

“ It ain't what you don't know that gets you into trouble. It's what you know for sure that just ain't so. ”

LEADING INDICATORS

Status Quo is failing ...

Variable Data Formats



Unlimited, Real-Time Data Access



Changing Requirements



Fast Time to Results



Mission-Critical Functions

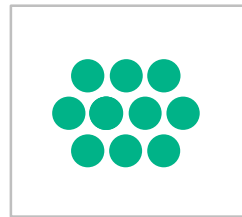


“ As data structures get more complex and data volume grows, traditional relational databases—and their need for a pre-defined schema are falling short.”

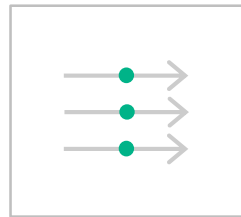
FORRESTER®

A NEW APPROACH

Expect That Over Time, *Everything* Can Change, at Any Time



DATA



**WHERE DATA
COMES FROM**



**HOW DATA IS
ACCESSED**



**WHO ACCESSES
THE DATA**

The MarkLogic Alternative to RDBMS with ETL

An *Operational and Transactional* Enterprise NoSQL Database



EASY TO GET DATA IN

Flexible Data Model

- Data ingested as is (no ETL)
- Structured and unstructured data
- Data and metadata together
- Adapts to changing data and changing data structures



EASY TO GET DATA OUT

Ask Anything Universal Index

- Index once and query endlessly
- Real-time and lightning fast
- Query across JSON, XML, text, geospatial, and semantic triples in one database

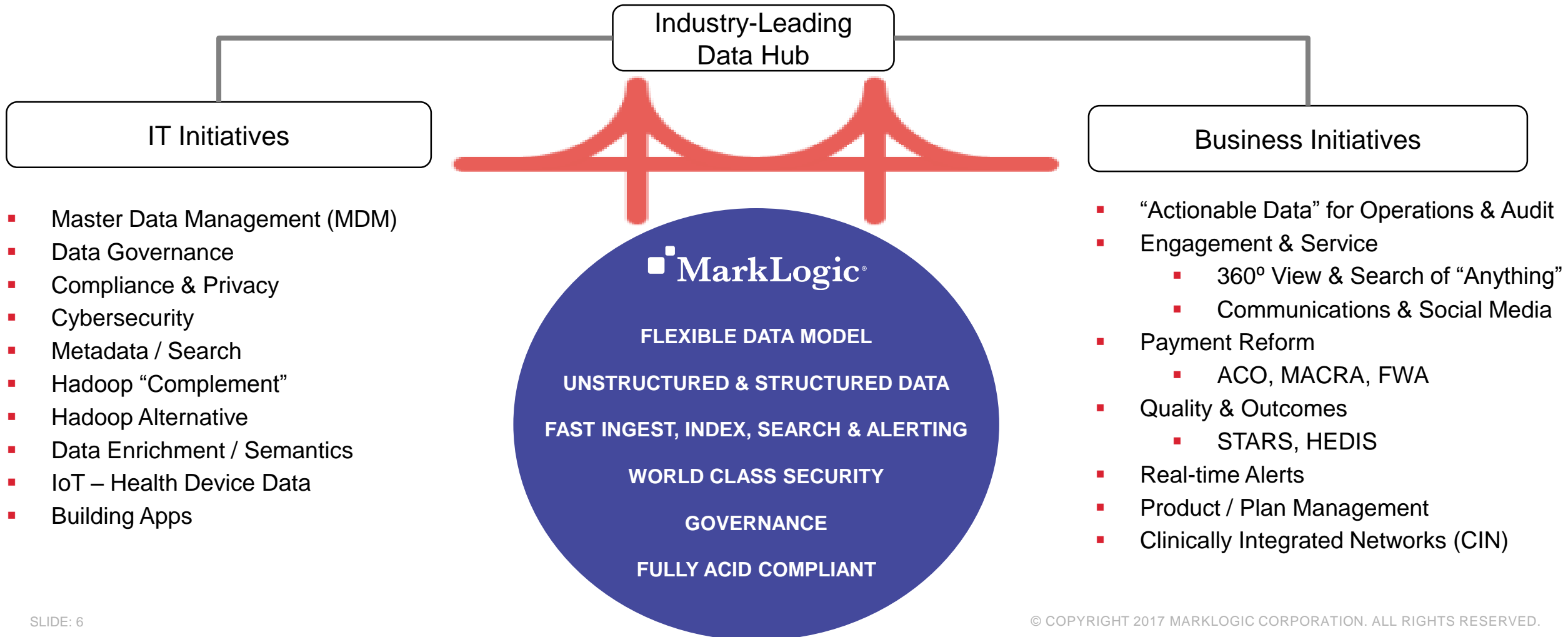


100% TRUSTED

Enterprise Ready

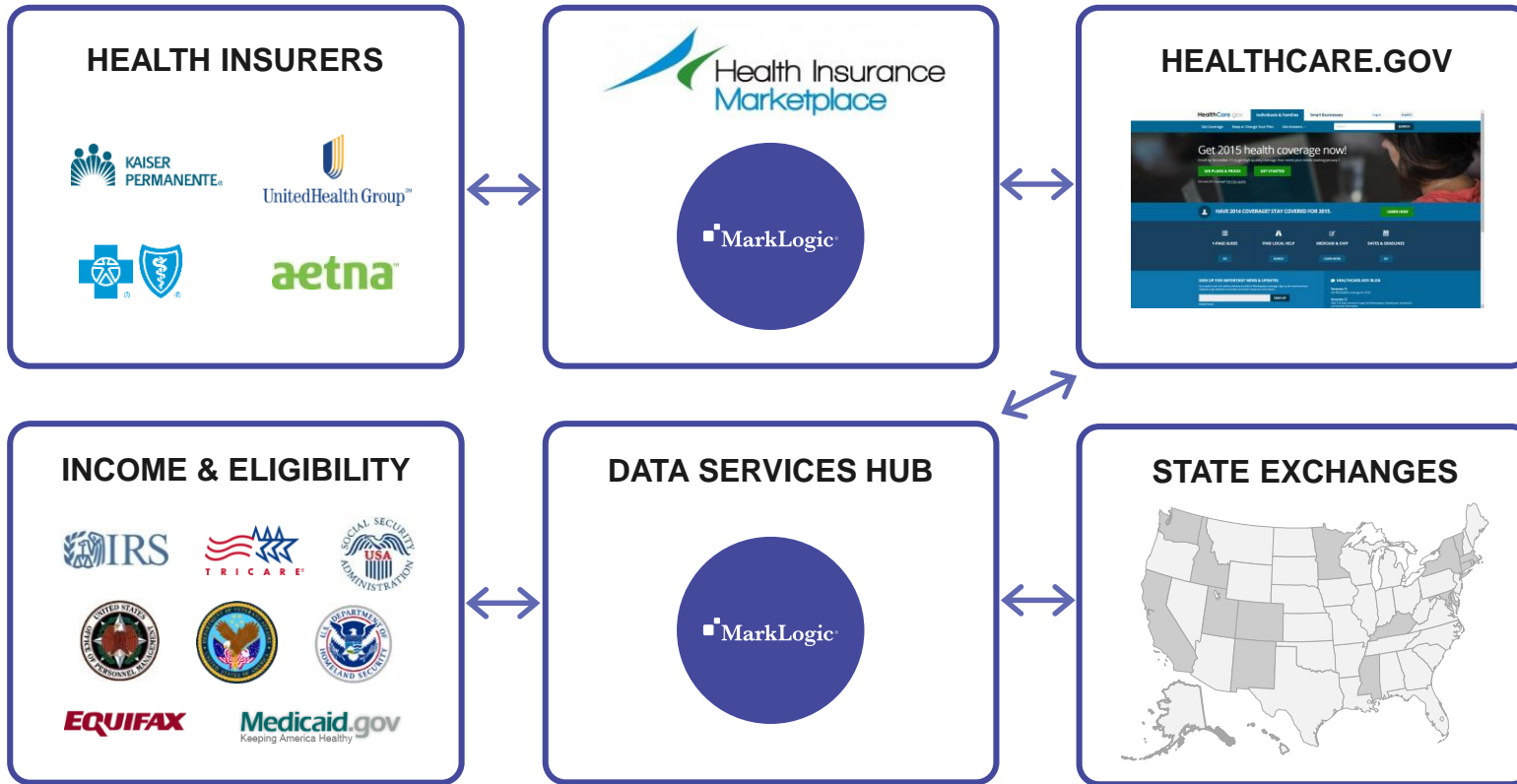
- Reliable data and transactions (100% ACID compliant)
- Out-of-the-box automatic failover, replication, and backup/recovery
- Enterprise-grade security and Common Criteria certified
- HIPAA Compliant

Healthcare “Next Gen” Data Projects



HealthCare.gov – Online, Real-Time Enrollment

Transforming the Health Insurance Industry



WHY MARKLOGIC?

- Oracle data model too rigid
- ETL taking too much time
- Structured and unstructured data
- Scalability with 100% data integrity
- Flexibility to support changing data
- IRS mandated security requirements

HealthCare.gov – Marketplace & Data Services Hub

Transforming the



The Results

HEALTH INSURER



INCOME & ELIGIBILITY



- **Timely** – Met congressional deadline for delivery
- **Scalable** – 280,000 concurrent users
- **Fast** – 6,500 transactions per second
- **Success** – 12.7 million citizens enrolled for 2017

“The largest personal data integration government project in the history of the Republic.”

- STEPHEN PARENTE, PHD, MPH, MS

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ecurity requirements

Healthcare's Experts at Integrating Data From Silos

MATURITY

- 1,000+ global customers
- Decade of customer success
- 250+ partners
- 550+ employees worldwide
- Capitalized for success (lead funding from Sequoia Capital and Wellington)

CREDIBILITY

HEALTHCARE:







EXPERTISE

- **System Integrator Augmentation**
Data integration experts for payers, providers and HIT vendors
- **24x7 Expert Support**
From true engineers
- **Online Community**
Free dev software, collaborate with tens of thousands of people
- **Free Training**
Web-based and instructor-led

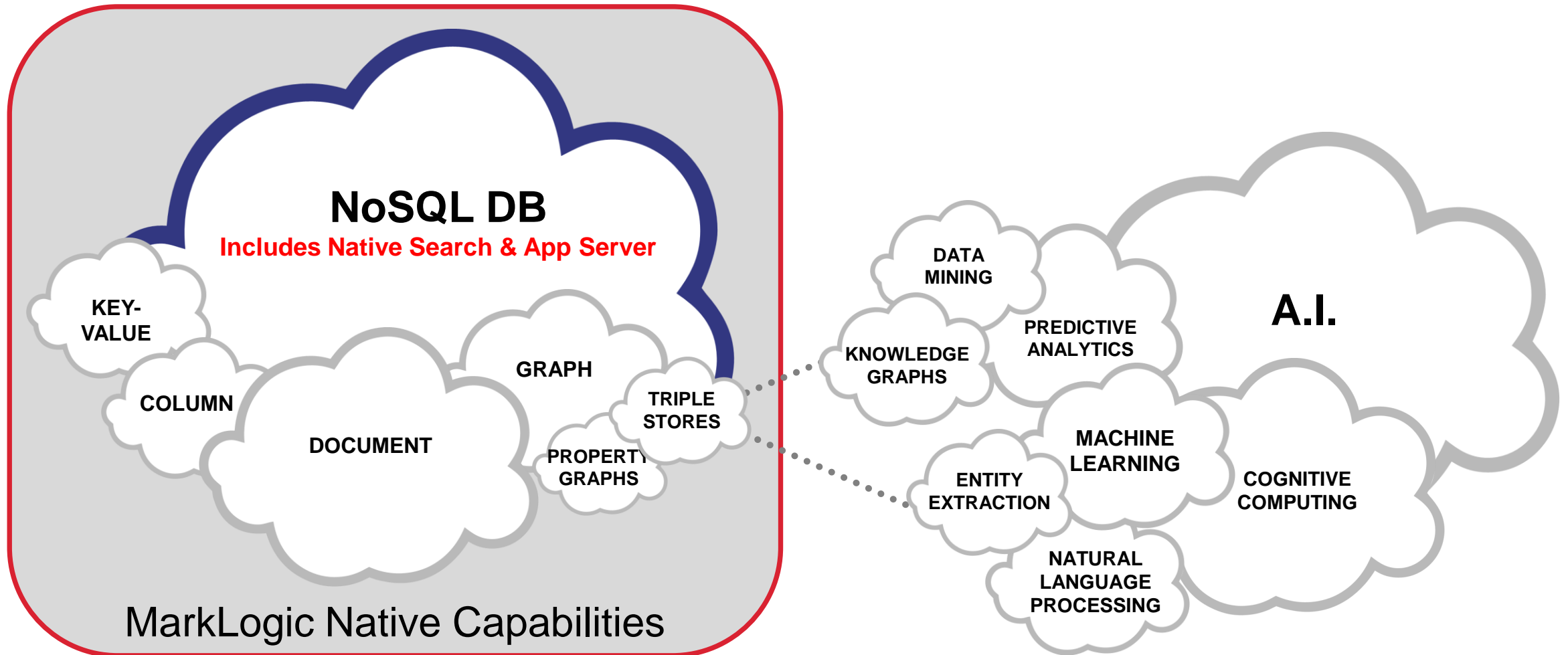
What is MarkLogic?



Multi-Model – Power, Flexibility, Composability

























	 JSON	 XML	 RDF	 JSON/XML + RDF
USAGE	STRUCTURED DATA STORED AS OBJECTS	STRUCTURED / UNSTRUCTURED DATA & TEXT	FACTS & RELATIONSHIPS	SYSTEMS OF ENTITIES & RELATIONSHIPS
DESCRIPTION	<ul style="list-style-type: none"> ▪ Schema-agnostic ▪ Query with JavaScript ▪ Compact, fast to parse ▪ 6 kinds of values: objects, arrays, floats, strings, booleans, nulls ▪ Avoids namespaces, comments, attributes ▪ Common data format for the web 	<ul style="list-style-type: none"> ▪ Schema-agnostic ▪ Query with XQuery ▪ Can store objects, sets, and many data types such as dates, durations, integers, etc ▪ Uses namespaces, comments, and attributes ▪ More maturity than JSON as a data model 	<ul style="list-style-type: none"> ▪ Define facts and relationships ▪ Atomic structure ▪ Universal standards (RDF and SPARQL) ▪ Used for reference data, metadata 	<ul style="list-style-type: none"> ▪ Documents can contain triples ▪ Triples can annotate documents ▪ Graphs of triples can contain documents ▪ Enhanced querying: <ul style="list-style-type: none"> - Expand/Restrict document search - Enhance graph search

Multi-Model Data Platform vs. Standalone Tools



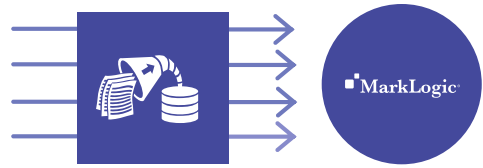
Not Just a NoSQL Database ... An Enterprise Platform

Native advanced features add greater value and deliver a simplified enterprise architecture

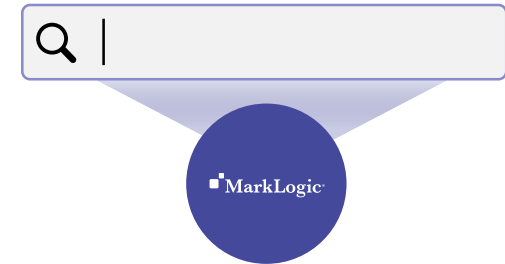
Features	MarkLogic	Relational Databases	Other NoSQL Databases
Flexible Data Model			
Search and Query			
Semantics			
Scalability and Elasticity			
ACID Transactions			
Certified Security			
HADR			
Hadoop Integration			

Modern Data Journey: MarkLogic Data Hub Pattern

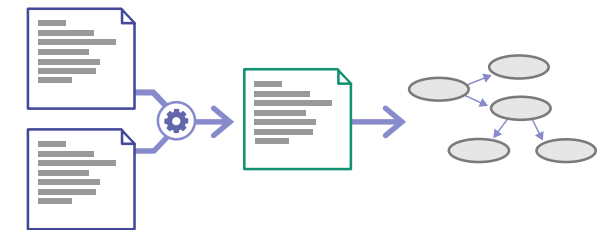
1 Ingest Data As-Is



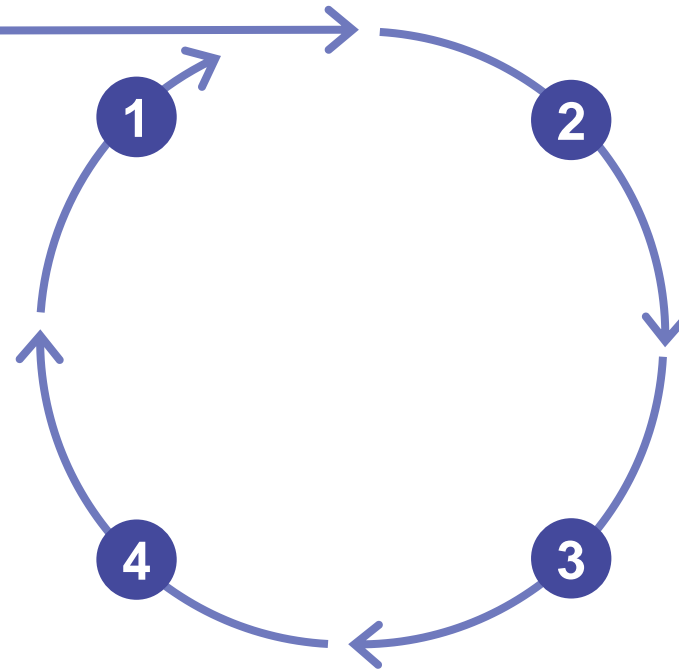
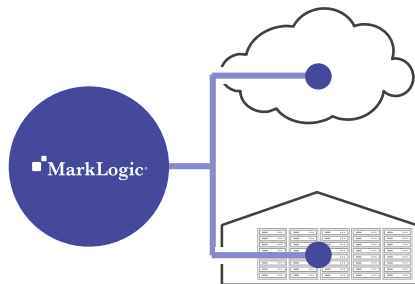
2 Access the Data



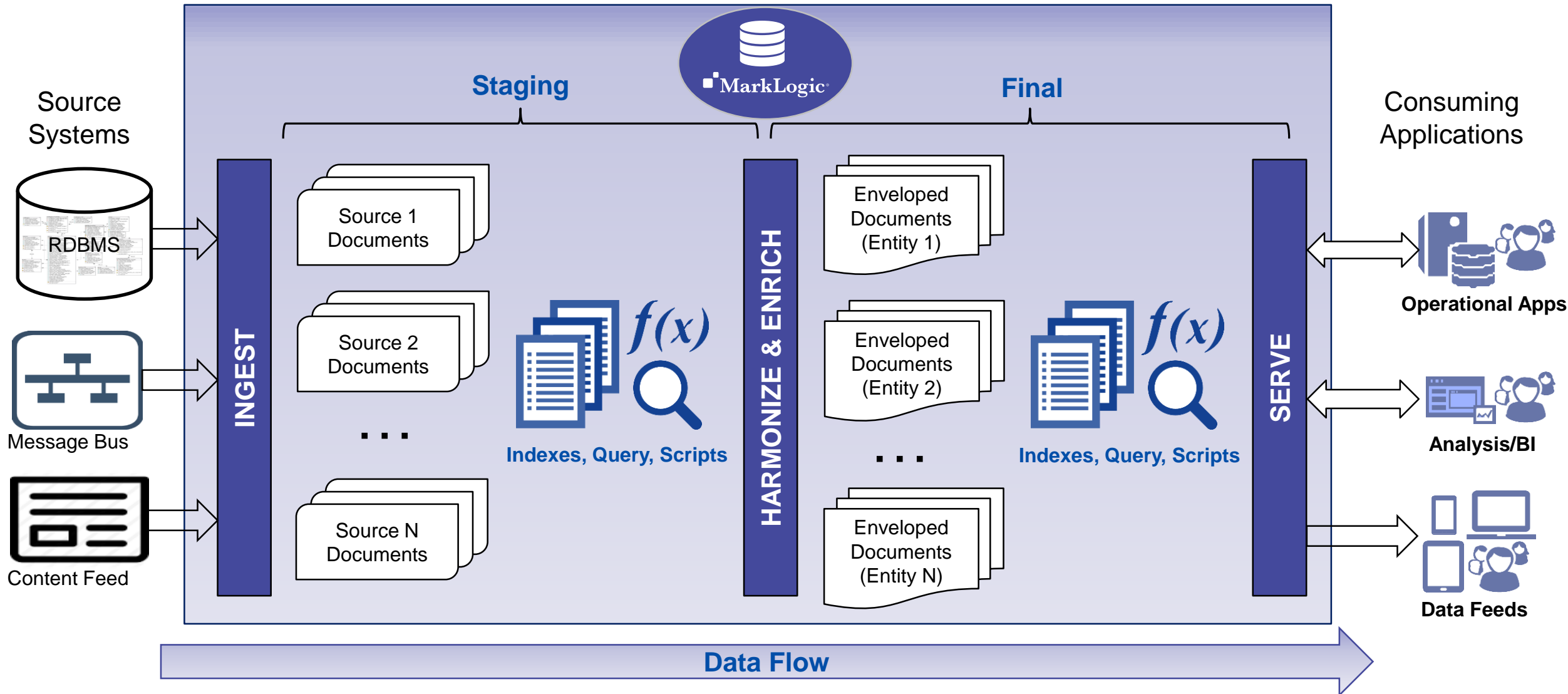
3 Harmonize & Enrich the Data



4 Operationalize & Serve



MarkLogic Data Hub Framework



Operational Data Hub

