



# Infoworks

## THE AUTONOMOUS DATA ENGINE

Solution Brief:

Automated Data Lake Creation and Management

Reduce the cycle time to develop, test and deploy an enterprise data lake into operation

## The Challenge

Building a “big data” data lake is harder than you think

In an effort to take advantage of the flexibility of big data and cloud architectures an increasing number of companies have jumped onto the data lake bandwagon. However, implementing a data lake is more complicated than most people realize. In fact, simply populating the data lake can pose significant challenges as out of the box open source ingestion tools aren't especially scalable or robust. When you have large amounts of data, ingestion requires parallelization. However, not everyone has the in-house skills to write custom ingest code and even then, hand-coding is inflexible and difficult to repair.

Additionally, big data and cloud platforms that are used as the basis for data lakes don't deal with production issues that occur as a result of constantly changing source data that can break production pipelines. Data lakes don't typically support the merging of changed data directly. The result of not properly managing merged data makes access to fresh data unnecessarily complex, and very slow. Lastly, big data platforms don't deal with enterprise production issues like the need to orchestrate potentially conflicting data pipelines or deal with issues like restarting jobs if a process fails. In the end, running big data workflows in production still requires experts that are either hard to find or extremely expensive to hire.

This is precisely why, according to a Gartner survey, over 80% of big data projects fail to deploy to production.

## Infoworks in Action

The Autonomous Data Engine has been deployed in production by large enterprises to run business critical applications. Infoworks' customers have successfully implemented complex, large-scale use-cases in days instead of months with minimal resources.

### Fortune 500 High-tech Manufacturer: 3 month implementation with Infoworks vs 3 year implementation without

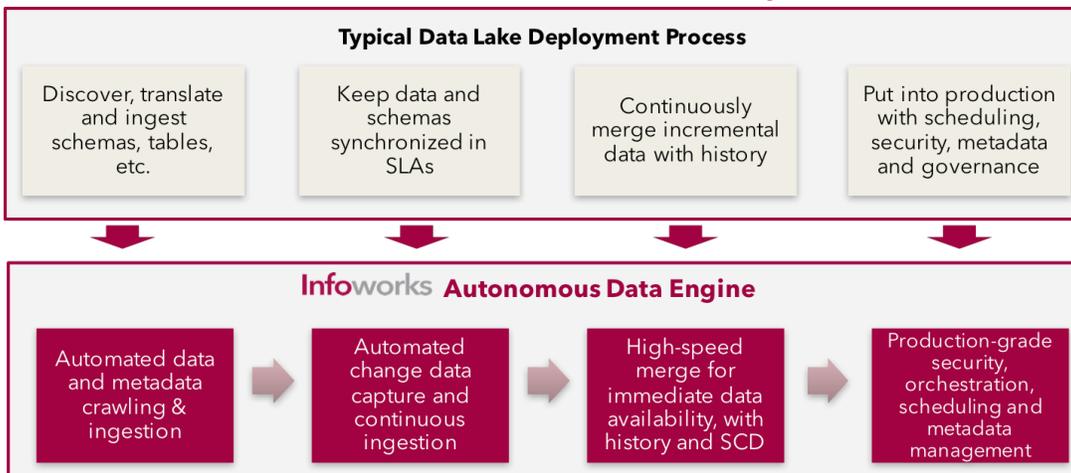
- Replaced an in-house data ingestion solution that had been developed over 3 years
- Ingestion framework for 1500+ data sources across the enterprise
- Change data capture & high-speed replication for all sources
- Production ready environment with full resource optimization
- Reduced the support team from five data engineers to one

9x Improvement

## The Solution

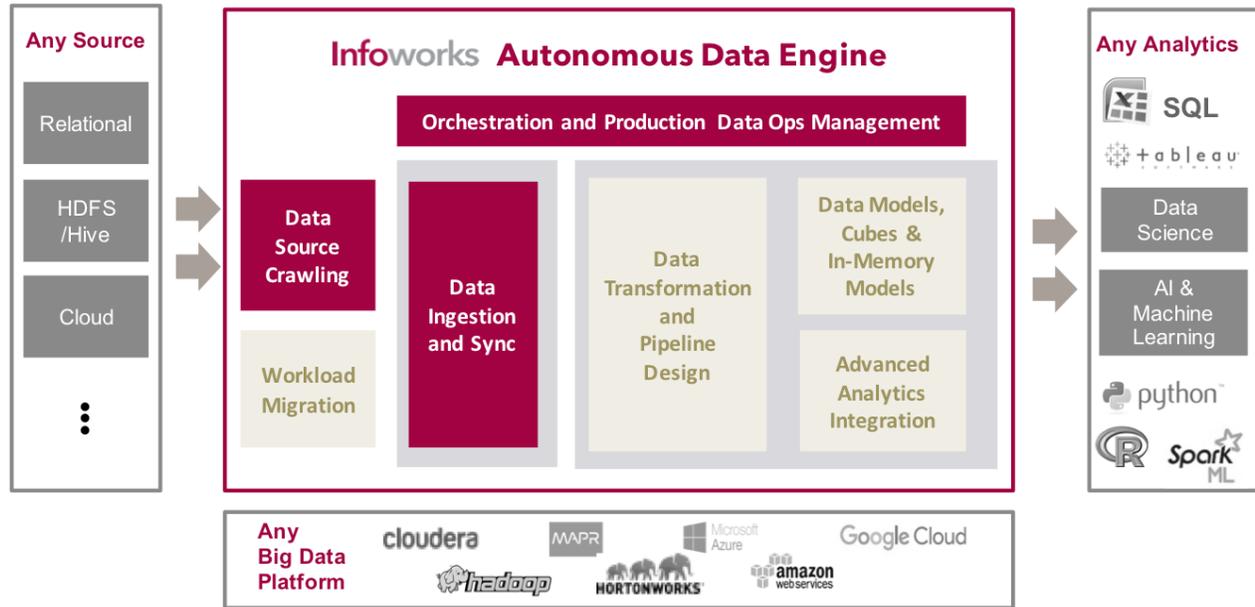
End-to-end automation is key to successful deployment of big data projects.

### Infoworks Automates Data Lake Creation and Management Processes



Infoworks addresses the challenge of building production data lakes with an end-to-end solution that automates the ingestion, synchronization and management of changing source data. Our Autonomous Data Engine automates most of the work for you, which is why our Fortune 500 customers are in production in a matter of days or weeks. Infoworks applies an unprecedented level of automation to data workflows and data engineering to eliminate big data complexity.

## Infoworks Components: Data Lake Creation and Management



In addition, we provide an optimized operational environment to track & manage complex data pipelines in production

### End-to-End Solutions Capabilities

Infoworks provides a complete solution that makes creating and then managing a data lake, either on premises or in the cloud, a simpler process by delivering the following automated components as part of a single package:

### Automated Data Ingestion & Synchronization

#### Data Source Crawling and Ingestion

Automatically crawls data sources, ranging from flat files, XML, JSON to relational databases such as Teradata, Oracle, and SQL Server.

In the same way Google crawls the web to get web data, the Autonomous Data Engine crawls data sources and ingests source data in a high-performance, parallel process, while automatically preserving data precision.

#### Metadata Synchronization

Learns the metadata and infers data relationships for the data ingested from external data sources as well as data sets created using Infoworks. It also tracks end-to-end data lineage so that users can trace data elements back to the original source systems and perform downstream impact analysis.

#### Data Synchronization

Continuously synchronizes source data from enterprise databases, data warehouses, and file sources. Changing data is captured from the source systems using log-based and query-based methods. The changed data is merged with the base data in a high-performance continuous merge process.

- Automatically handles slow-changing-data and schema changes and creates current and historical tables.
- Supports export functionality to other enterprise operational and data warehouse systems.
- Supports streaming, batch and incremental mode of data synchronization and export.

## Orchestration and Production Operations Management

Design end-to-end work-flows and orchestrate in production with fault-tolerant, distributed execution. Migrate from development environments to production across big data or cloud platforms with single-click operations.

## Portability

Infoworks automation also makes it easy to move from an on-premise Hadoop platform to the cloud, or from one cloud environment to another. One Infoworks customer moved an entire set of production work-flows from Microsoft Azure to Google Cloud Platform in less than one day.

## Enterprise-Grade Security Integration

The Autonomous Data Engine provides security integration for user authentication and data security policies. It supports Single-sign-on/LDAP integration, Kerberos based authorization. It supports encryption for data in motion and at rest.

## What Our Customers are Saying:

“With Infoworks we were able to complete our project plan for the entire year, in a few days!”

- Lead Enterprise Architect, Fortune 10 Retailer

“Infoworks reduces our time to introduce new end-to-end analytics models from 6 months to a week, without IT involvement. This allows our analytics teams to quickly meet fast-changing business requirements and directly enables growth”

- Director of Analytics, Leading CPG company

“With Infoworks we can quickly execute on our large backlog of data projects. If we were to custom build our ideal data platform it would be like Infoworks”

- Data Architect at a Fortune 100 technology company

“Prior to Infoworks we had long turn-arounds for data requests to IT. Now we have self-service reporting end-to-end”

- Business Analyst



# Infoworks

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