

Financial Services Transformation with a Next Generation Data Warehouse

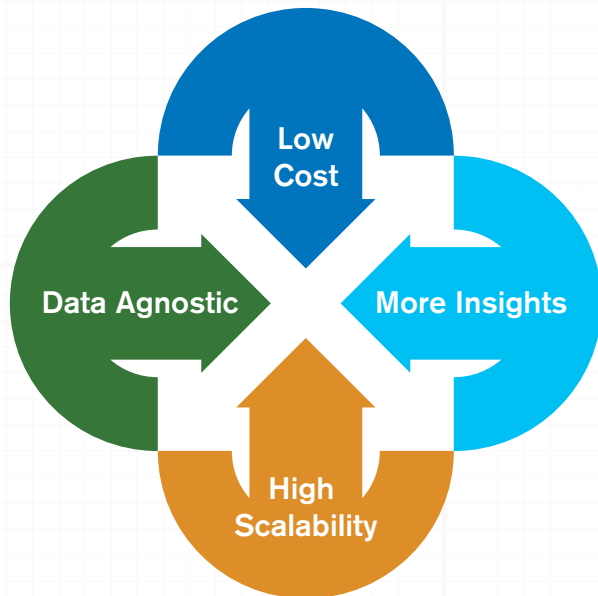
The unparalleled growth in the **volume, variety and velocity** of data within and outside the enterprise is both a challenge and an opportunity for today's companies. The ability to leverage Big Data for actionable business insights is a key to sustainable competitive advantage in today's marketplace. Leading financial services institutions need to rethink their Data Warehousing strategy for improved business outcomes.

A true Digital Enterprise engages customers through rich, personalized, meaningful and proactive interactions. This requires the ability to collate, organize and analyze structured and unstructured customer information from a variety of data sources in real or near-real time.

Data Warehouse Modernization with Hadoop

For banks and financial institutions, the limitations of traditional Data Warehouses often make it difficult to leverage data for data-driven decision making. Increasing volumes lead to high costs and poor performance with these traditional systems.

Syntel recommends augmenting existing Data Warehouses with a Hadoop-based **Data Lake** to enable maximum scalability and flexibility at the lowest possible cost. Data Lakes are built to handle higher volumes and greater varieties of data, and have several key benefits.



Data lake comes with all the benefits of Big Data systems built on commodity servers.



Analytics Tools can pull more insights from Raw Data and high performance of Big Data system.



Hadoop based Data Lakes are highly scalable. Commodity servers can be added to manage increased load.

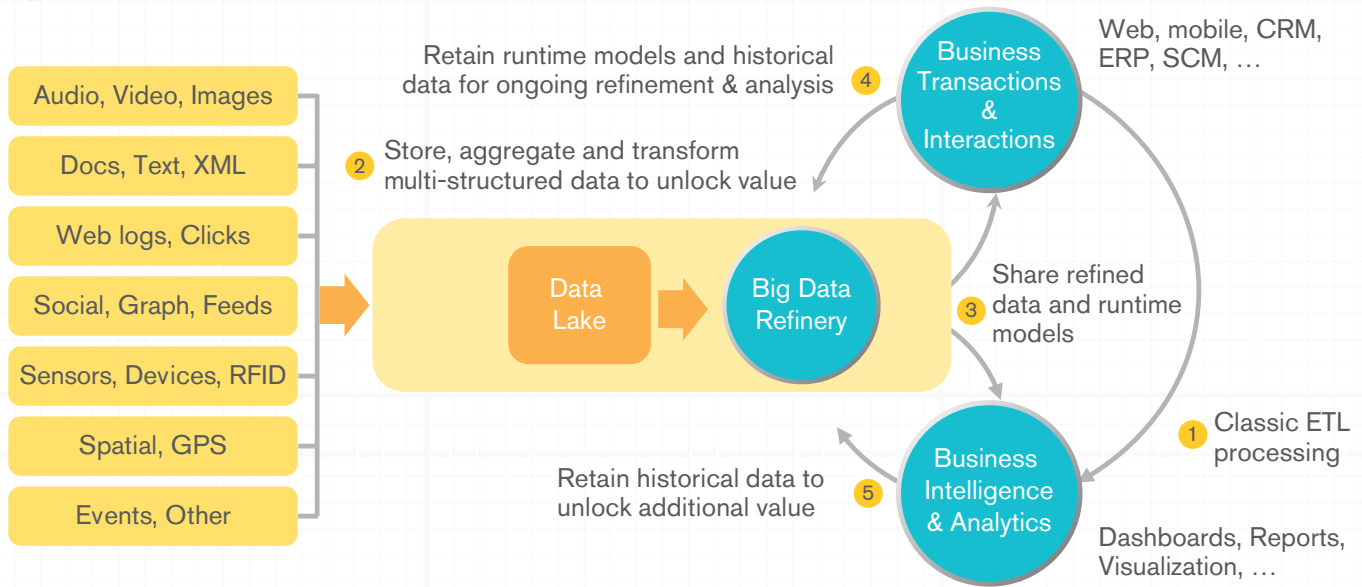


Can store both structured and unstructured data in raw formats. Also supports multiple programming languages and frameworks.

In Syntel's view, the characteristics of a successful Data Lake are:

- **Greater variety and volume of data** – Ability to analyze all data stored in the lake
- **Support for multiple tools and products** – The cross-engine integration requires multiple technology stacks that support structured, semi-structured, and unstructured data types
- **Domain focus** – The Data Lake must be tailored to the client's specific industry and must have a business-aware data locating capability
- **Automated metadata management** – Captures a robust set of attributes for every piece of content within the lake (e.g. data lineage, data quality, and usage history)
- **Configurable workflows** – A configurable ingestion workflow can provide a high level of reuse, enabling easy, secure, and traceable content ingestion from new sources
- **Easy integration** – The Data Lake needs to meld into and support the existing enterprise environment, including data management paradigms, tools, and methods

Typical Data Lake Architecture







- **Step 1** employs classic ETL processing to deliver structured and repeatable analysis.
- The “Big Data Refinery” highlighted in **Step 2** is a new system capable of aggregating and transforming a wide range of multi-structured raw data sources into usable formats.
- **Step 3** takes the model further, as the Big Data Refinery interacts with systems powering Business Transactions & Interactions and Business Intelligence & Analytics.
- Since the Data Lake excels at retaining large volumes of data for long periods of time, the model is completed with the feedback loops illustrated in **Steps 4 and 5**.

Syntel’s Big Data Offerings

Syntel combines its expertise with a wide range of tools and industry best practices to deliver Big Data solution and services that provide a 360° view of the business through structured, consistent and clean customer information, while ensuring that costs are kept low.

Our Big Data and Analytics practice has expertise conceptualizing and designing Big Data strategies, and defining roadmaps for end-to-end Big Data implementations in several industries. Our Big Data services include:

CONSULTING	E2E IMPLEMENTATION	NEW DATA PLATFORMS	DATA SCIENCE
 <ul style="list-style-type: none"> ▪ Assessment, Strategy & Roadmap ▪ Infrastructure Set-up ▪ Tool Evaluation ▪ Architecture – Planning & Execution 	 <ul style="list-style-type: none"> ▪ Agile Big Data ▪ Big Data on Cloud ▪ Big Data Security 	 <ul style="list-style-type: none"> ▪ Hadoop as a Service ▪ Augmented Data Warehouse ▪ Legacy Modernisation ▪ Archival and Content Management 	 <ul style="list-style-type: none"> ▪ Data Mining ▪ Statistical Modeling ▪ Predictive Analytics ▪ Text Analytics ▪ Machine Learning

These solutions are enabled by a Big Data Innovation lab dedicated to capability and solution building, a 350+ member team of professionals, and partnerships with leading Big Data package developers like Cloudera.

