

Agile Mastering: A New Way of Thinking about MDM

Michael Doane, Solutions Director, MarkLogic

MANY DEFINITIONS

What is Master Data Management?

“MDM is the consistent and uniform set of identifiers and extended attributes that describe the core entities of the enterprise and are used across multiple business processes.”

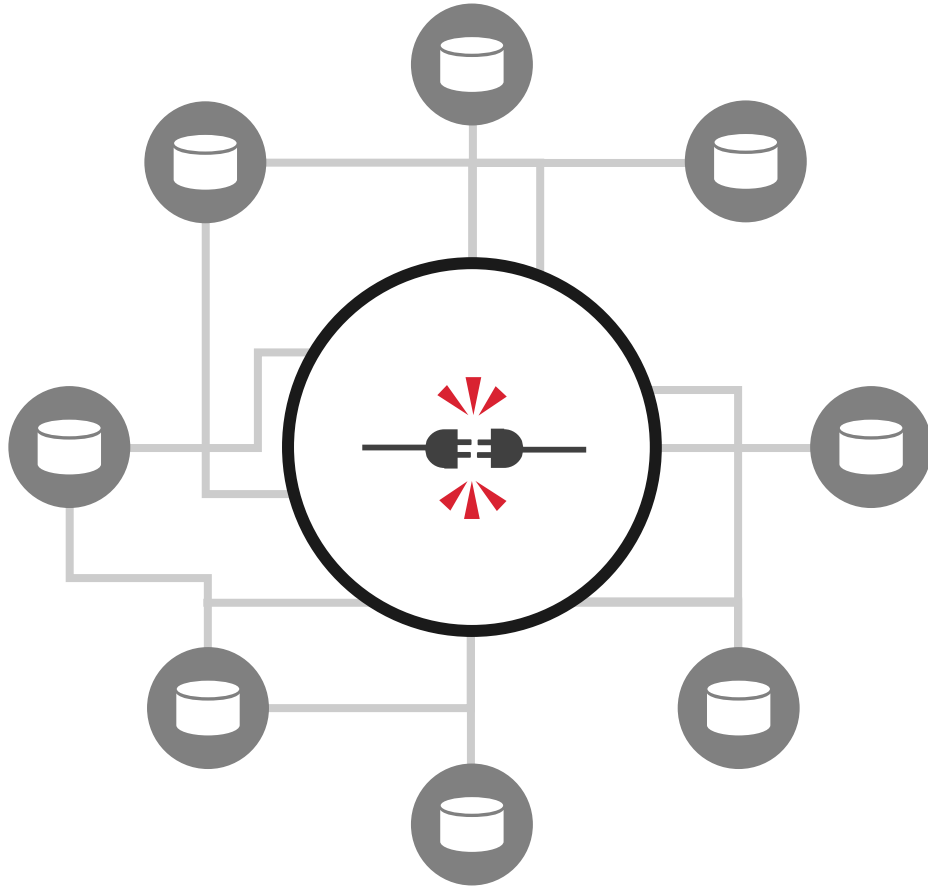
— Gartner

“The set of disciplines and methods to ensure the currency, meaning, quality, and deployment of a company’s reference data within and across subject areas.”

— Baseline Consulting

“A set of disciplines, processes and technologies, for ensuring the accuracy, completeness, timeliness and consistency of multiple domains of enterprise data – across applications, systems and databases, and across multiple business processes, functional areas, organizations, geographies and channels.”

— Dan Power, Hub Designs



WHY MDM IS NEEDED

Getting a Common View Across Data Silos

- Patients
- Customers
- Products
- Pharmaceuticals

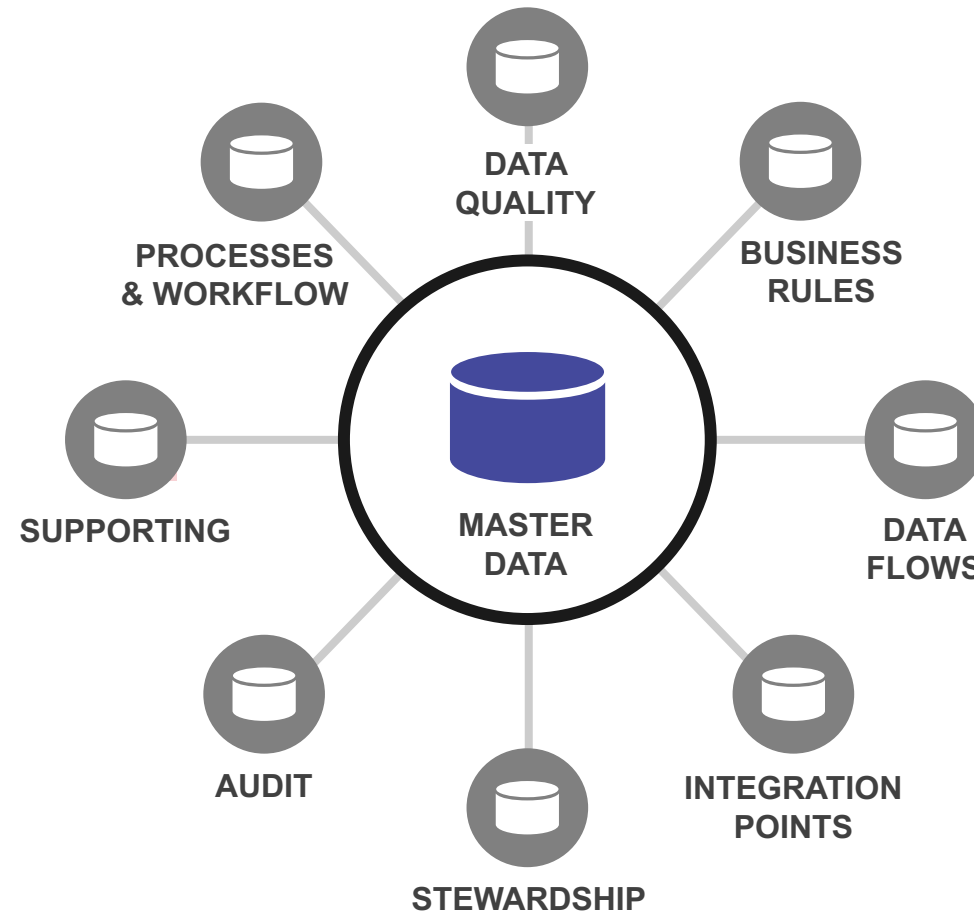
Mastering Data Makes Sense

... But ...

- Replace diagram with new version?

MANY COMPONENTS

MDM is Complex



Traditional MDM Faces Strong Headwinds

- Lengthy modeling & ETL design processes = slow progress, dwindling interest, brittle to adapt to changes in goals and data
- Some successes in personnel and custom siloed solutions
- Usually owned by IT and disconnected from the impact to the enterprise's profit and loss
- Chasing a truth-based model with a rigid golden definition vs. a trust-based model with a golden portion and flexibility to capture and keep all data

Traditional Lengthy Lifecycle of RDBMS-based MDM

Analyze Data Sources | Create Data Dictionary

Create Canonical List of Entities & Attributes

Create Canonical Data Model

Map Sources to Data Model

Write & Test ETL processes

Load Data

Write & Test Disambiguation Rules

Write & Test Data Source Priority Rules

Functional Testing

Query Writing

Gather DQ Metrics

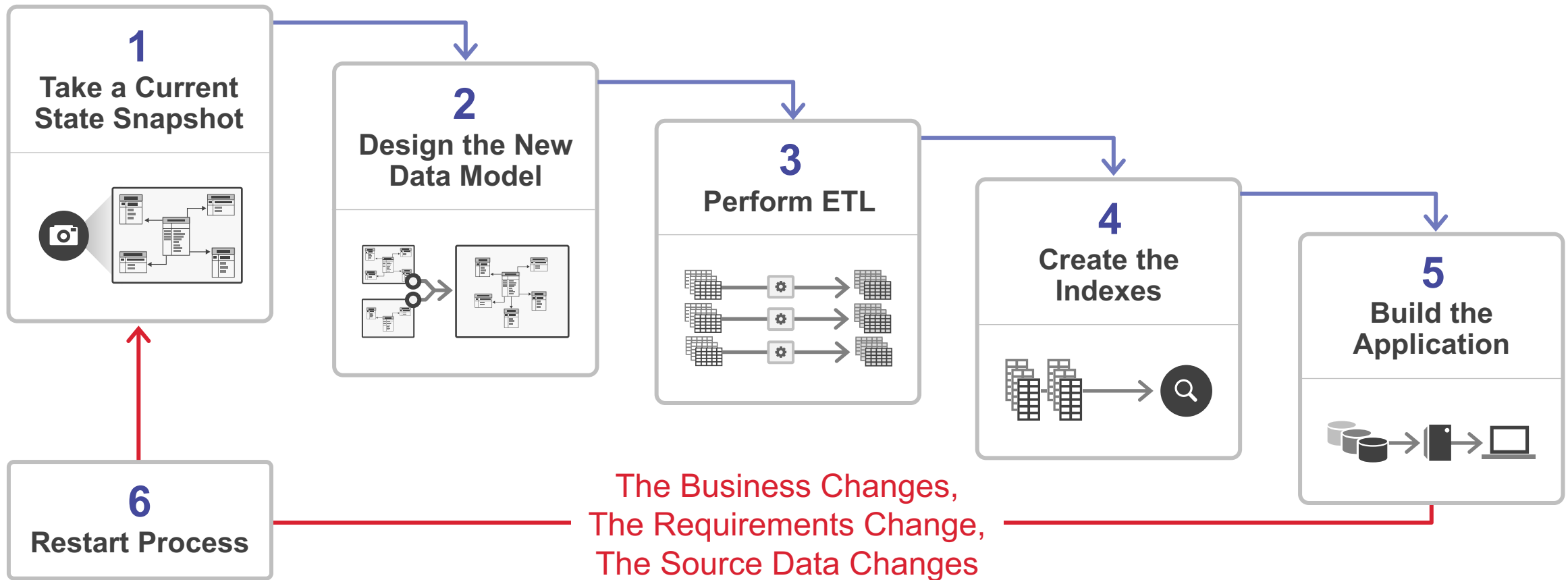
Data Cleansing Operations

Performance Testing

Development Time



The Problem With the Relational Approach



Repeat This Again?

Analyze Data Sources | Create Data Dictionary

Create Canonical List of Entities & Attributes

Create Canonical Data Model

Map Sources to Data Model

Write & Test ETL processes

Load Data

Write & Test Disambiguation Rules

Write & Test Data Source Priority Rules

Functional Testing

Query Writing

Gather DQ Metrics

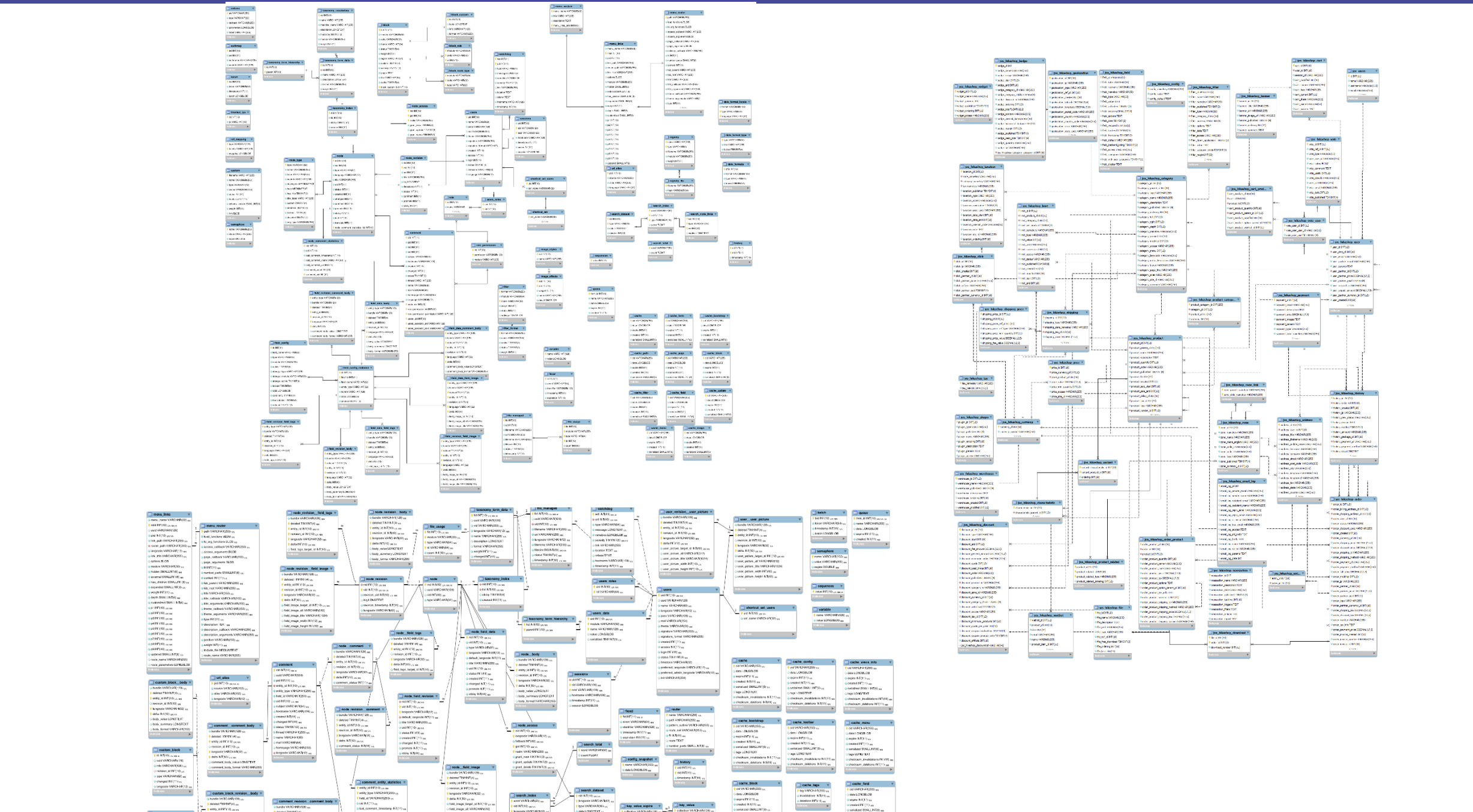
Data Cleansing Operations

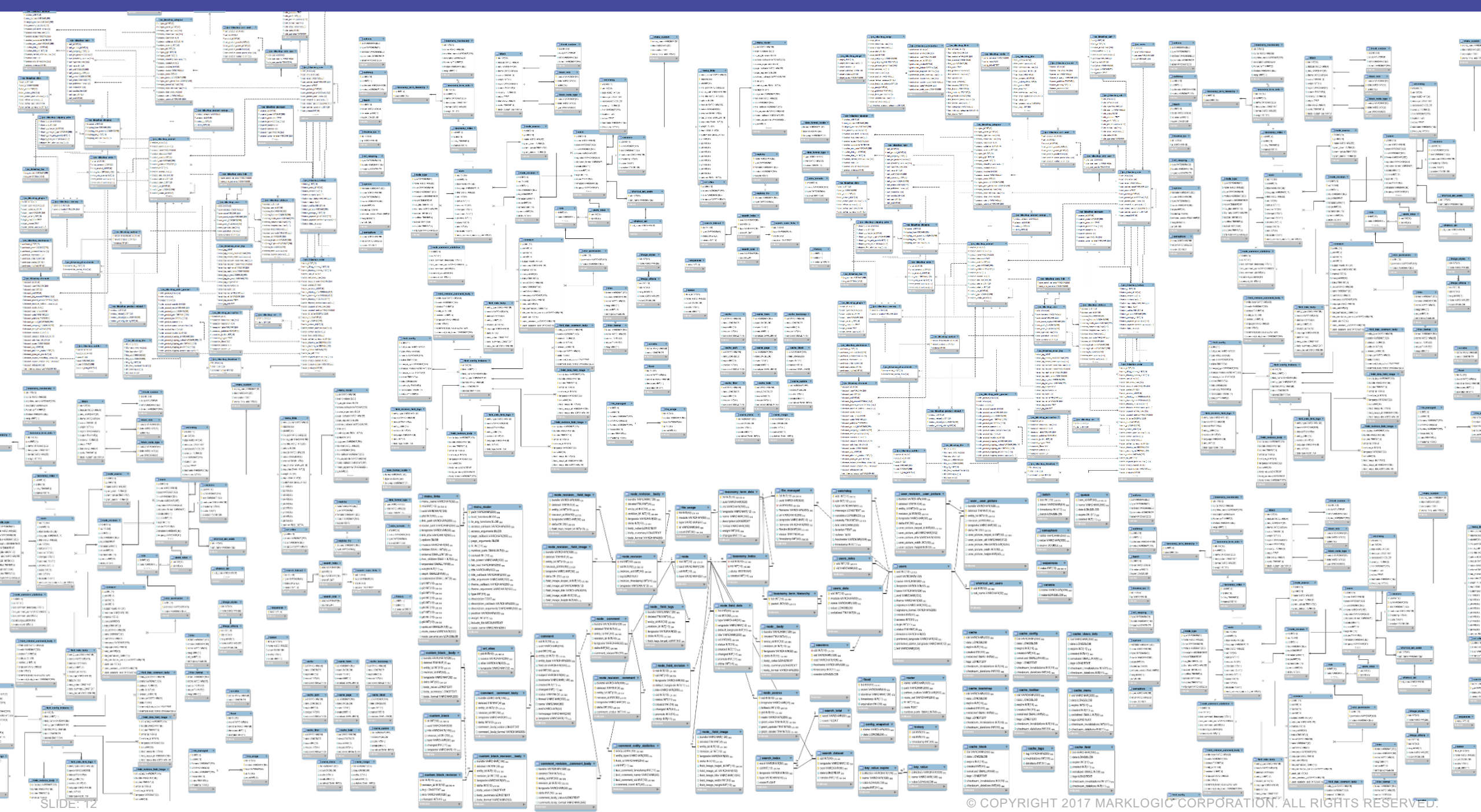
Performance Testing

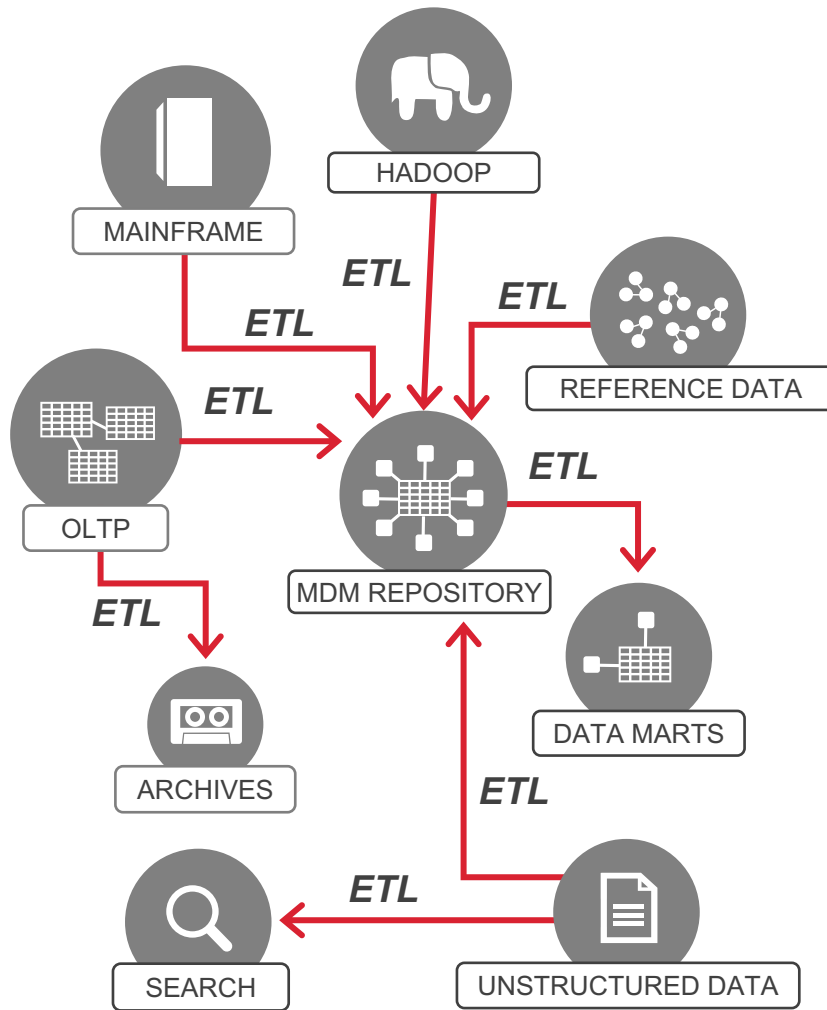
Development Time



STILL UNSURE WHY IT'S SO HARD?



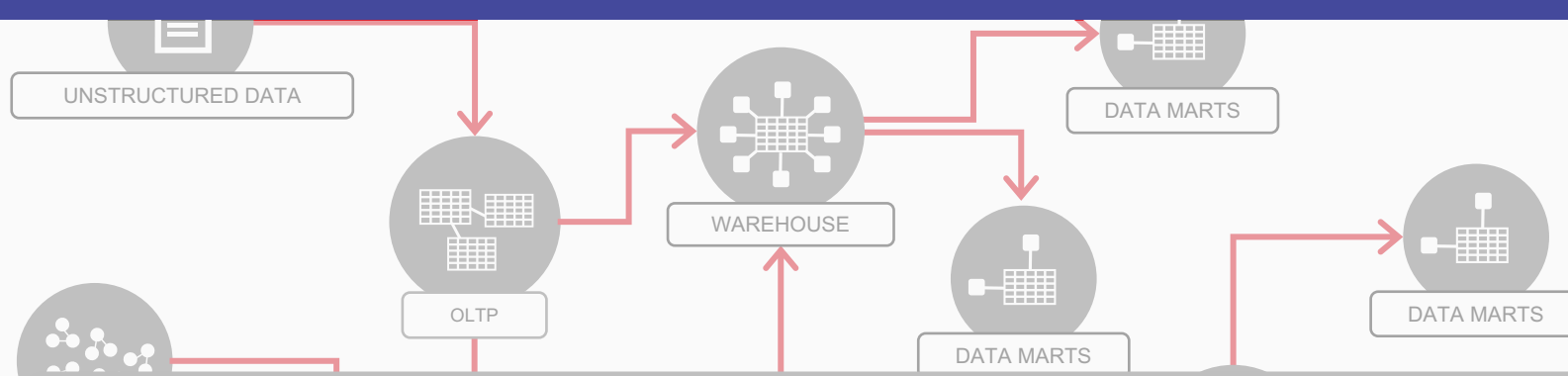




UNFORTUNATE REALITY

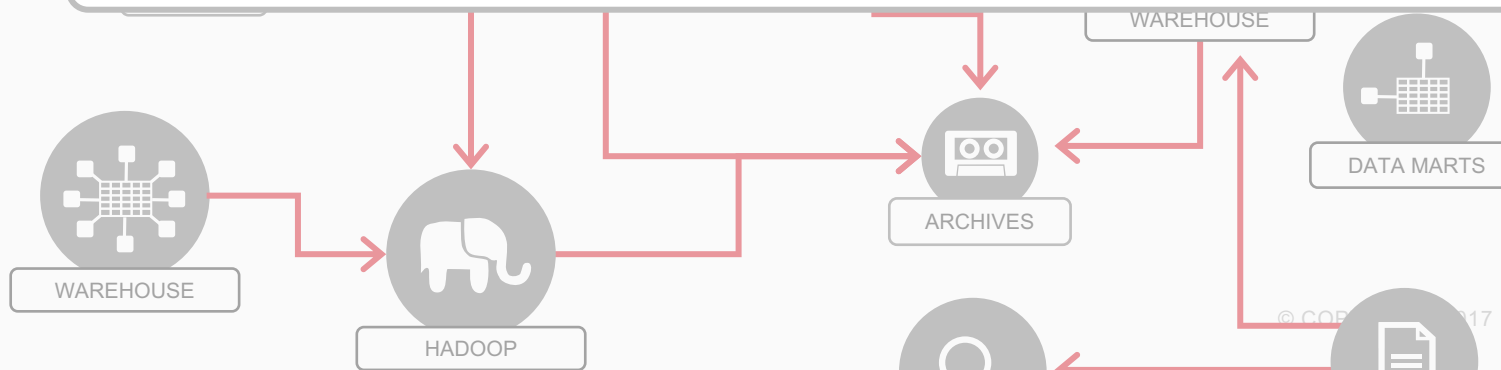
Traditional Data Integration Is Complex and Fractured

- RDBMS for highly structured data
- Specialized databases for other data types
- ETL and integration software to connect silos
- ...and, what about ***hierarchical data***?
- ...and, what about ***unstructured content***?
- ...maybe a ***data lake*** will help?



Traditional Data Integration

- **Complex** – Fixed schemas and sprawling components
- **Slow** – Too long to develop, deploy, and update
- **Expensive** – High costs for software and personnel
- **Brittle** – Changes become overwhelming

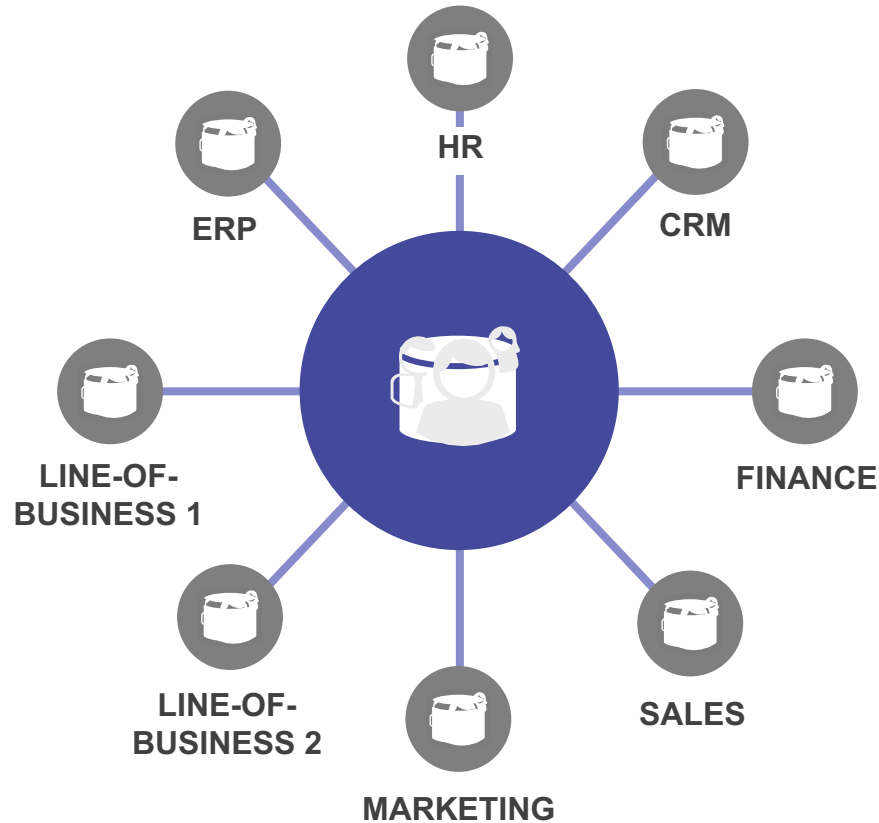




A NEW APPROACH

Re-thinking Master Data Management

- Achieve progress incrementally
- Tie to business drivers and events
- Reduce duplicate data and lengthy ETL processes
- Adjust to change



FIX THE ARCHITECTURE

Operational Data Hub

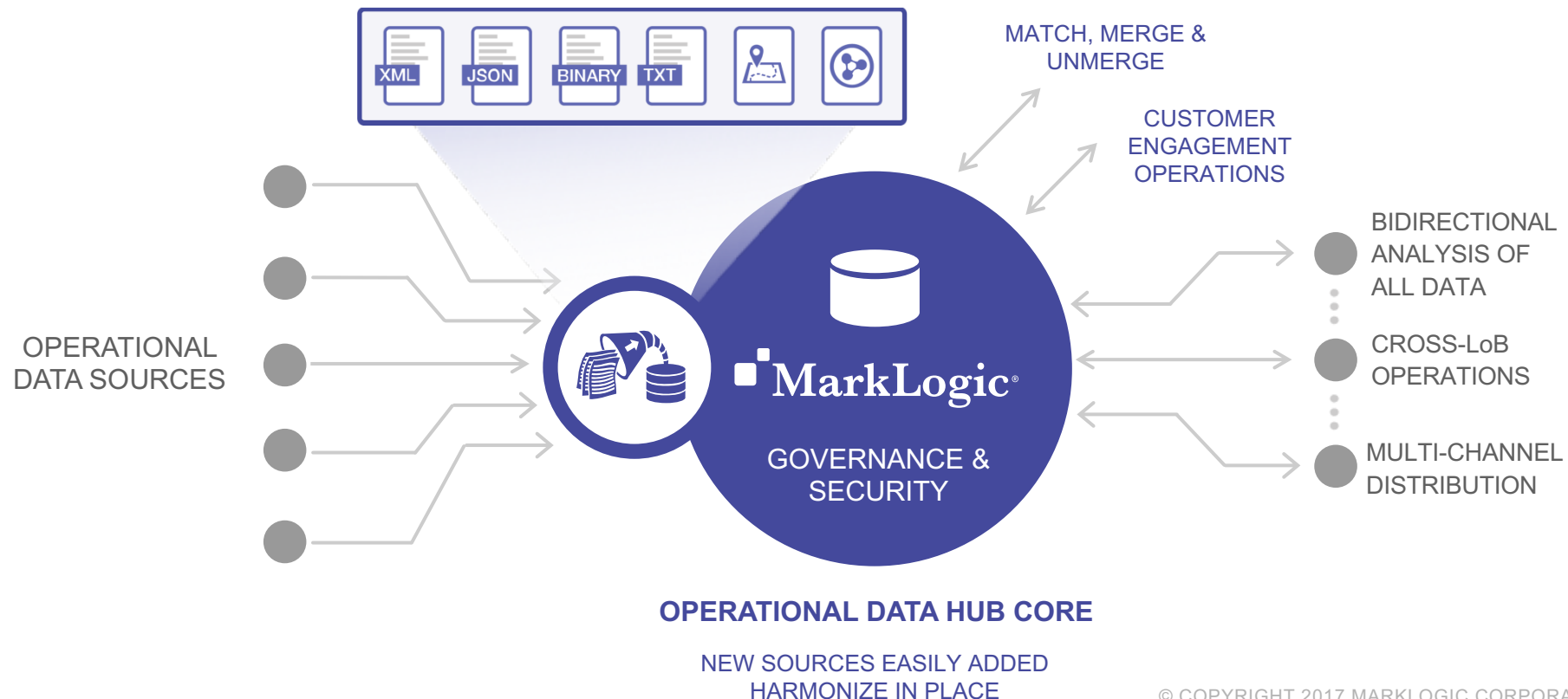
- 360 views of important entities
- Direct integration with transactional applications
- Real-time
- Handle volume, variety, velocity (like a data lake)

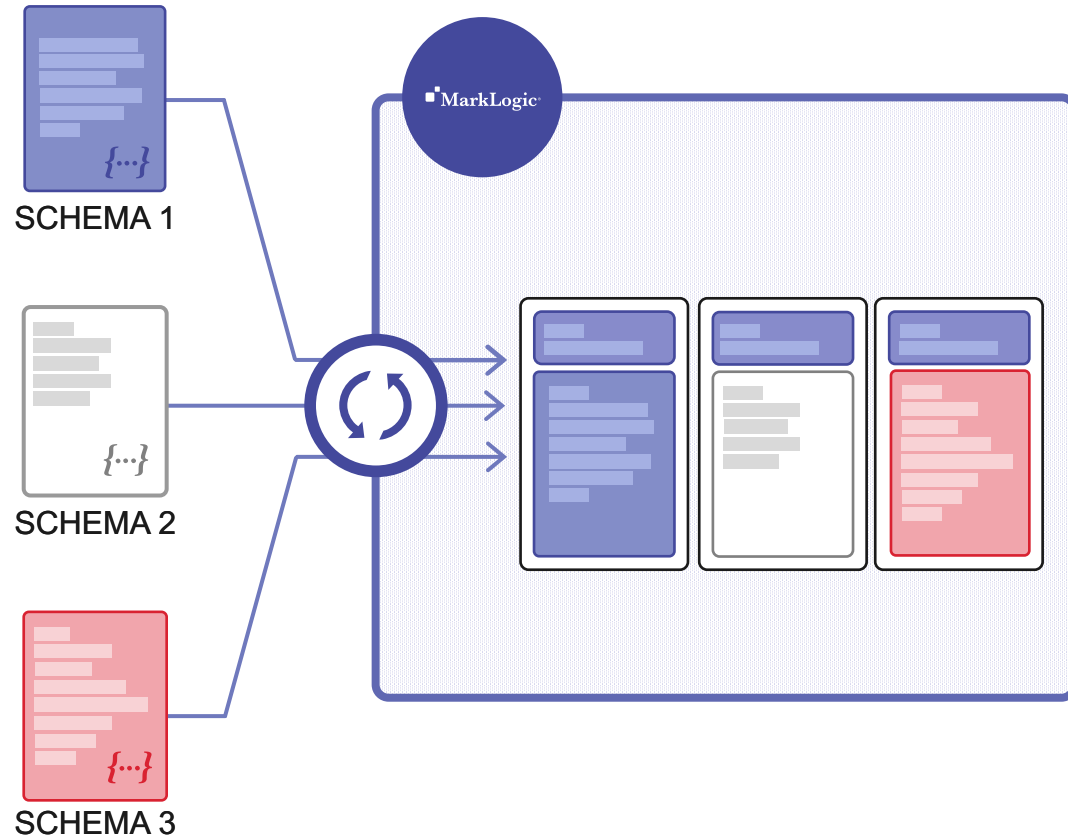
A NEW APPROACH TO MDM

Agile Mastering

ODH-Integrated: Supports the trend towards multi-domain MDM

Go from 'collecting' to 'connecting' data for all your domains





A NEW APPROACH

Agile Mastering

Schema-agnostic: Load “as-is”,
minimize ETL, incrementally deliver
results early on, maintain buy-in

CUSTOMER ENGAGEMENT OPERATIONS



A NEW APPROACH

Agile Mastering

Contextual: Improved data quality through minimizing data duplication at point of engagement

```
<?xml version="1.0" encoding="UTF-8"?>
<?xml version="1.0" encoding="UTF-8"?>
<es:envelope xmlns:es="http://marklogic.com/entity-services">
  <document xmlns="http://www.w3.org/ns/prov#">
    <activity xmlns:prov="http://prov#"
      prov:id="/auditing#merge/e4c664e1-ffe2-457d-b73a-46fb7a2d2625.xml-15280186555938034808">
      <type xsi:type="xsd:string">merge</type>a
      <label>merge by admin</label>
    </activity>
    <entity xmlns:prov="http://prov#" prov:id="/auditing#/Person/208.xml">
      <type xsi:type="xsd:string">contributing record for merge</type>
      <label>/CSV_FILE/Person/208.xml</label>
    </entity>
    <entity xmlns:prov="http://prov#" prov:id="/auditing#/Person/199.xml">
      <type xsi:type="xsd:string">contributing record for merge</type>
      <label>/CSV_FILE/Person/199.xml</label>
    </entity>
    <entity xmlns:prov="http://prov#" prov:id="/auditing#/merged/2d2625.xml">
      <type xsi:type="xsd:string">result of record merge</type>
      <label>/com.marklogic.agile-mastering/merged/2-457d-b73a-46fb7a2d2625.xml</label>
    </entity>
    <wasDerivedFrom>
      <generatedEntity xmlns:prov="http://prov#"
        prov:ref="/auditing#/merged/46fb7a2d2625.xml" />
      <usedEntity xmlns:prov="http://prov#" prov:ref="/auditing#/Person/208.xml"/>
      <activity xmlns:prov="http://prov#"
        prov:ref="/auditing#merge/2-457d-b73a-46fb7a2d2625.xml-15280186555938034808">
      </wasDerivedFrom>
    </wasDerivedFrom>
    <agent xmlns:prov="http://prov#"
      prov:id="http://marklogic.com/agile-mastering/auditing#user-admin">
    </agent>
    <wasAttributedTo>
    </wasAttributedTo>
    <wasGeneratedBy>
    </wasGeneratedBy>
    <entity xmlns:prov="http://prov#"
      prov:id="/auditing#/CSV_FILE/Person/199.xmlPersonNamebcc184075b">
    </entity>
    <wasDerivedFrom>
    </wasDerivedFrom>
    <entity xmlns:prov="http://prov#"
      prov:id="/auditing#/CSV_FILE/Person/199.xmlidcf83e135">
    </entity>
    /triplestore/5b8e174236b572b3.xml
    <sem:triples xmlns:sem="http://marklogic.com/semantics">
      <sem:triple><sem:subject>http://agile-mastering/auditing#attribution-admin-917c1c40-d2b8-404692ec95d33ae1bbf8</sem:subject>
      <sem:predicate>http://www.w3.org/1999/02/22-rdf-syntax-ns#type</sem:predicate>
      <sem:object>http://www.w3.org/ns/prov#Attribution</sem:object>
    </sem:triple>
    <sem:triple>
    </sem:triple>
    <sem:triple>
    </sem:triple>
    </sem:triples>
```

SIDECAR

A NEW APPROACH

Agile Mastering

All the Data: Master a subset and keep all source data in original formats; reverse changes or unmerge at any time

Agile Mastering Pre-Merge Source Docs

```
<?xml version="1.0" encoding="UTF-8"?>
<envelope xmlns="entity-services" xmlns:agile-mastering="/agile-mastering">
  <headers>
    <agile-mastering:id>a668214b-210f-4b66-8ead-0d11081f7005</agile-mastering:id>
    <agile-mastering:sources>
      <agile-mastering:source>
        <agile-mastering:name>CSV_FILE</agile-mastering:name>
        <agile-mastering:import-id>mdm-import-1c1ae2ce-79d4-470f-a2e5-a5</agile-mastering:import-id>
        <agile-mastering:user>admin</agile-mastering:user>
        <agile-mastering:dateTime>2017-03-27T22:36:39.624185Z</agile-mastering:dateTime>
      </agile-mastering:source>
    </agile-mastering:sources>
  </headers>
  <triples/>
  <instance>
    <MDM xmlns="">
      <Person>
        <PersonName>
          <PersonGivenName>JILL</PersonGivenName>
          <PersonSurName>DEMODEC</PersonSurName>
        </PersonName>
        <id>199</id>
        <Address>
          <LocationState>MD</LocationState>
          <AddressPrivateMailboxText>9999</AddressPrivateMailboxText>
          <AddressSecondaryUnitText>VIRGINIA</AddressSecondaryUnitText>
          <LocationPostalCode>215020000</LocationPostalCode>
          <LocationCityName>CUMBERLAND</LocationCityName>
        </Address>
        <PersonSSNIdentification>
          <IdentificationID>73777777</IdentificationID>
        </PersonSSNIdentification>
      </Person>
    </MDM>
  </instance>
  <attachments>
    <person xmlns="">
      <LIVING_ARRANGEMENT_TYPE_CODE>AH</LIVING_ARRANGEMENT_TYPE_CODE>
      <CL_FIRST_NAME>JILL</CL_FIRST_NAME>
      <STREET_TYPE_CODE>AVE</STREET_TYPE_CODE>
      <AU_RR_PRD_START_DT>201606</AU_RR_PRD_START_DT>
      <CLIENT_ID>199</CLIENT_ID>
      <DOB>19900101</DOB>
      <ZIPCODE_RES>215020000</ZIPCODE_RES>
      <UI_FREQ_CD>-</UI_FREQ_CD>
      <STREET_2_ADDRESS_RES/>
      <DISABILITY_TYPE_CODE>-</DISABILITY_TYPE_CODE>
```

SOURCE #1

```
<?xml version="1.0" encoding="UTF-8"?>
<envelope xmlns="/entity-services" xmlns:agile-mastering="/agile-mastering">
  <headers>
    <agile-mastering:id>3d39141a-ad6e-44b3-8884-8b6f685727e6</agile-mastering:id>
    <agile-mastering:sources>
      <agile-mastering:source>
        <agile-mastering:name>CSV_FILE</agile-mastering:name>
        <agile-mastering:import-id>mdm-import-1c1ae2ce-79d4-470f-a2e5-a5</agile-mastering:import-id>
        <agile-mastering:user>admin</agile-mastering:user>
        <agile-mastering:dateTime>2017-03-27T22:36:39.624185Z</agile-mastering:dateTime>
      </agile-mastering:source>
    </agile-mastering:sources>
  </headers>
  <triples/>
  <instance>
    <MDM xmlns="">
      <Person>
        <PersonName>
          <PersonGivenName>JILLIAN</PersonGivenName>
          <PersonSurName>DEMODEC</PersonSurName>
        </PersonName>
        <id>208</id>
        <Address>
          <LocationState>MD</LocationState>
          <AddressPrivateMailboxText>9999</AddressPrivateMailboxText>
          <AddressSecondaryUnitText>VIRGINIA</AddressSecondaryUnitText>
          <LocationPostalCode>215020000</LocationPostalCode>
          <LocationCityName>CUMBERLAND</LocationCityName>
        </Address>
        <PersonSSNIdentification>
          <IdentificationID>73777777</IdentificationID>
        </PersonSSNIdentification>
      </Person>
    </MDM>
  </instance>
  <attachments>
    <person xmlns="">
      <LIVING_ARRANGEMENT_TYPE_CODE>AH</LIVING_ARRANGEMENT_TYPE_CODE>
      <CL_FIRST_NAME>JILLIAN</CL_FIRST_NAME>
      <STREET_TYPE_CODE>AVE</STREET_TYPE_CODE>
      <AU_RR_PRD_START_DT>201606</AU_RR_PRD_START_DT>
      <CLIENT_ID>208</CLIENT_ID>
      <DOB>19900101</DOB>
      <ZIPCODE_RES>215020000</ZIPCODE_RES>
      <UI_FREQ_CD>-</UI_FREQ_CD>
      <STREET_2_ADDRESS_RES/>
      <DISABILITY_TYPE_CODE>-</DISABILITY_TYPE_CODE>
```

SOURCE #2

Agile Mastering Merged – All The Data - Sidecar Doc

```
<es:envelope xmlns:es="http://marklogic.com/entity-services">
  <es:headers>
    <agile-mastering:id xmlns:agile-mastering="/agile-mastering">
      27466526-12b6-4af1-8e76-3ad247d6c08e
    </agile-mastering:id>
    <agile-mastering:merges xmlns:agile-mastering="http://marklogic.com/agile-mastering">
      <agile-mastering:document-uri>/CSV_FILE/Person/208.xml</agile-mastering:document-uri>
      <agile-mastering:document-uri>/CSV_FILE/Person/199.xml</agile-mastering:document-uri>
    </agile-mastering:merges>
    <agile-mastering:sources xmlns:agile-mastering="http://marklogic.com/agile-mastering">
      <agile-mastering:source>
        <agile-mastering:name>CSV_FILE</agile-mastering:name>
        <agile-mastering:import-id>mdm-import-a9251bcb-a9ee-45f5-88a8-fc</agile-mastering:import-id>
        <agile-mastering:user>admin</agile-mastering:user>
        <agile-mastering:dateTime>2017-04-06T18:22:14.158686Z</agile-mastering:dateTime>
      </agile-mastering:source>
      <agile-mastering:source>
        <agile-mastering:name>CSV_FILE</agile-mastering:name>
        <agile-mastering:import-id>mdm-import-a9251bcb-a9ee-45f5-88a8-fc</agile-mastering:import-id>
        <agile-mastering:user>admin</agile-mastering:user>
        <agile-mastering:dateTime>2017-04-06T18:22:14.158686Z</agile-mastering:dateTime>
      </agile-mastering:source>
    </agile-mastering:sources>
  </es:headers>
  <es:instance>
    <MDM>
      <Person>
        <Address>
          <LocationState>MD</LocationState>
          <AddressPrivateMailboxText>9999</AddressPrivateMailboxText>
          <AddressSecondaryUnitText>VIRGINIA</AddressSecondaryUnitText>
          <LocationPostalCode>215020000</LocationPostalCode>
          <LocationCityName>CUMBERLAND</LocationCityName>
        </Address>
        <PersonName>
          <PersonGivenName>JILLIAN</PersonGivenName>
          <PersonSurName>DEMODEC</PersonSurName>
        </PersonName>
        <PersonSSNIdentification>
          <IdentificationID>73777777</IdentificationID>
        </PersonSSNIdentification>
        <id datatype="array">208</id>
        <id datatype="array">199</id>
      </Person>
    </MDM>
  </es:instance>
</es:envelope>
```

MERGED

```
<document xmlns="http://www.w3.org/ns/prov#">
  <activity xmlns:prov="http://prov#"
    prov:id="/auditing#merge/e4c664e1-ffe2-457d-b73a-46fb7a2d2625.xml-1528018655938034808">
    <type xsi:type="xsd:string">merge</type>a
    <label>merge by admin</label>
  </activity>
  <entity xmlns:prov="http://prov#" prov:id="/auditing#/Person/208.xml">
    <type xsi:type="xsd:string">contributing record for merge</type>
    <label>/CSV_FILE/Person/208.xml</label>
  </entity>
  <entity xmlns:prov="http://prov#" prov:id="/auditing#/Person/199.xml">
    <type xsi:type="xsd:string">contributing record for merge</type>
    <label>/CSV_FILE/Person/199.xml</label>
  </entity>
  <entity xmlns:prov="http://prov#" prov:id="/auditing#/merged/2d2625.xml">
    <type xsi:type="xsd:string">result of record merge</type>
    <label>/com.marklogic.agile-mastering/merged/2-457d-b73a-46fb7a2d2625.xml</label>
  </entity>
  <wasDerivedFrom>
    <generatedEntity xmlns:prov="http://prov#"
      prov:ref="/auditing#/merged/46fb7a2d2625.xml" />
    <usedEntity xmlns:prov="http://prov#" prov:ref="/auditing#/Person/208.xml"/>
    <activity xmlns:prov="http://prov#"
      prov:ref="/auditing#merge/2-457d-b73a-46fb7a2d2625.xml-1528018655938034808">
    </wasDerivedFrom>
  </wasDerivedFrom>
  <agent xmlns:prov="http://prov#"
    prov:id="http://marklogic.com/agile-mastering/auditing#user-admin">
  </agent>
  <wasAttributedTo>
  </wasAttributedTo>
  <wasGeneratedBy>
  </wasGeneratedBy>
  <entity xmlns:prov="http://prov#"
    prov:id="/auditing#/CSV_FILE/Person/199.xmlPersonNamebcc184075b">
  </entity>
  <wasDerivedFrom>
  </wasDerivedFrom>
  <entity xmlns:prov="http://prov#"
    prov:id="/auditing#/CSV_FILE/Person/199.xmlidcf83e135">
  </entity>
  /triplestore/5b8e174236b572b3.xml
  <sem:triples xmlns:sem="http://marklogic.com/semantics">
    <sem:triple><sem:subject>http://agile-mastering/auditing#attribution-admin-917c1c40-d2b8-404692ec95d33ae1bbf8</sem:subject>
    <sem:predicate>http://www.w3.org/1999/02/22-rdf-syntax-ns#type</sem:predicate>
    <sem:object>http://www.w3.org/ns/prov#Attribution</sem:object>
  </sem:triple>
    <sem:triple>
    </sem:triple>
    <sem:triple>
    </sem:triple>
  </sem:triples>
```

SIDECAR

```
{ "metadata": {  
  "Source": "Finance",  
  "Date": "2016-04-17",  
  "Lineage": "v01 transform" },  
  "canonical": { "Zip": [ 94111 ] },  
  "source": { "ID": 1001 ,  
    "Fname": "Paul",  
    "Lname": "Jackson",  
    "Phone": "415-555-1212 | 415-555-1234",  
    "SSN": "123-45-6789",  
    "Addr": "123 Avenue Road",  
    "City": "San Francisco",  
    "State": "CA",  
    "Zip": 94111 } }  
{ "metadata": {  
  "Source": "TwitterDB",  
  "Date": "2016-04-17",  
  "Lineage": "x23Trans",  
  "canonical": { "Twitter": "@PaulJackson" }  
  { "ID": 9999 ,  
    "First": "Paul",  
    "Last": "Jackson",  
    "Handle": "@PaulJackson"
```

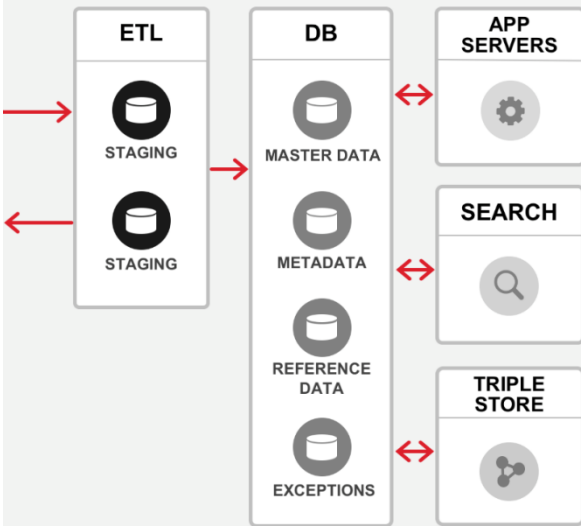
```
{ "metadata": {  
  "Source": "POS",  
  "Date": "2016-04-17",  
  "Lineage": "v01 transform" },  
  "canonical": { "Zip": [ 94111 , 94070 ] },  
  "source": { "Customer_ID": 2001 ,  
    "Given_Name": "Karen",  
    "Family_Name": "Bender",  
    "Shipping_Address": {  
      "Street": "324 Some Road",  
      "City": "San Francisco",  
      "State": "CA",  
      "Postal": "94111",  
      "Country": "USA" },  
    "Billing_Address": {  
      "Street": "847 Another Ave",  
      "City": "San Carlos",  
      "State": "CA",  
      "Postal": "94070",  
      "Country": "USA" },  
    "Phone": [  
      { "Type": "Home", "Number": "415-555-6789" },  
      { "Type": "Mobile", "Number": "415-555-6789" } ] ] }
```

A NEW APPROACH

Agile Mastering

Metadata Unlimited: Maintain
data provenance, change history,
security on every data element

fragmented



modern



A NEW APPROACH

Agile Mastering

Simplified Architecture: Database, Search, Application Services, Security and more in one QA'd platform

Patient Information

Thank you for choosing our office! In order to serve you properly, we need the following information.
Please print. All information will be confidential.

Date _____ Patient name _____ SSN _____ Patient # _____
 _____ Male ☐ Female ☐ Birthdate _____ Home phone _____
 Address _____ City _____ State _____ Zip _____
 Check appropriate box: ☐ Minor ☐ Single ☐ Married ☐ Separated ☐ Divorced ☐ Widowed
 Patient's or parent's employer _____ Work phone _____
 Business address _____ City _____ State _____ Zip _____
 Spouse or parent's name _____ Employer _____ Work phone _____
 If patient is a student, name of school/college _____ City _____ State _____
 Whom may we thank for referring you? _____
 Person to contact in case of emergency _____ Phone _____

Responsible Party

Name of person responsible for this account _____ Relationship to patient _____
 Address _____ Home phone _____
 Driver's license # _____ Birthdate _____ Financial institution _____
 Employer _____ Work phone _____
 Is this person currently a patient in our office? ☐ Yes ☐ No

Insurance Information

Name of insured _____ Relationship to patient _____
 Birthdate _____ Social Security Number _____ Date employed _____
 Name of employer _____ Work phone _____
 Address of employer _____ City _____ State _____ Zip _____
 Insurance company _____ Group # _____ Union or local # _____
 Insurance co. address _____ City _____ State _____ Zip _____
 How much is your deductible? _____ How much have you used? _____ Max. annual benefit? _____

Do you have any additional insurance? ☐ Yes ☐ No If yes, complete the following:

Name of insured _____ Relationship to patient _____
 Birthdate _____ Social Security Number _____ Date employed _____
 Name of employer _____ Work phone _____
 Address of employer _____ City _____ State _____ Zip _____
 Insurance company _____ Group # _____ Union or local # _____
 Insurance co. address _____ City _____ State _____ Zip _____
 How much is your deductible? _____ How much have you used? _____ Max. annual benefit? _____

Authorization & Release
 I authorize release of any information concerning my (or my child's) health care, advice and treatment provided for the purpose of evaluating and administering claims for insurance benefits. I also hereby authorize payment of insurance benefits otherwise payable to me directly to the doctor.

X _____
 Signature of patient (or parent if minor) _____ Date _____

A NEW APPROACH

Agile Mastering

Logical Data Model: Entities represent naturally as Documents, not shredded.

The data in your workflows is in documents!

Relate the documents logically and meaningfully with semantic triples


```
<title>Continuity of Care Document</title>
<effectiveTime value="20140205020200" />
<confidentialityCode code="N" codeSystem="2.16.840.1.113883.5.25" />
<languageCode code="en-US"/>
<recordTarget><patientRole><!--Patient ID 000665834-01--><id
extension="000-66-5834" root="2.16.840.1.113883.4.1" />
<addr use="HP">
<streetAddressLine>1796 Country View Drive</streetAddressLine>
<city>Bloomington</city><state>NY</state><postalCode>12913</postalCode>
</addr>
<telecom value="tel:+1-339-301-8947" use="HP"/>
<patient>
<name><given>Paula</given><given>A</given><family>Monroe</family>
</name>
<administrativeGenderCode code="F" displayName="Female"
codeSystemName="HL7 AdministrativeGenderCodes"
codeSystem="2.16.840.1.113883.5.1" />
<birthTime value="19580318"/>
<maritalStatusCode code="D" displayName="Divorced"
codeSystem="2.16.840.1.113883.5.2" codeSystemName="MaritalStatusCode"/>
<raceCode displayName="White" code="2106-3"
codeSystem="2.16.840.1.113883.6.238" codeSystemName="CDC Race and
Ethnicity" />
<languageCommunication>
<languageCode code="en-US"/>
<preferenceInd value="true"/>
</languageCommunication>
</patient>
<assignedAuthor><id extension="2658947110" root="2.16.840.1.113883.4.6" />
<addr use="WP">
<streetAddressLine>2204 Brandywine Street</streetAddressLine>
<city>Keene</city><state>NY</state><postalCode>12942</postalCode>
</addr>
<telecom value="tel:+1-320-784-2019" use="WP"/>
<assignedPerson>
<name>
<given>Geoffrey</given><family>Riggs</family><suffix>MD</suffix>
</name>
</assignedPerson>
<representedOrganization><id
root="2.16.840.1.113883.4.450" />
<name>ExactData County MedicalCenter</name>
<telecom use="WP" nullFlavor="UNK" />
```

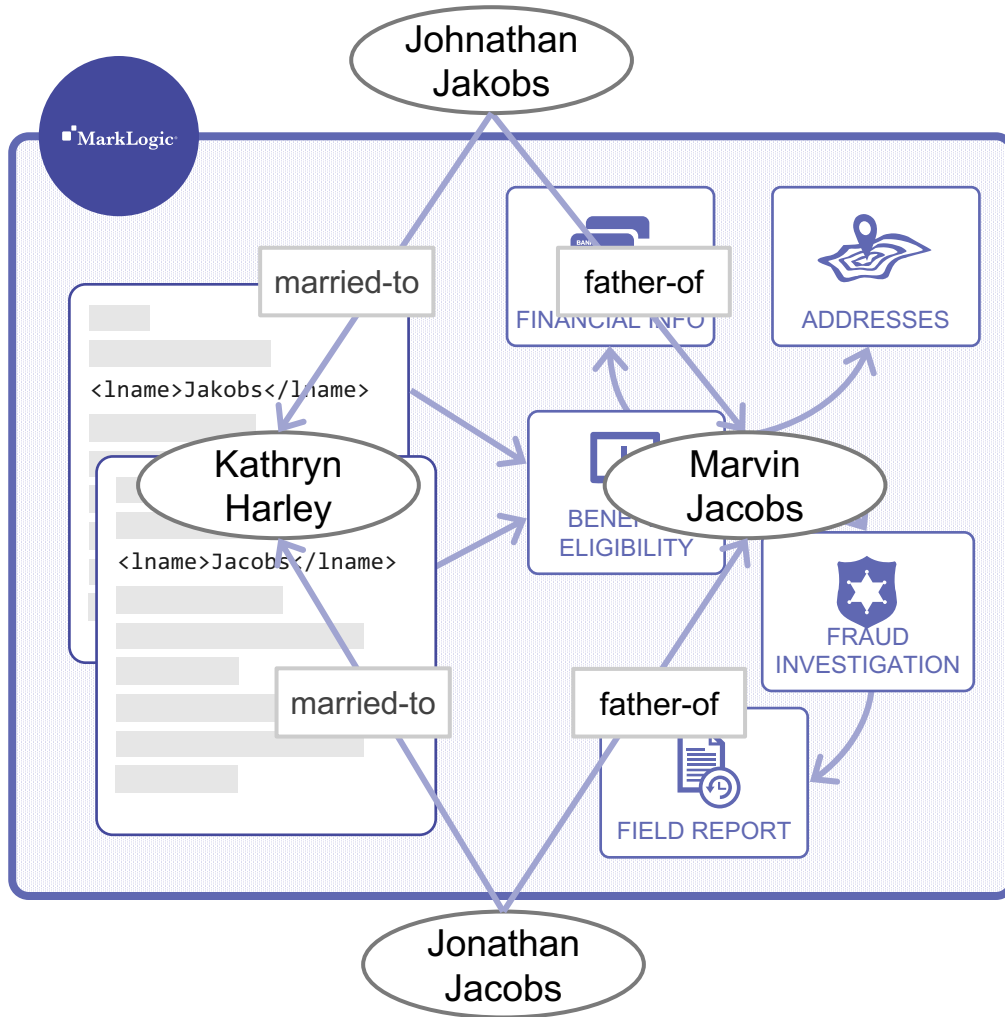
A NEW APPROACH

Agile Mastering

Logical Data Model: Entities represent naturally as Documents, not shredded.

The data in your workflows is in documents!

Relate the documents logically and meaningfully with semantic triples

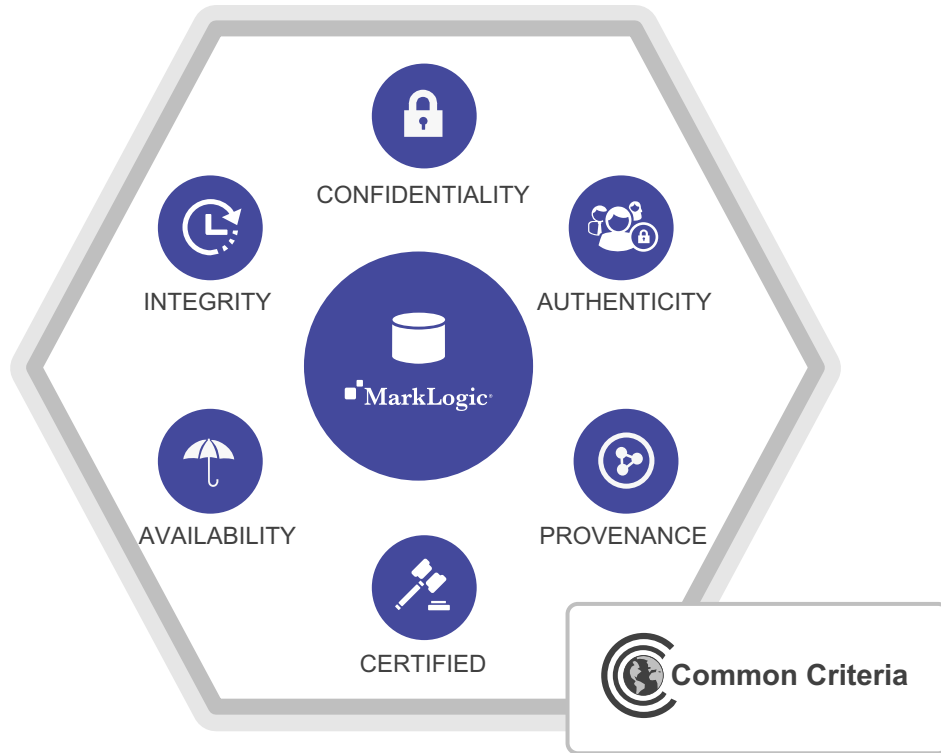


A NEW APPROACH TO MDM

Agile Mastering

Semantics: Capture rich relationships between entities to handle multiple domains

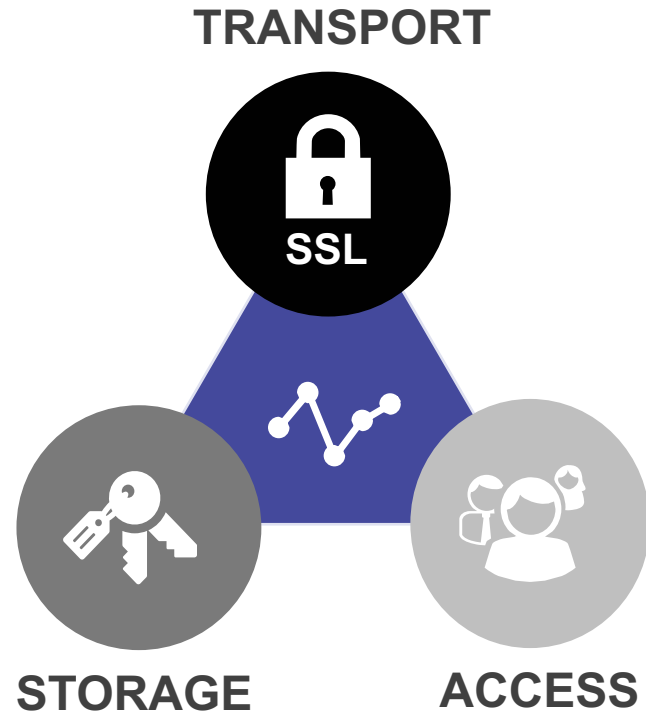
Improve matching



A NEW APPROACH

Agile Mastering

Secure: Support for operational apps
data access control and data
governance



A NEW APPROACH

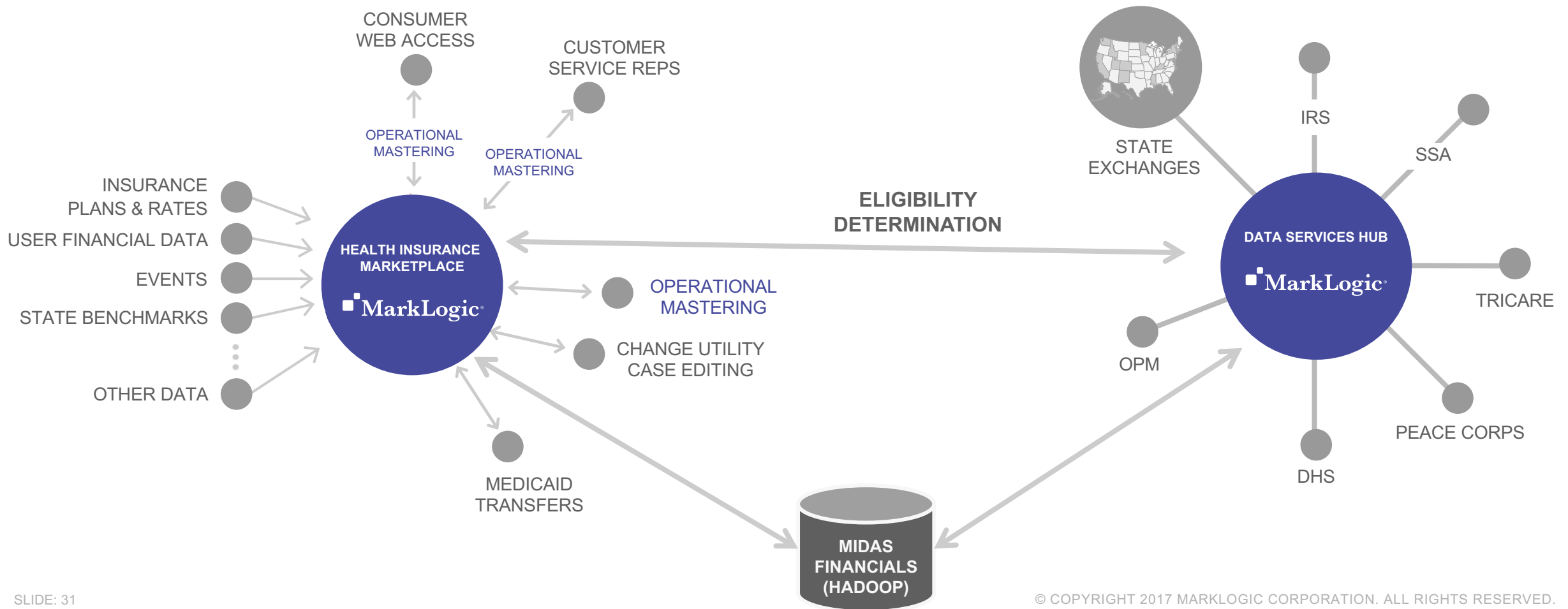
Agile Mastering

Full Auditing: Capture who, what, when and why for all user and automated data changes and actions

Real-World Examples of Agile Mastering with MarkLogic

Operational Mastering

Operational Mastering at Point of Engagement Reduces Duplicates and Need for Traditional MDM



Operational Data Hub with Agile Mastering

Operational Mastering with fuzzy match to find duplicates and correct or merge



Booking: Ingested Person View

Criminal History System
ADMIN 0

Create Tasks Activities Users Ingest Simulator
All jack

Jackson Smith Sr
06/03/1981
Add Arrest Booking Add Manual Booking Watch More Actions

PIM History Activity Tasks (0)

Created 06/22/2016 - 12:12:15
Last Updated 06/22/2016 - 12:15:00

SID MN92015720
FBI Uniform Control Number

Reported Names

Last Name	First Name	Middle Name
Smith	Jackson	

Reported Dates of Birth

06/03/1981

Sex

Male

Physical Descriptors

Received on the most recent booking: 05/25/2015

Height	Weight	Hair
5 Ft. 11 In.	180 Lbs.	Orange

Race

Unknown 1

Skin Tone

Light 1

Ethnicity

NOT HISPANIC OR NOT LATINO 1

Scars/Marks/Tattoos

Category Abbreviation - Item/Location	Description
---------------------------------------	-------------

Place of Birth

California 1 i

Identification Numbers

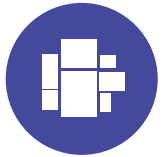
Identification Type	Number	Issuing Authority
---------------------	--------	-------------------

Compare
Merge
Delete
Purge
Toggle Source Counts
Change Juvenile Retention Review
Change Master Name
Seal Name from Public
Change Master DOB
Set Questioned Identities
Set or Change Seal
Print Person History
Name Matches
Admin

© COPYRIGHT 2017 MARKLOGIC CORPORATION. ALL RIGHTS RESERVED.

The MarkLogic Alternative

An Operational and Transactional Enterprise NoSQL Database Makes Agile Mastering Possible



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



TRUSTED TO RUN YOUR BUSINESS

Enterprise Ready

- Flexible cloud deployment
- Enterprise-grade data security
- Reliable data and transactions (100% ACID compliant)
- Out-of-the-box failover, replication, and backup

Why MarkLogic for Agile Mastering?

VALIDATED

Schema-Agnostic



Contextual



All the Data



Metadata Unlimited



Simplified Architecture



Logical Data Model



Semantics



Secure



Full Auditing



Questions?