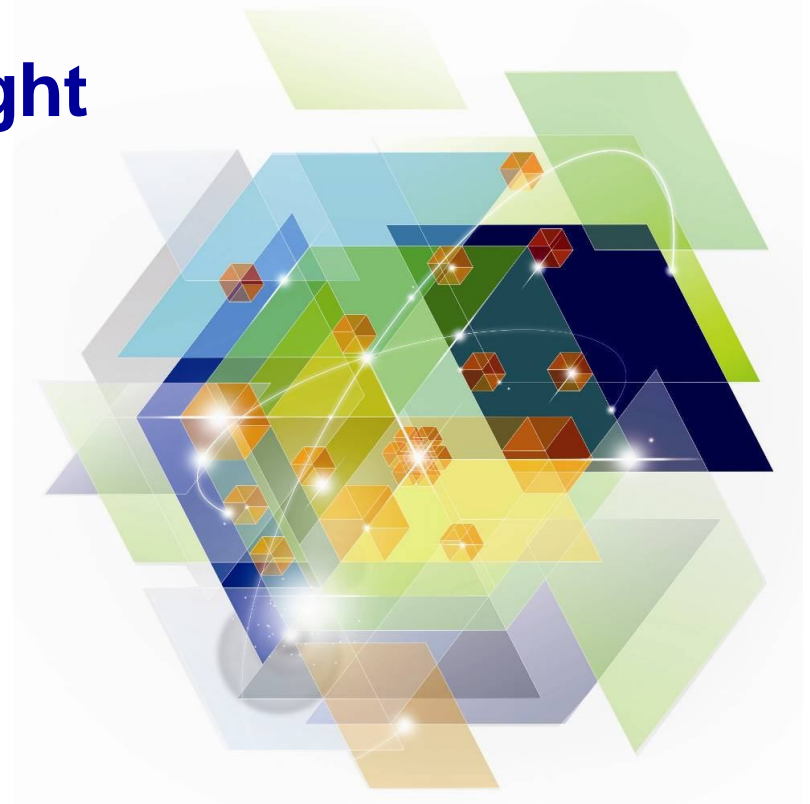# Leveraging System z to Turn Information Into Insight

Steve Mink

Sr. Manager, IM Mainframe

Strategy & Marketing
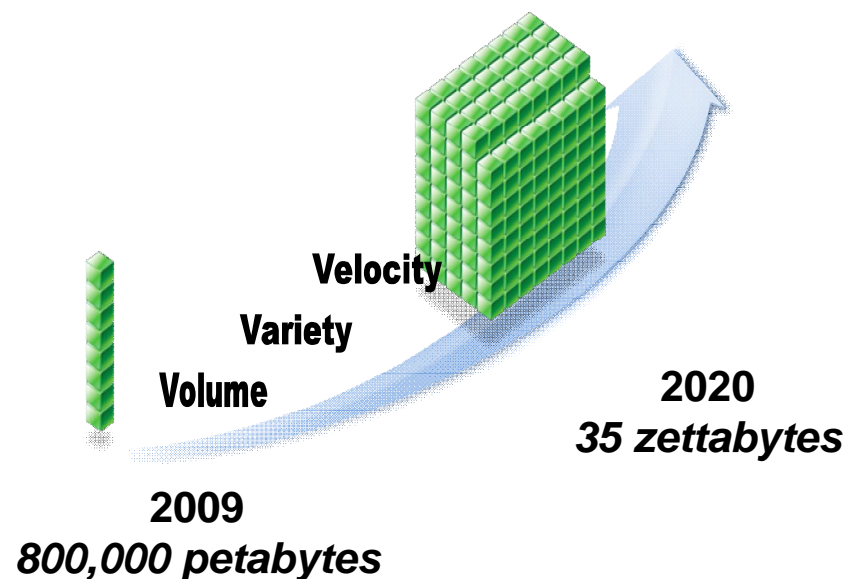
Information is at the Center Of a New Wave of Opportunity…

… And Organizations Need Deeper Insights

44x

as much Data and Content Over Coming Decade

Velocity

Variety

Volume

2020
35 zettabytes

2009
800,000 petabytes

1 in 3 — Business leaders frequently make decisions based on information they don't trust, or don't have

1 in 2 — Business leaders say they don't have access to the information they need to do their jobs

83% — of CIOs cited "Business intelligence and analytics" as part of their visionary plans to enhance competitiveness

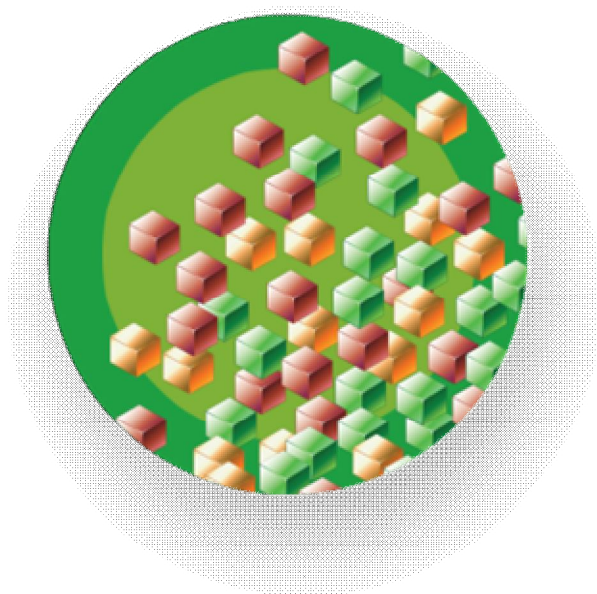**35%** — of businesses will look to replace their current warehouse with a <u>pre-integrated</u> Warehouse solution in the next 3 years; only 14% have today

There is a Gap Between Information and Outcomes

Information Explosion

Optimized Outcomes

How do I align my information with my business?

How do I make the right information available when and where it's needed?

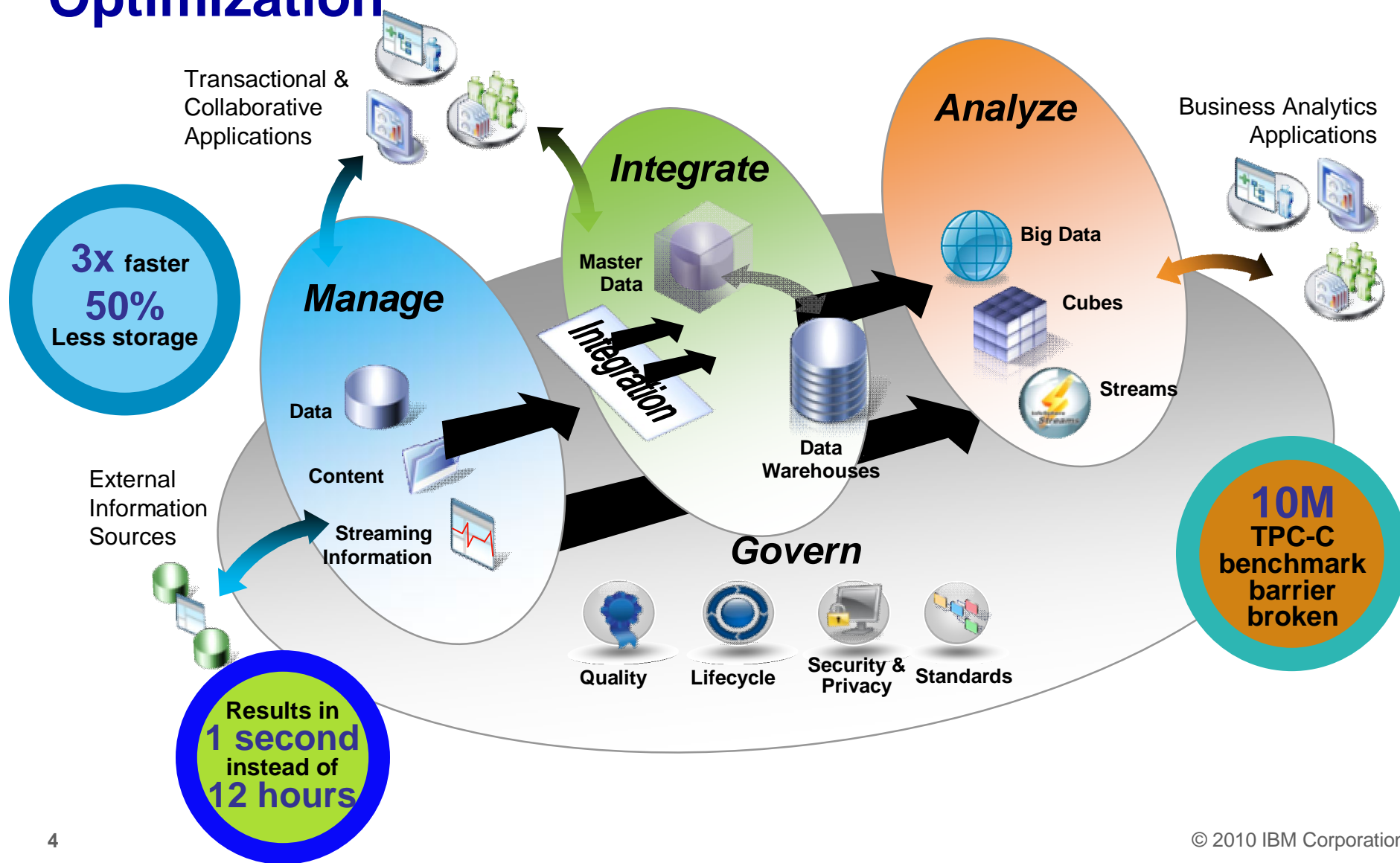*How do I support better decision making throughout my organization?*
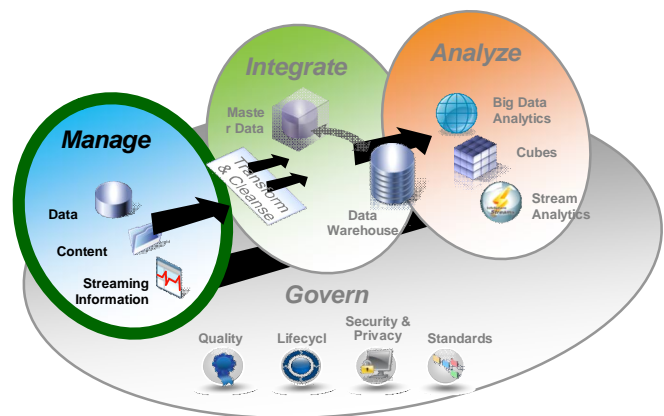
Customer Insight

Fraud Detection

Supply Chain Management

Human Capital Management

Foundation for Business Analytics and Optimization

Transactional & Collaborative Applications

3x faster
50% Less storage

Manage

Data

Content

Streaming Information

External Information Sources

Integrate

Master Data

Integration

Data Warehouses

Govern

Quality   Lifecycle   Security & Privacy   Standards

Analyze

Big Data

Cubes

Streams

Business Analytics Applications

10M TPC-C benchmark barrier broken

Results in **1 second** instead of **12 hours**

Managing Information

Data Management

- Capabilities for managing structured information
- Leverage existing IT investments across a heterogeneous landscape
- Flexibility to adapt to changing business needs
- Lower total cost of ownership

Key Capabilities

Clustering	Java Optimizations
Data compression	SQL skins
Autonomic	Workload Optimization
In memory DB	XML

Products

DB2	Solid DB
Informix	IMS

Managing Information
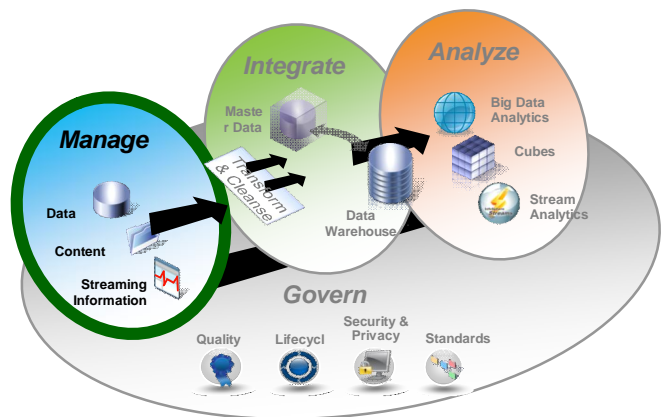
Enterprise Content Management

- Manage unstructured information
- Integrated, open environment
- Cross-functional capabilities useable across set of shared services
- Unified platform for content, process and compliance

Key Capabilities

Document Imaging and Capture	Content Analytics
Social Content Management	Information Lifecycle Governance
Advanced Case Management	

Content & business process management
2006

Data & document capture
2010

Integration
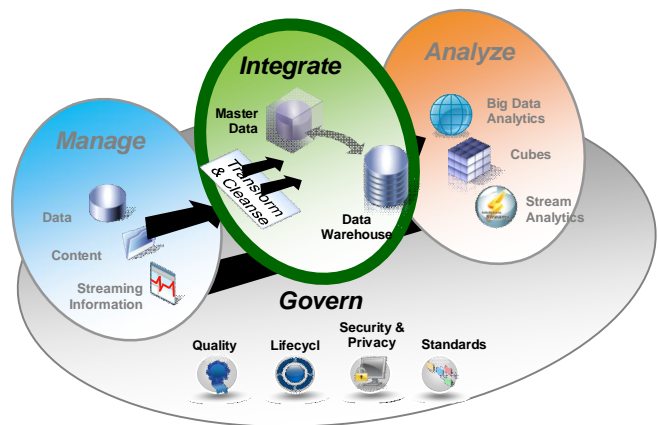
Data Warehouse

- Deal with TB and PB of data
- Reduced time to value, days not weeks
- Perform data mining without copying data
- Work with analytical and transactions data in real time.

Key Capabilities

|	
Data mining & visualization	Integrated analytics systems
Embedded data movement and transformation	Mashups
Unstructured Data Analysis	Real time analytics
	Industry models
Extreme Workload Management	Clinical analytics
	Modeling & design tools
Data models & sample reports	Hadoop

Products

InfoSphere Data Warehouse

NETEZZA

Data Warehouse Appliances 2010

Integration
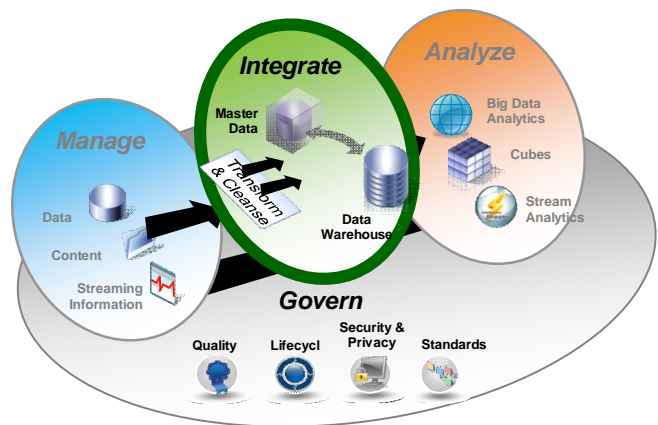
Information Integration

- Integrating and transform data and content to deliver authoritative, consistent, timely and complete information

Key Capabilities

Data Discovery

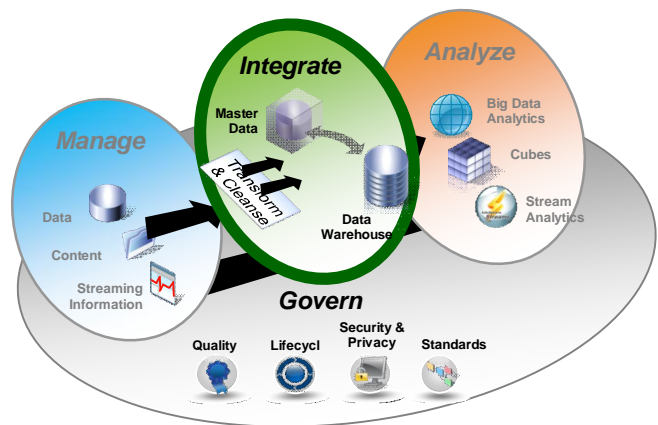Data Extraction, Transformation and Loading

Data Modeling

Data Profiling

Data Quality

Metadata Management

Products

InfoSphere Information Server

Change Data Capture

Replication

Integration

Master Data Management

Create common data about customers, suppliers, partners, products, materials, accounts and other critical entities

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Products

InfoSphere MDM

Initiate Exchange

Entity Analytics

Key Capabilities

Account

Customer

Product information

Asset track and trace

Entity Resolution & Analysis

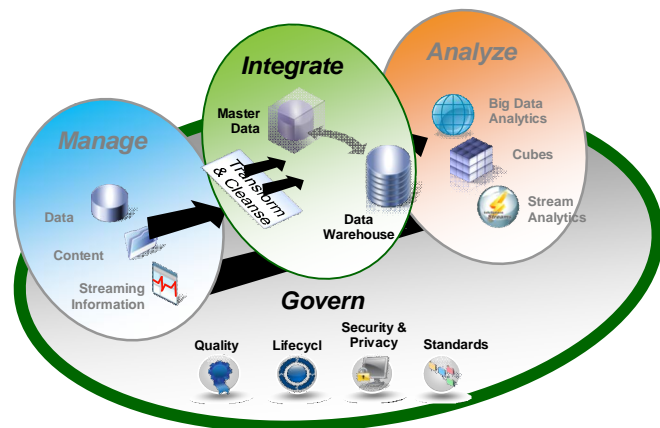Name Recognition

Healthcare Information Exchange

Location

Information Governance

Information Governance, Risk, and Compliance

Delivers complete, consistent and accurate information that decision-makers trust to improve business performance

Capabilities

Data Discovery

Data Encryption

Data Growth Management

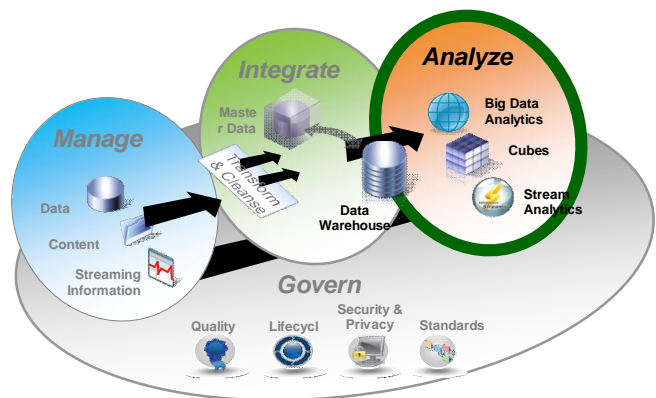Data Masking

Database Activity Monitoring

Test Data Management

Products

Optim

Guardium

Infosphere Discovery

Business Analytics

Business Analytics

Delivers complete, consistent and accurate information that decision-makers trust to improve business performance

Capabilities

Business Intelligence

Financial Performance & Strategy Management

Analytic Applications

Predictive & Advanced analytics

Governance Risk & Compliance

COGNOS®

Business intelligence & performance management
2008

SPSS

Predictive analytics
2009

OPENPAGES

Governance, compliance, risk management
2010

CLARITY SYSTEMS

Financial governance
2010

The IBM Information Agenda Approach

Establish end-to-end vision & business-driven value

Align people, process, & information

Strategy

Define & Govern

Information Agenda

Road Maps

Information Infrastructure

Accelerate projects for short & long-term ROI

Architect an extensible information infrastructure
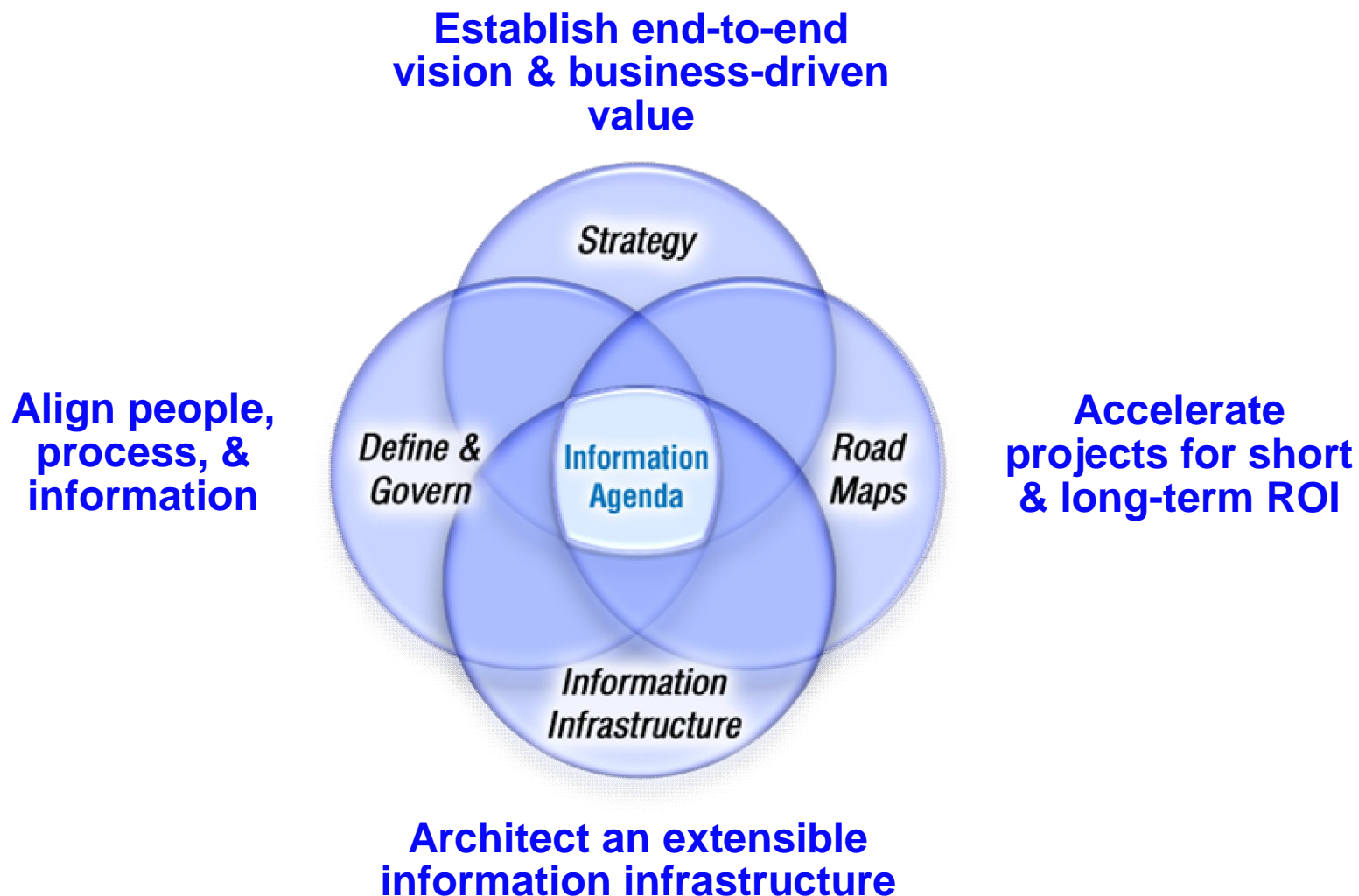
Information Integration

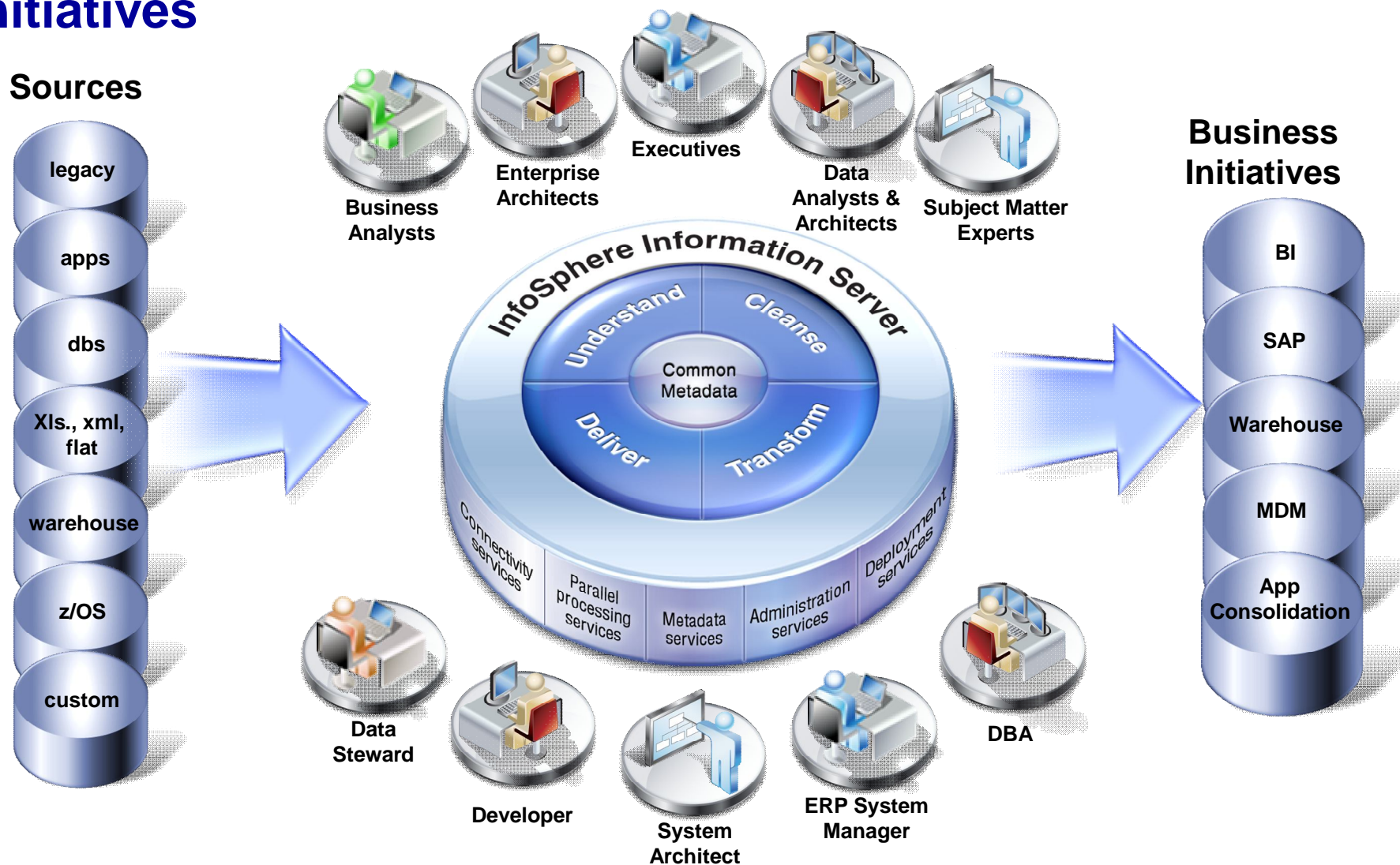# The InfoSphere Portfolio delivers unique synergistic value that accelerates and improves business results and reduces cost and risk

Accelerated value through:

- **Deep integration across components**

- **Shared Understanding of existing assets**

- **Collaborative tools to align IT and business**

- **Shared model-driven design tools**

- **Pre-built accelerators to speed deployment**
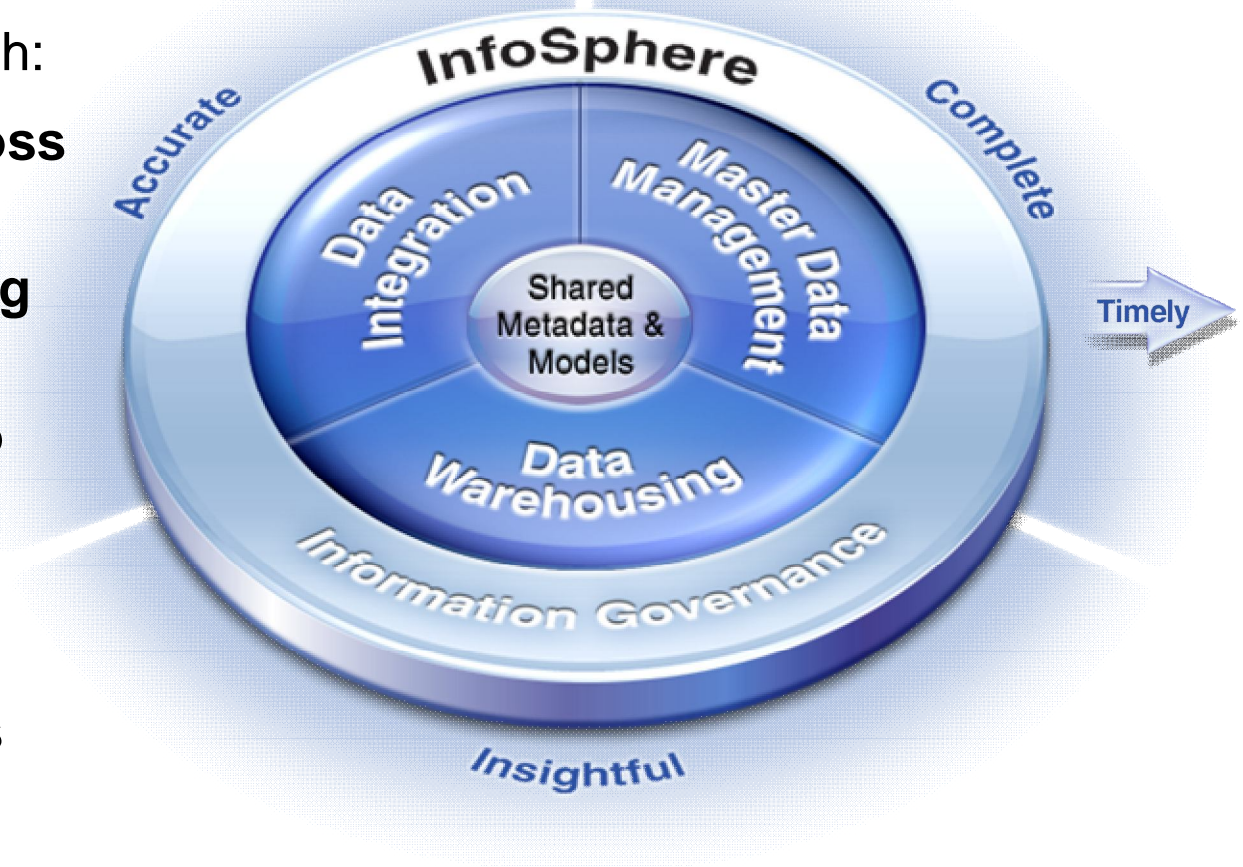
Align business and IT objectives using single platform that creates trusted information for use in key initiatives

Sources

legacy

apps

dbs

Xls., xml, flat

warehouse

z/OS

custom

Business Analysts

Enterprise Architects

Executives

Data Analysts & Architects

Subject Matter Experts

InfoSphere Information Server

Understand

Cleanse

Common Metadata

Deliver

Transform

Connectivity services

Parallel processing services

Metadata services

Administration services

Deployment services

Data Steward

Developer

System Architect

ERP System Manager

DBA

Business Initiatives

BI

SAP

Warehouse

MDM

App Consolidation

Workflow

1

InfoSphere Blueprint Director

Blueprint Director

Design your integration landscape with a visual approach from high – level to detailed design.
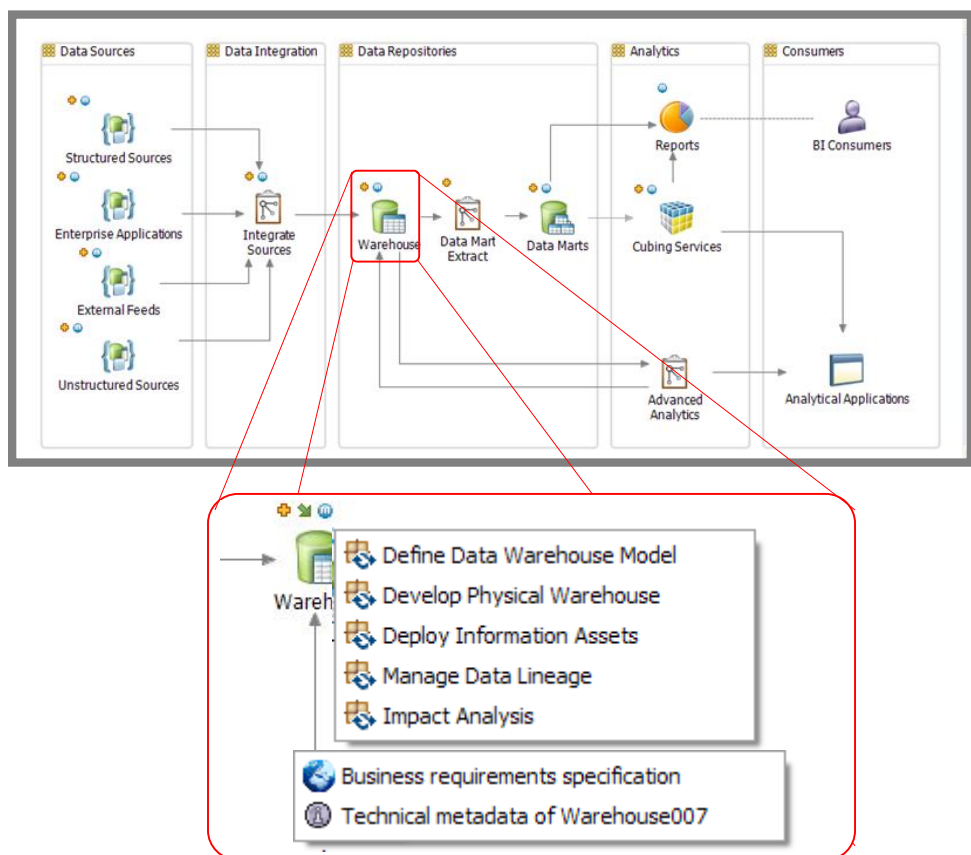
Requirements

- Define and manage an end-2-end information flow.

- Link to a defined reference architecture and ensure collaboration.

- Provide insight to the information roadmap across the organization.

Benefits

- Ensures on-time delivery via a re-usable approach to delivery.

- Guarantees best practices are implemented across shared teams and workstreams.

- Ensures collaboration on the design before action is taken.

Workflow

1 Start from consistent blueprint, leveraging "best" practices

2
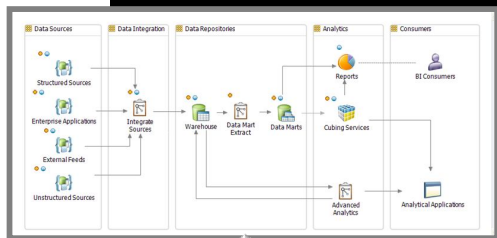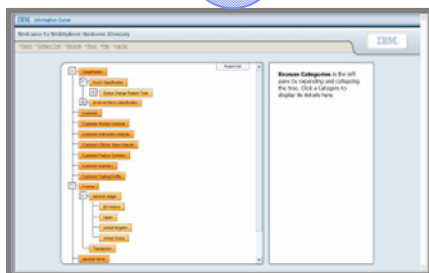
Document KPIs and associated business terms

InfoSphere Business Glossary

Business Glossary

Create and manage business vocabulary and relationships and related to physical sources

Requirements

- Capture business terms and classifications

- Link business terms and classifications to IT assets

- Identify data stewards and make glossary accessible

Benefits

- Context for information is available to everyone, immediately

- IT projects are aligned with data governance

- Collaboration increases across business and IT

Industry Models

- **Proven approach and methodology**
- **Embedded industry expertise**
- **More than 500 global clients**

Banking * Insurance * Telco * Retail * Healthcare * Financial Markets

Requirements

- Utilize Industry standard business definitions across the enterprise.

- Leverage connectivity to data model as an accelerator to industry driven projects.

- Deliver consistency across the business and IT stakeholders.

Benefits

- Reduces analysis and design of functional requirements by more than 40%

- Accelerates stakeholder approval by more than 50%.

- Reduces time to value decreasing operational costs
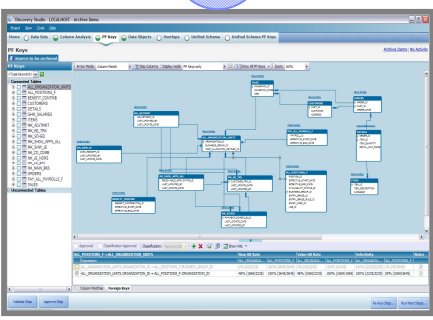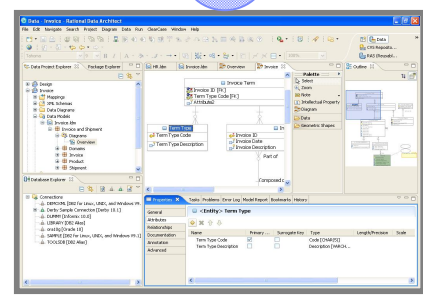
Workflow

1 Start from consistent blueprint, leveraging "best" practices
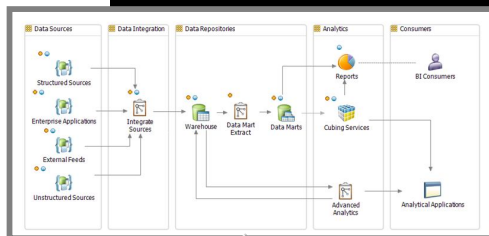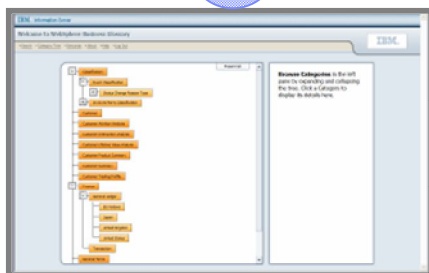
2

Document KPIs and associated business terms

3
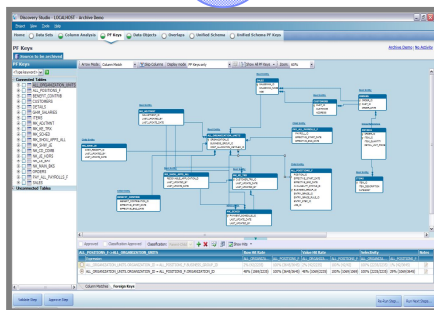
Identify where KPI's exist, relationship and level of quality

InfoSphere Discovery

Discovery

Accelerate project deployment by automating discovery of your distributed data landscape

Requirements

- Define business objects for archival and test data applications

- Discover data transformation rules and heterogeneous relationships

- Identify hidden sensitive data for privacy

Benefits

- Automation of manual activities accelerates time to value

- Business insight into data relationships reduces project risk

- Provides consistency across information agenda projects

Workflow

1 Start from consistent blueprint, leveraging "best" practices
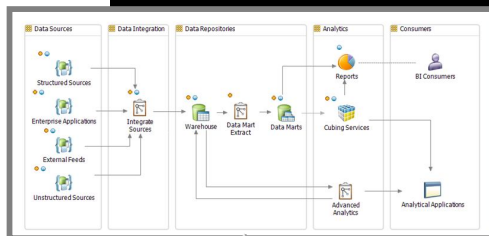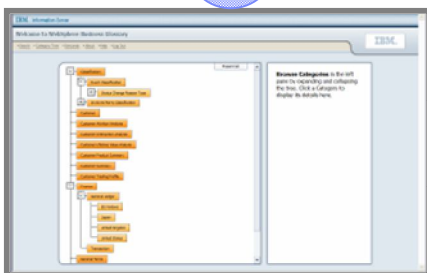
2

Document KPIs and associated business terms

3

Identify where KPI's exist, relationship and level of quality

4
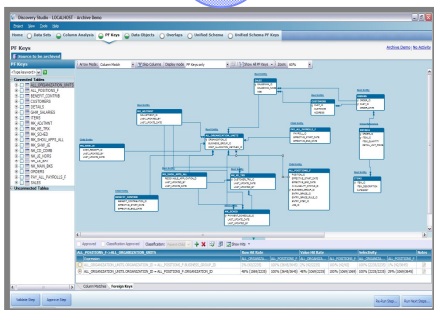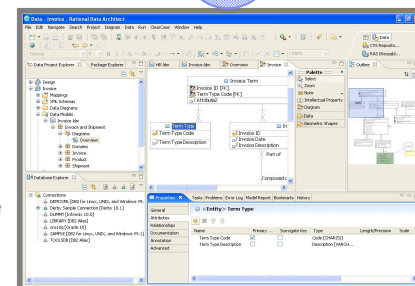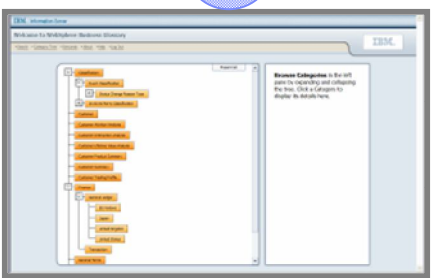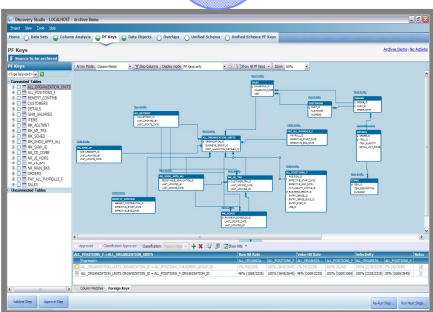
Create or Modify Data Model

InfoSphere Data Architect

Data Architect

Model, visualize, and relate diverse and distributed data assets
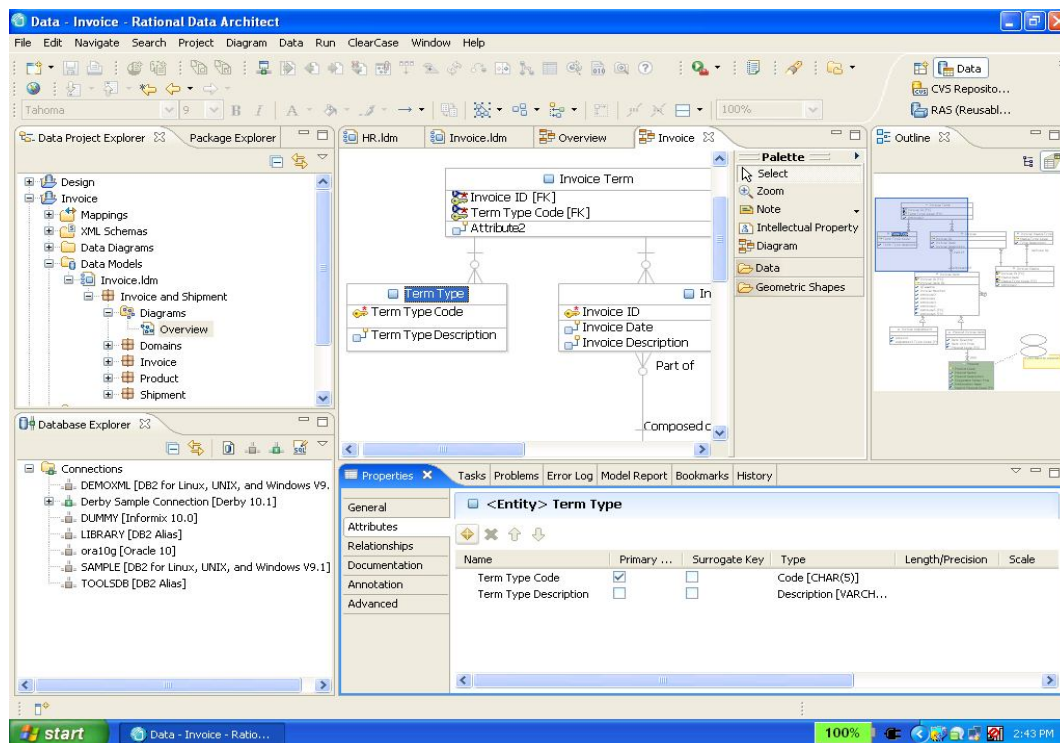
Requirements

- Design and manage enterprise models

- Enforce model conformance to enterprise standards

- Leverage industry data models for best practices

Benefits

- Speed design activities

- Populate Business Glossary from model terms

- Validate models for enterprise conformance

Workflow

1 Start from consistent blueprint, leveraging "best" practices
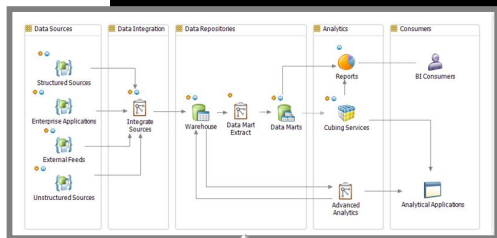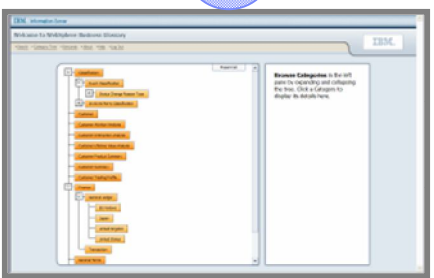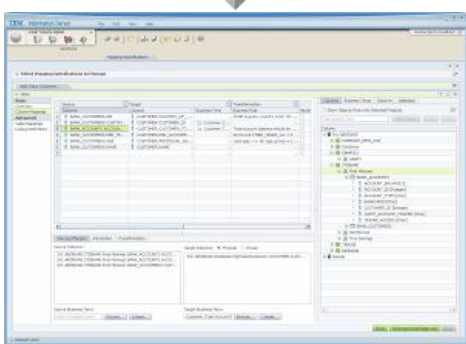

2

Document KPIs and associated business terms

4

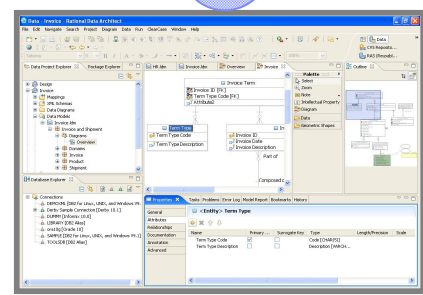Create or Modify Data Model

3

Identify where KPI's exist, relationship and level of quality

5
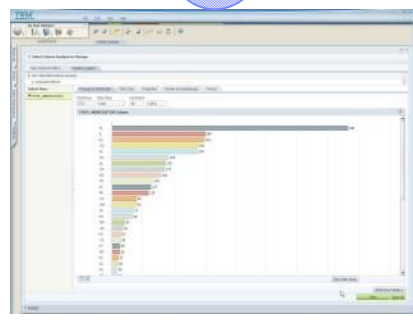
Assess & monitor your data quality over time

InfoSphere Information Analyzer

Information Analyzer

Analyze source data quality and monitor adherence to integration and quality rules
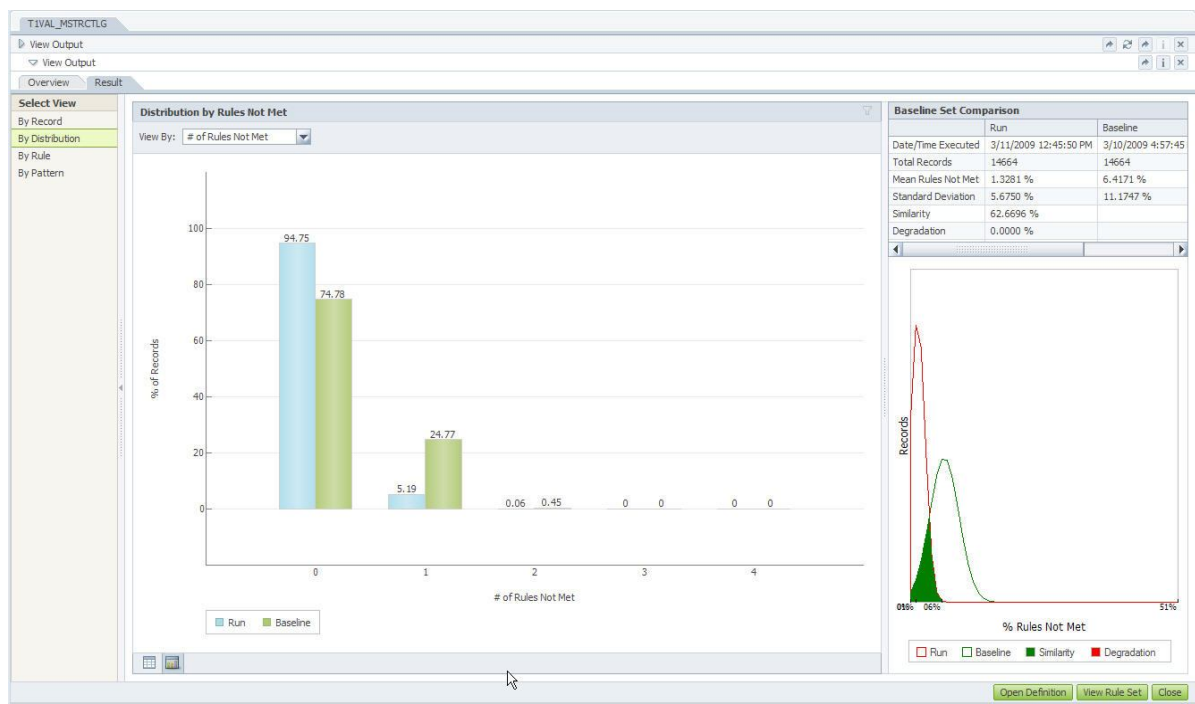
Requirements

- Perform data quality assessment

- Define business rules to monitor data quality

- Establish stewards for governance of data quality

Benefits

- Identify data quality issues early to reduce project risks

- Monitor quality metrics over time for compliance

- Create business confidence with trusted information

Workflow
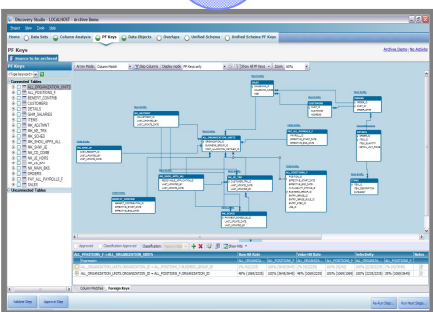

1 Start from consistent blueprint, leveraging "best" practices

2 Document KPIs and associated business terms

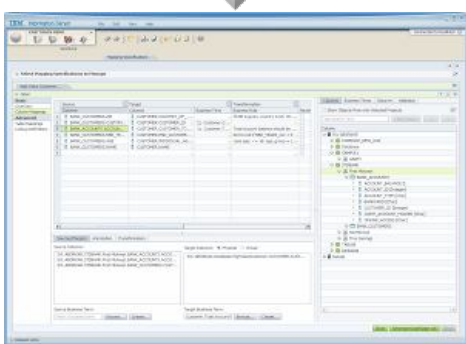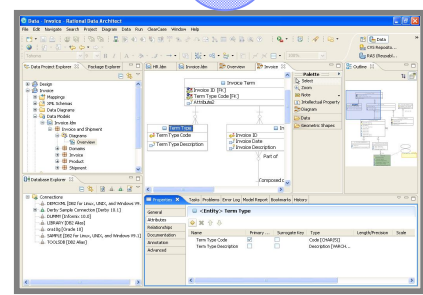**3** Identify where KPI's exist, relationship and level of quality

4 Create or Modify Data Model

5 Assess & monitor your data quality over time

6 Create new transformation rules & document

InfoSphere FastTrack

FastTrack

Capture Design Specifications and accelerate translation into data integration projects
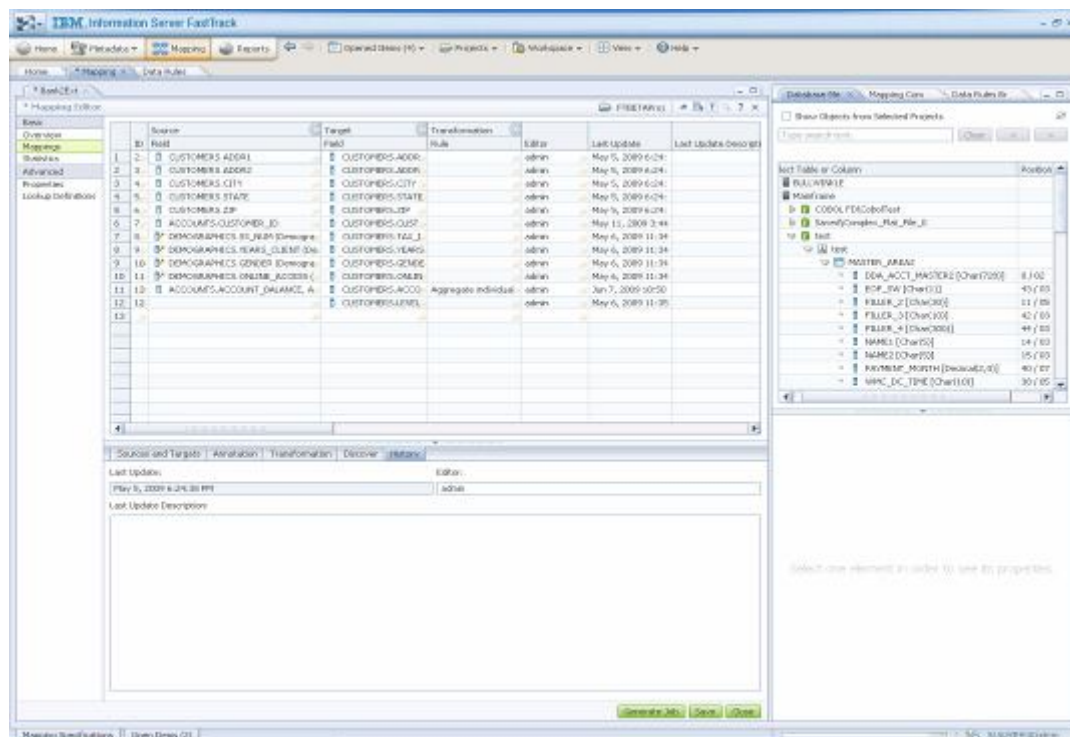
Requirements

- Capture business requirements for source to target mappings

- Leverage source analysis and business vocabulary

- Generate candidate ETL jobs

Benefits

- Accelerate development of integration processes

- Centralized management of specifications

- Audit design decisions over time

Workflow

1 Start from consistent blueprint, leveraging "best" practices

2

Document KPIs and associated business terms

6 Create new transformation rules & document

4

Create or Modify Data Model

3

Identify where KPI's exist, relationship and level of quality

5

Assess & monitor your data quality over time

7 Report & Govern on metadata assets

29

InfoSphere Metadata Workbench

Metadata Workbench

Support information governance with traceability on data movement, modeling & BI applications

Requirements

- Handle Change Management processes with measured impact.

- Visualize and trace information flows across enterprise landscape

- Access and report on operational and design metadata
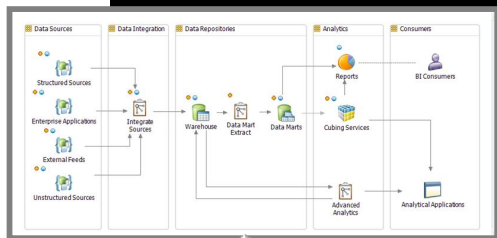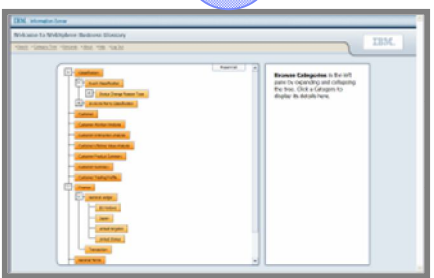
Benefits

- Deliver enterprise audit control information.

- Mediate system disruptions.

- Govern enterprise assets over time.

- Ensure effective collaboration with line of business stakeholders.
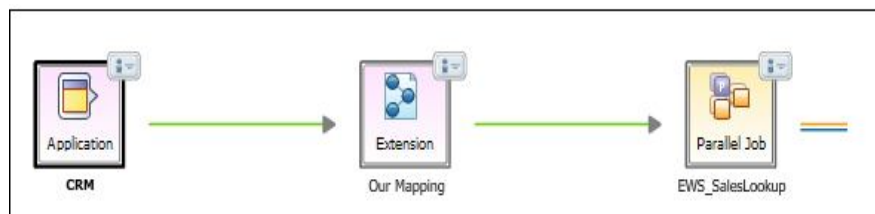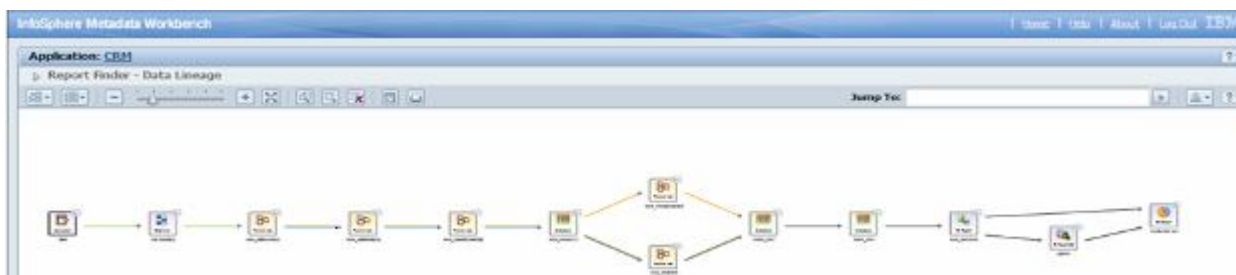
Workflow

1 Start from consistent blueprint, leveraging "best" practices
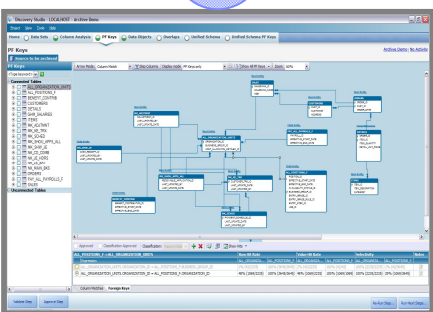
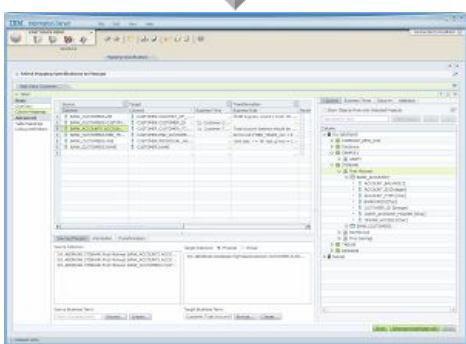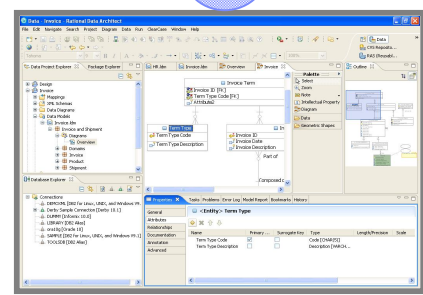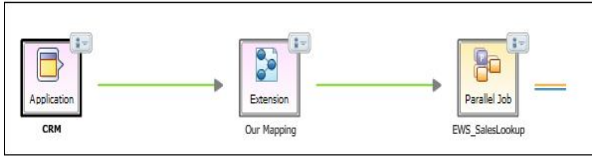**2**

Document KPIs and associated business terms

3

Identify where KPI's exist, relationship and level of quality

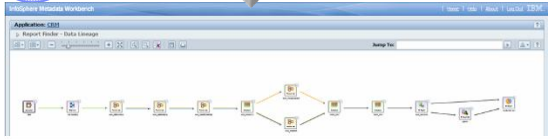**6** Create new transformation rules & document

7 Report & Govern on metadata assets
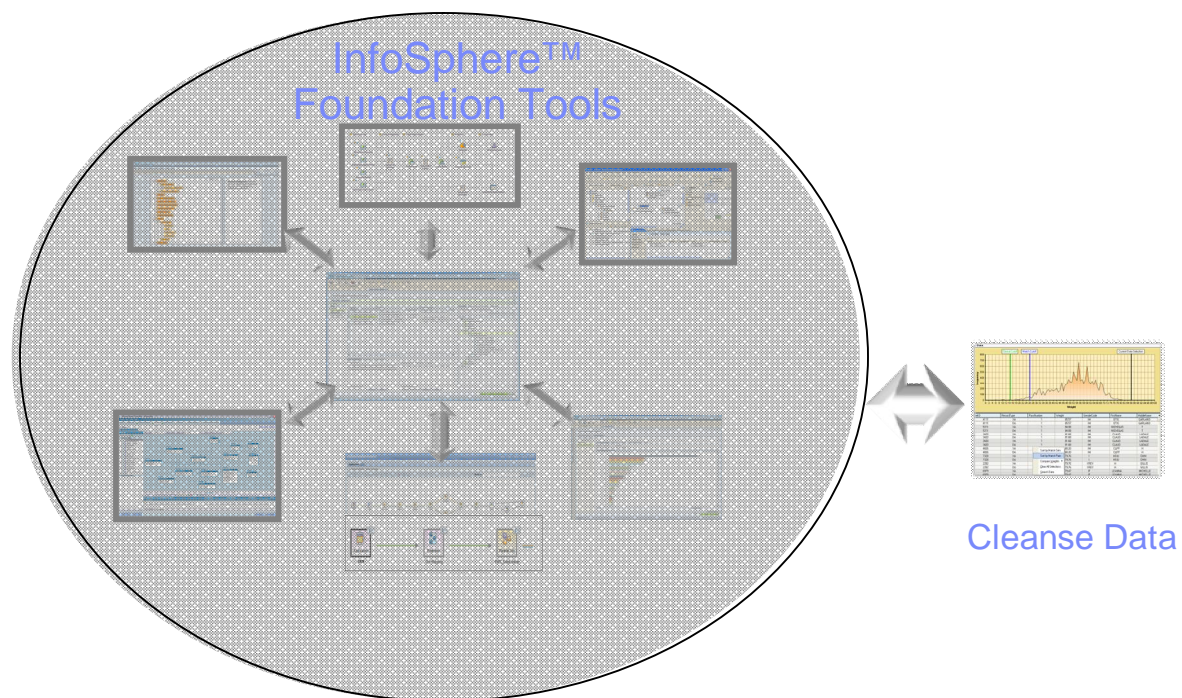
4

Create or Modify Data Model

5

Assess & monitor your data quality over time

31

Workflow

InfoSphere™
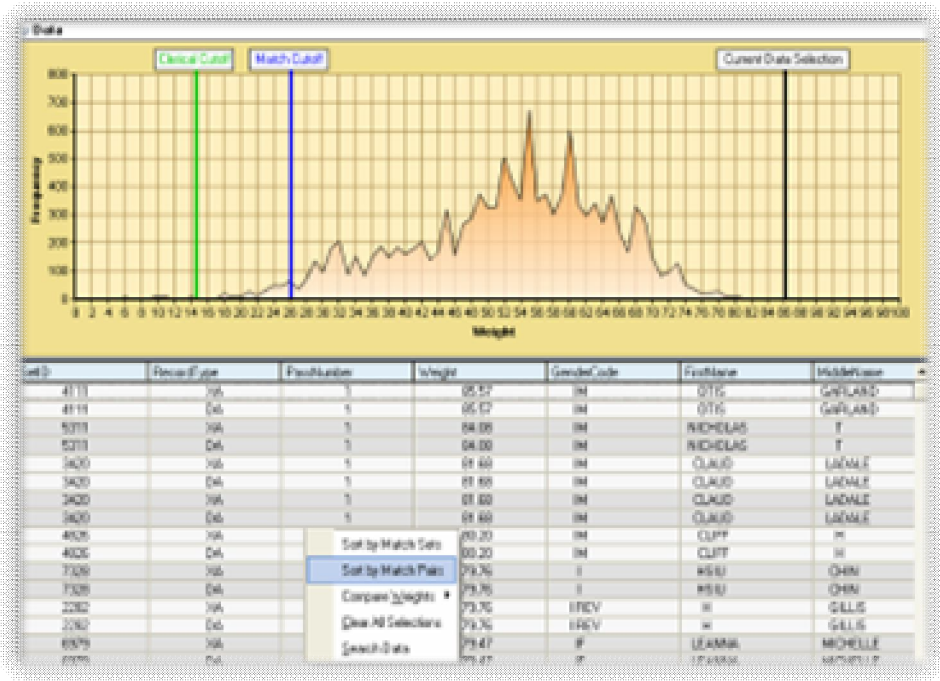Foundation Tools

Cleanse Data

InfoSphere QualityStage

QualityStage

Standardize, cleanse and deduplicate data, ensuring a complete, accurate view of information
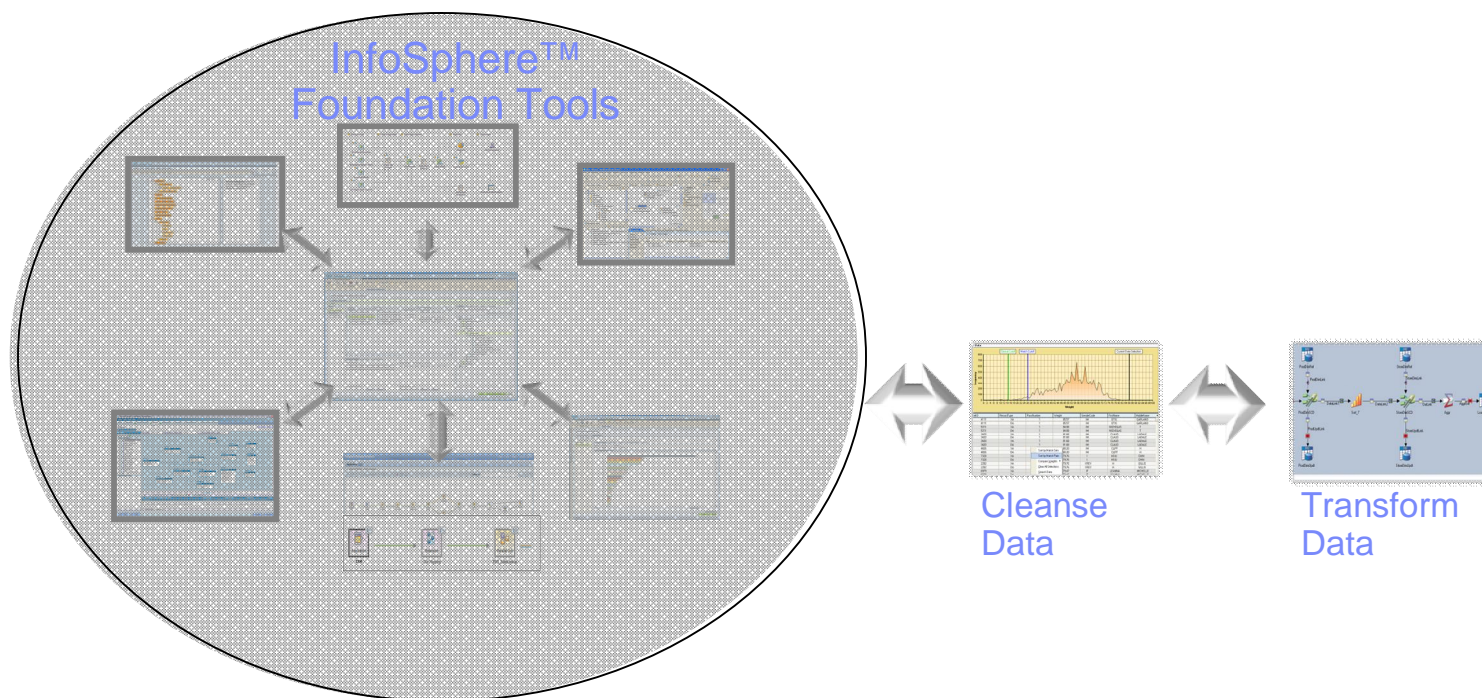

Requirements

- Resolution of data quality issues
- Standardization of data formats
- Cleanse data
- Manage duplicate data
- Enable ongoing quality

Benefits

- Removes duplicates
- Cross-references matching records
- Survives a single, complete record
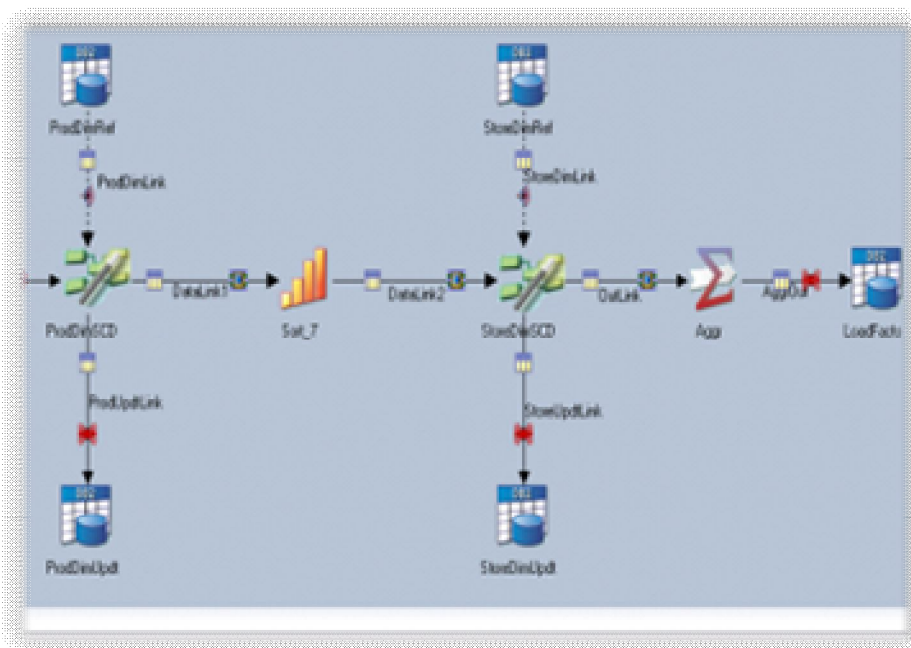- Validate and enriches data

Workflow

InfoSphere DataStage

DataStage

Integrate, transform and deliver data on demand across multiple sources and targets including databases and enterprise applications
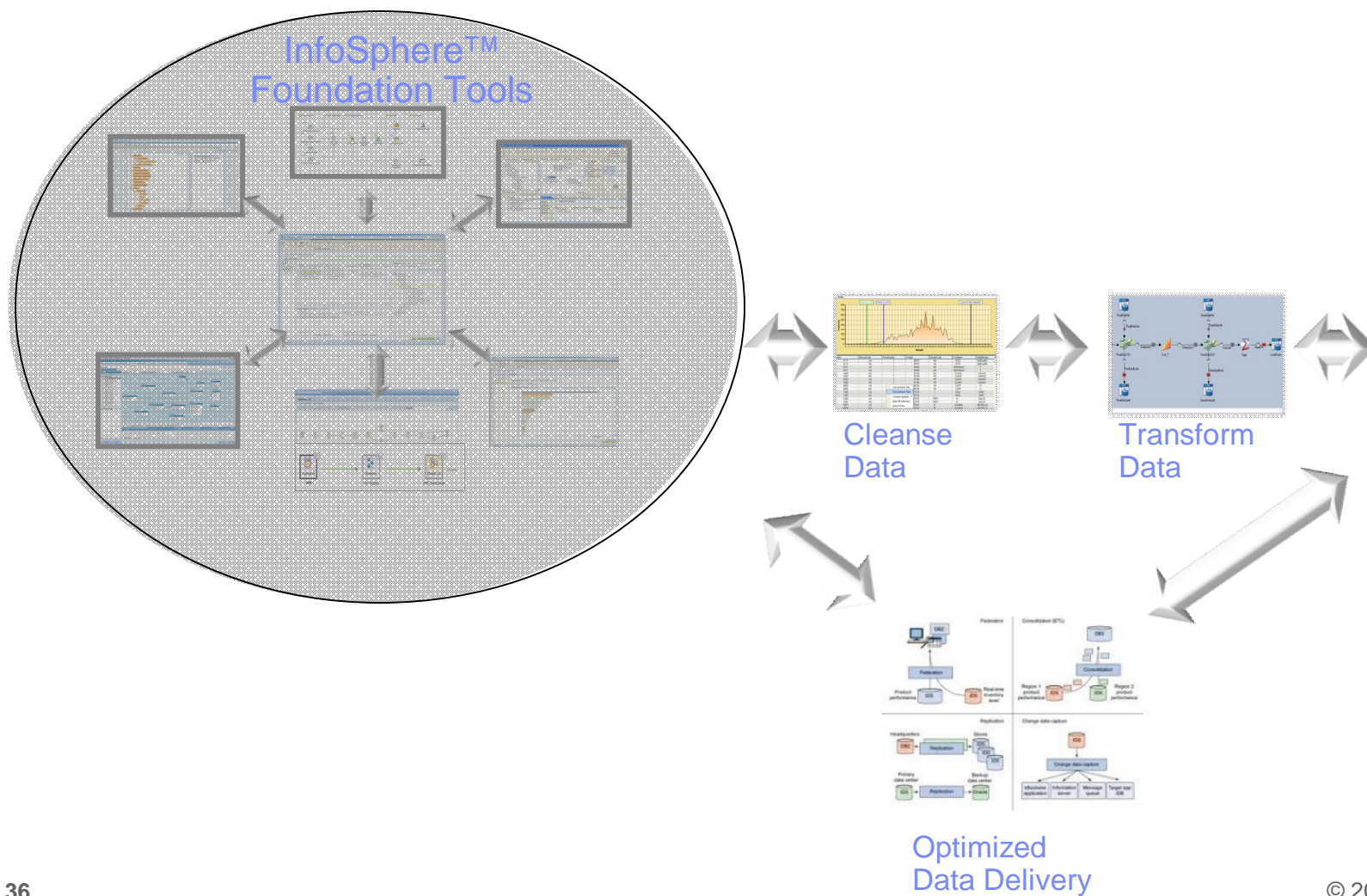

Requirements

- Integrate and transform multiple, complex, and disparate sources of information

- Demand for data is diverse – DW, MDM, Analytics, Applications, and real time
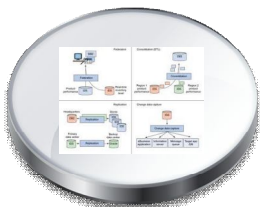
Benefits

- Transform and aggregate any volume of information

- Deliver data in batch or real time through visually designed logic

- Hundreds of built-in transformation functions

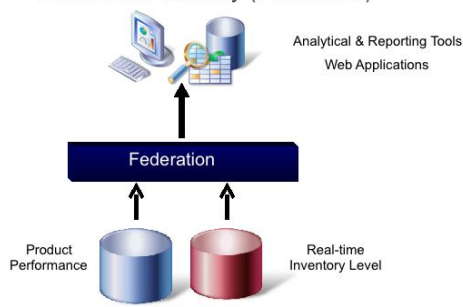- Metadata-driven productivity, enabling collaboration

Workflow

InfoSphere™
Foundation Tools

Cleanse
Data

Transform
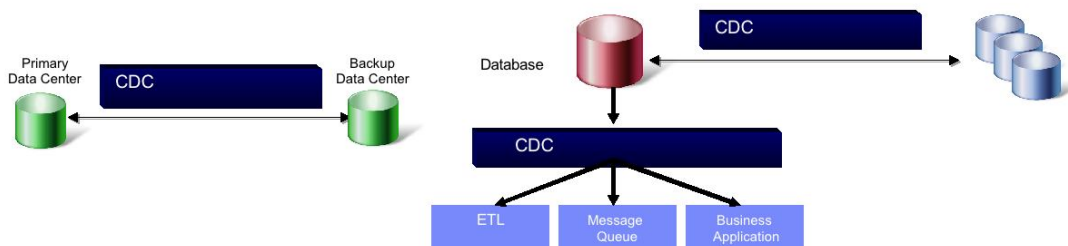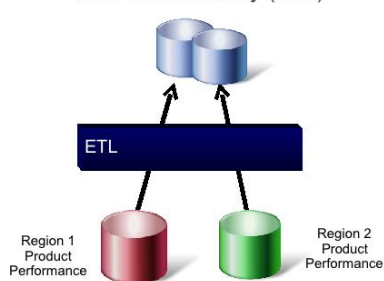Data

Optimized
Data Delivery

Optimized Data Integration

Data Delivery

Manage and deliver information efficiently where the business demands require

Virtual Data Delivery (Federation)

Analytical & Reporting Tools
Web Applications

Federation

Product Performance

Real-time Inventory Level

Bulk Data Delivery (ETL)

ETL

Region 1 Product Performance

Region 2 Product Performance

Primary Data Center

CDC

Backup Data Center

Database

CDC

CDC

ETL

Message Queue

Business Application

Requirements

- Maintaining transactional integrity across systems.

- Manage data as it occurs

- Minimize impact to operational systems

Benefits

- Captures changes in data across a variety of systems when needed

- No impact to active systems

- Manage intra-day reporting and update needs
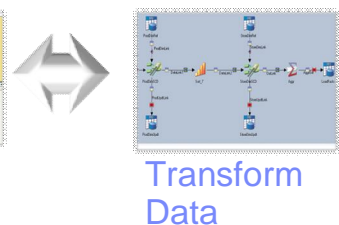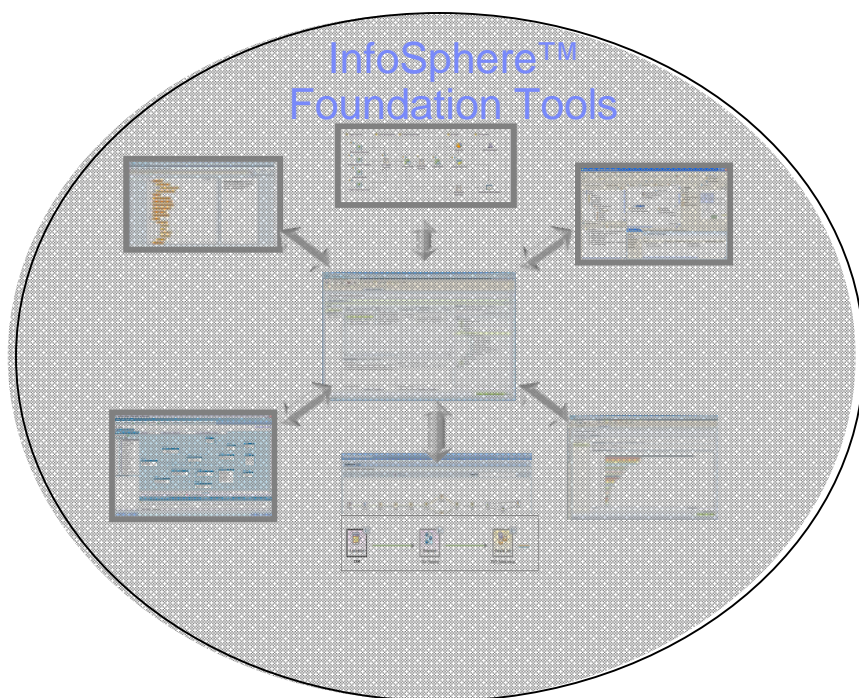
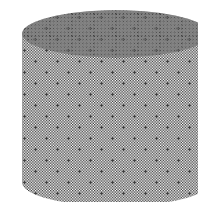- Keep the business 'data' current

Workflow

Integration Landscape
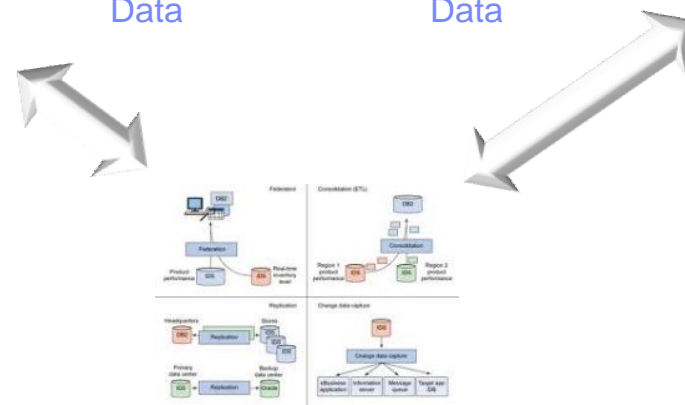
Design   *Deploy & Optimize*   *Manage*

InfoSphere™
Foundation Tools

TARGETS

Cleanse
Data

Transform
Data

BI

Warehouse

MDM

ODS

Etc...

Optimized
Data Delivery

Thank you