of money over a period.

Perpetual License Costs

Most vendors do not publish their product costs. The slight exception is Red Hat JBoss Data Virtualization, which claims it costs 10% of similar products from IBM, for example, but that is just product costs. WhamTech products cost considerably less (< 50%) compared with those from IBM, Oracle and Tibco that we know of from GSA schedules and other sources.

Another aspect of enterprise software is that any level of scale rapidly tends towards an enterprise license, which can be an arbitrary and significantly less cost than the sum of individual software product license costs.

Lease/SaaS Costs

These are typically 30 – 50%, with an average of 40% of perpetual license costs and usually include maintenance and support.

Initial Implementation Costs

Regardless of whether a perpetual license or a lease/SaaS cost for software, as with all conventional data virtualization, federation and integration solutions, there will be considerable initial implementation services required that are up to five times (500%) the initial product costs. These services are required to optimize queries to data source systems to overcome issues associated with poor data quality, lack of standards, limited availability of number and types of indexes and indexed views, and limited ability to execute queries without overloading data source systems. Whereas, WhamTech SDF products provide almost 100% control over these issues and as a result, they are relatively simpler and less expensive to implement.

Maintenance and Support Costs

There are software maintenance and support costs that are typically 15 – 25%, with an average of 18% of perpetual license costs and usually included in a lease/SaaS. There are also constant fine-tuning/adjustments needed for changes in data content and quality, data source schemas, usage requirements, etc. While there may be advantages in the WhamTech 100% control approach, we can assume that the time and, therefore, costs associated with conventional federated data access adapters and WhamTech SDF EIQ Adapters are about the same.

TCO

We can estimate that given the lower CAPEX/higher OPEX solution of Red Hat and higher CAPEX/higher OPEX solutions of other conventional federated data access vendors, WhamTech's higher-compared-with-Red Hat and lower-compared-with-other-vendors CAPEX upfront, lower OPEX, and faster-to-implement solution, that WhamTech will yield a lower TCO and higher ROI compared with Red Hat and other vendors. In addition, WhamTech SDF offers an improved solution with far more capabilities, most of which are listed above. This is a different value proposition compared with other vendors' conventional federated adapters and middleware. More applications and copied-data stores would need to be added to other vendors' conventional federated adapters and middleware to tend towards what WhamTech SDF provides. Implementation and additional application costs have not been factored in to the Red Hat costs comparison, as they are comparing their initial software product costs to similar platforms from other conventional federated data access vendors, whereas, WhamTech SDF products already have more capabilities built-in or available as options.



Costs Summary Table

Attribute	Conventional Federated Data Access Adapters	WhamTech SDF Adapters
Capabilities	Basic	Advanced – more capabilities for less costs
ROI – assuming TCO as basis, and revenue gains and cost savings	0 - 10	10 – 100
Perpetual License Costs – CAPEX	Red Hat < 20% of WhamTech; IBM and others > 200% of WhamTech	100%, starting at \$10K per data source
Lease/SaaS Costs	Assume 40% of perpetual license costs per year, including maintenance and support	40% of perpetual license costs per year, including maintenance and support
Implementation Costs	Up to 500% more time than WhamTech to implement = high costs	100%, relatively simple and short time to implement = low costs
Maintenance and Support Costs	18% of perpetual license costs – included in lease/SaaS costs	18% of perpetual license costs – included in lease/SaaS costs
Costs - TCO	Up to 1000 % of WhamTech	100%

Improvements over Alternatives

WhamTech has strived for and achieved between one and two orders of magnitude improvements over alternative approaches and vendors in one or more measurable criteria, e.g., TCO, ROI, performance and implementation time. A few external testimonies and performance use cases are referenced and can be shared on request:

1. CONFIDENTIAL - EIQ Products Proof-of-Concept Evaluation Summary from a Major System Integrator.
2. CONFIDENTIAL - WhamTech Evaluation Remarks from a Senior Technologist at a Major System Integrator.
3. WhamTech SmartData Fabric® - Example Performance Use Cases.

Vendor Lock-in

From a vendor lock-in point-of-view, WhamTech SDF adapters and middleware could be replaced by conventional federated adapters and middleware from other vendors. However, other vendor/open source products would take longer to implement, not produce the high quality/high performance results expected and not come close to the same capabilities. That is why WhamTech is considered innovative and unique, i.e., unlike any other conventional federated data access vendor.

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About WhamTech, Inc.

WhamTech, Inc. (WhamTech) is a privately-held US-owned Delaware Corporation established in October 2000 and based in Dallas, Texas. WhamTech's mission is to develop indexed adapter-based security-centric distributed virtual data, master data and graph data management, and analytics software products. WhamTech develops these products to anticipate, meet and exceed the demands of customers seeking an alternative to the conventional approaches of data warehousing, federated data access with conventional adapters, and enterprise search. WhamTech's goal is to provide an improved and more seamless way to work with data, by leaving it in sources and changing the way fundamental and advanced data management is addressed. Most WhamTech adapter products leverage independent, cleansed, transformed and standardized indexes that execute both structured and unstructured queries, and seamlessly and automatically integrate master data management to provide capabilities normally associated with multiple separate solutions, including providing results when data sources are unavailable and for archive.

Information on WhamTech solutions, sales and services, and partnership and investment opportunities, can be obtained through whamtech.com.