

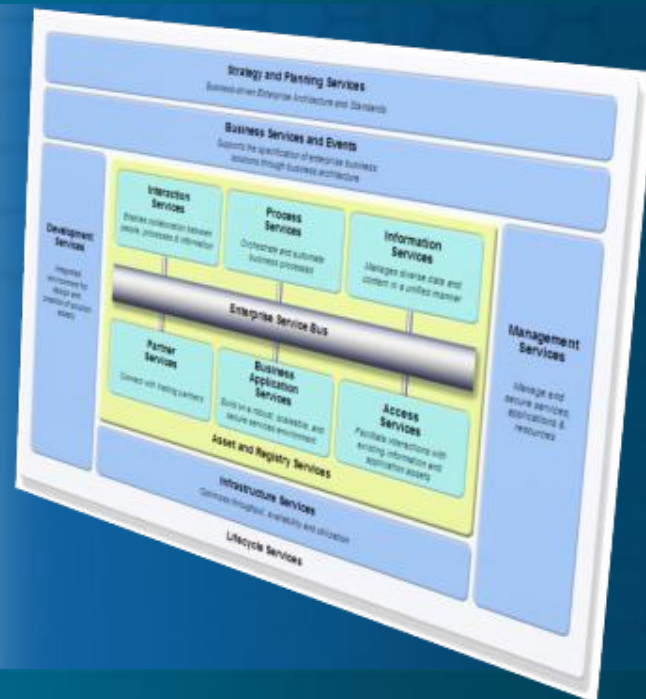
IBM SOA Architect Summit



SOA on your terms and our expertise

Information Architecture:
**Leveraging Information
 in an SOA Environment**

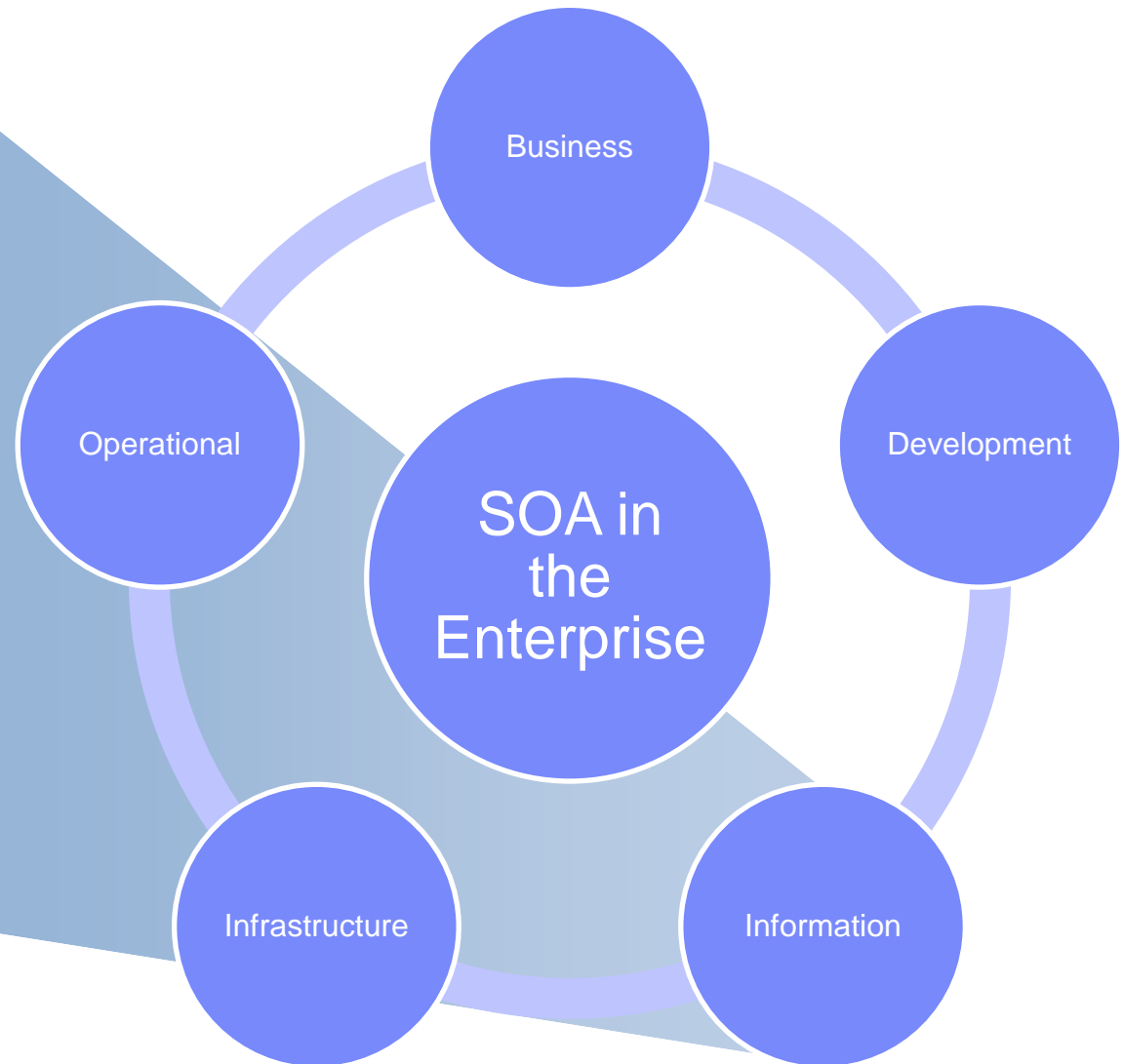
Claus Jensen
STSM, SOA Foundation



Service-Oriented **Architecture** in the Enterprise

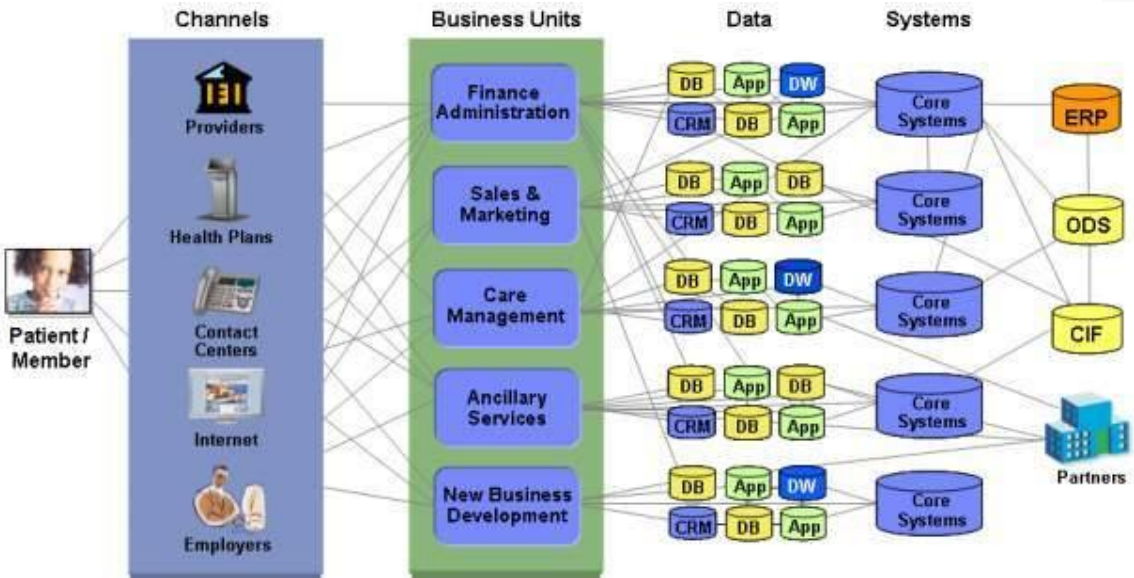
How do you leverage information in an SOA?

- Introduction - The Information Agenda
- Information as a Service Overview
- Information powered by SOA:
 - » content
 - » integrated information
 - » master data



Current Environment

Increased Need for Trusted Information



Existing Silos of Information Result in...

- ✓ Poor cross channel communication
- ✓ Inconsistent view of customer
- ✓ No single version of truth

47% of users
don't have
confidence
in their information

Becoming an Information Based Enterprise...

Establish an information driven strategy & objectives to enable business priorities...

Strategy

Define & Govern

Information Agenda

Road Maps

Information Infrastructure

Accelerate information intensive projects aligned with the strategy to speed both short and long-term returns on investment...

Deploy open and agile technology and leverage existing information assets for speed and flexibility...

Discover & design trusted information with unified tools and expertise to sustain competitive advantage over time...

Irish Life Started the Journey with their Existing Master Customer Information Project

“... We now manage our customer information as an asset; the opportunities for innovation and optimization are endless. We can respond to the dynamics of our business twice as fast...”

Noel Garry, Executive Manager, Irish Life & Permanent

Unified cross-sell/up-sell analysis drives new growth opportunities...

Reduced call centers and website channels to 1...

Providing enhanced services drives loyalty higher than industry norms...

- ➔ Numerous Acquisitions expand services & customer base
- ➔ Strong market share position drives need for new growth strategies



- ✓ Established Data Governance Competency
- ✓ Deployed Trusted Data Assets as Re-usable, Shared Services

*Multiple Lines of Business...
Siloed Information...
Individual Projects...*



Life Insurance



Personal Banking



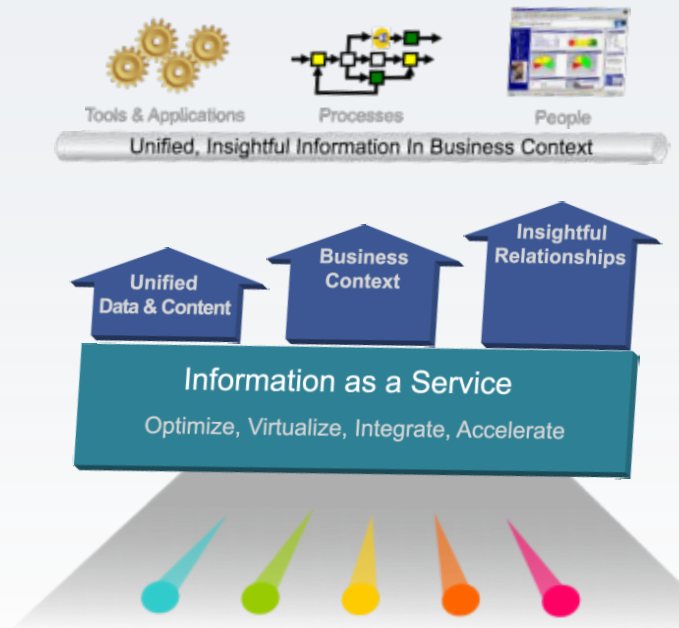
Mortgage Banking...

Reduced duplicate, conflicting views of client base by 30%

Aligning SOA and Information on Demand

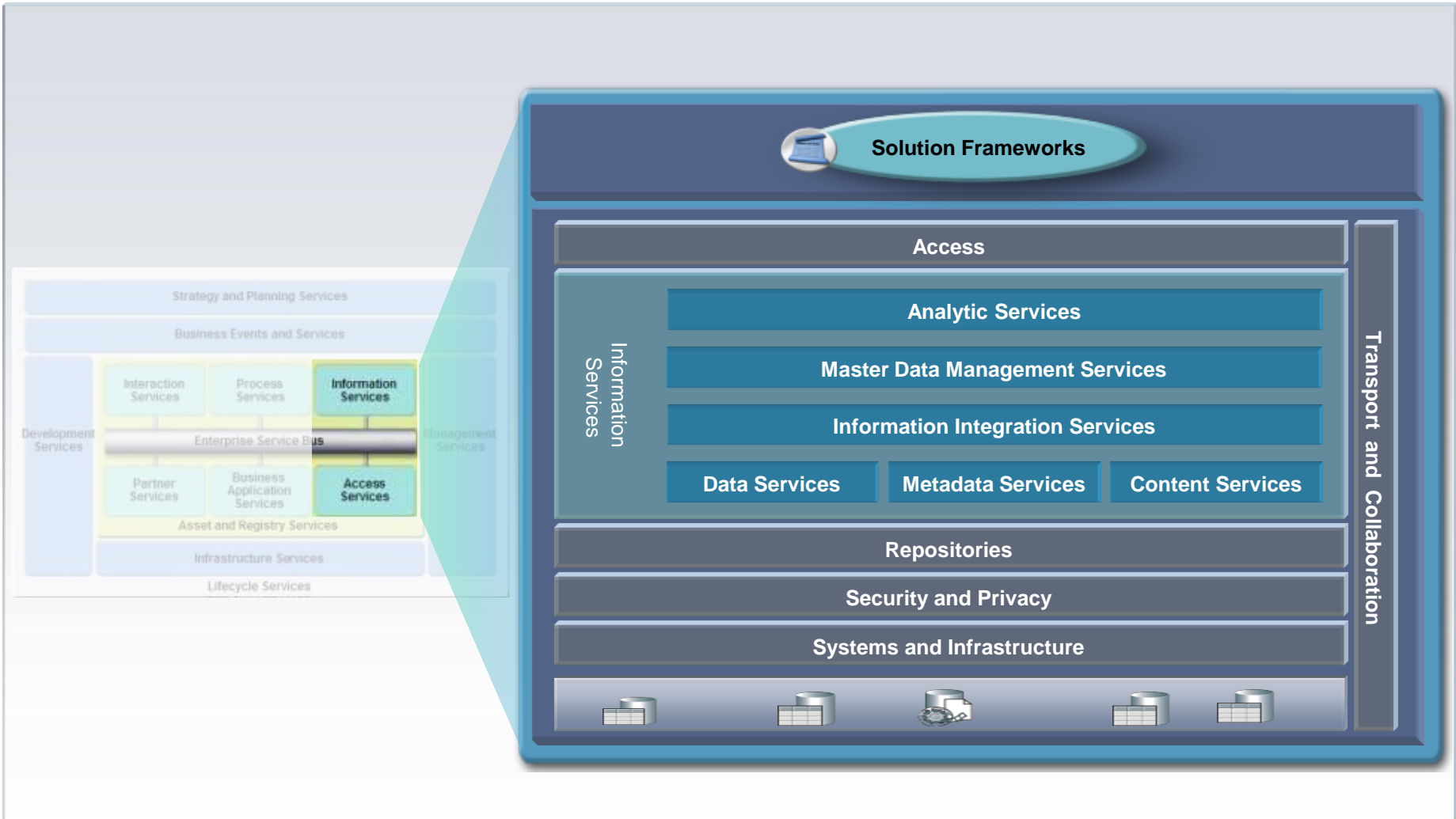
Information as a Service

- Information on Demand Supports SOA
 - **Trusted & integrated information** - structured and unstructured - can be leveraged within processes & applications
 - **Improved governance** of how and where information is used
- SOA Supports Information on Demand
 - Expose **controlled & reusable** information access to a **broad range of consumers**
 - Avoid “I have built 40 *data services* but nobody is using them”



Components of Information as a Service

Information Services from Information on Demand



Integrate Unstructured Information Into SOA & Process Flow

Business Challenge

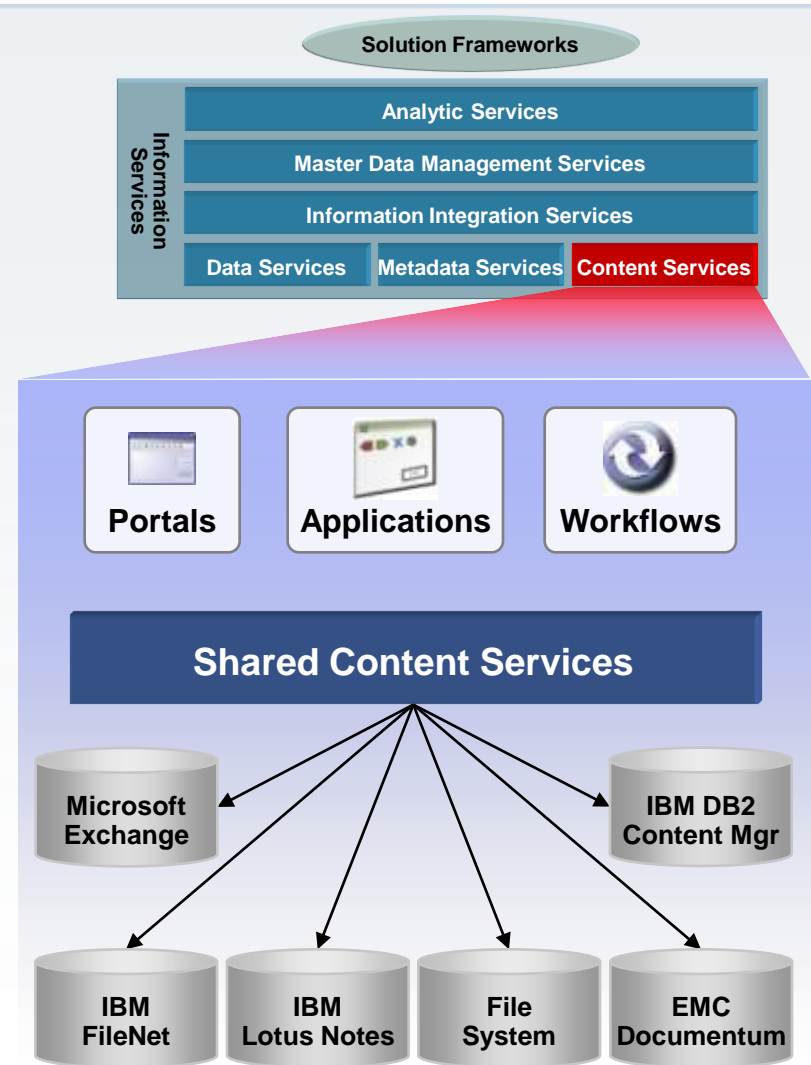
- Wasted time searching for information
- Lack of automation to process unstructured information (paper-based, manual)

Key Capabilities

- Content-centric workflow to embed unstructured information into processes
- Decouple content consumer from a variety of content repositories

Business Benefit

- Improved customer satisfaction along with increase in request to documents
- Significant savings for initial rollout
- Significant savings for each new business unit



Leverage Content-Centric Services & Workflows

■ As Is Environment

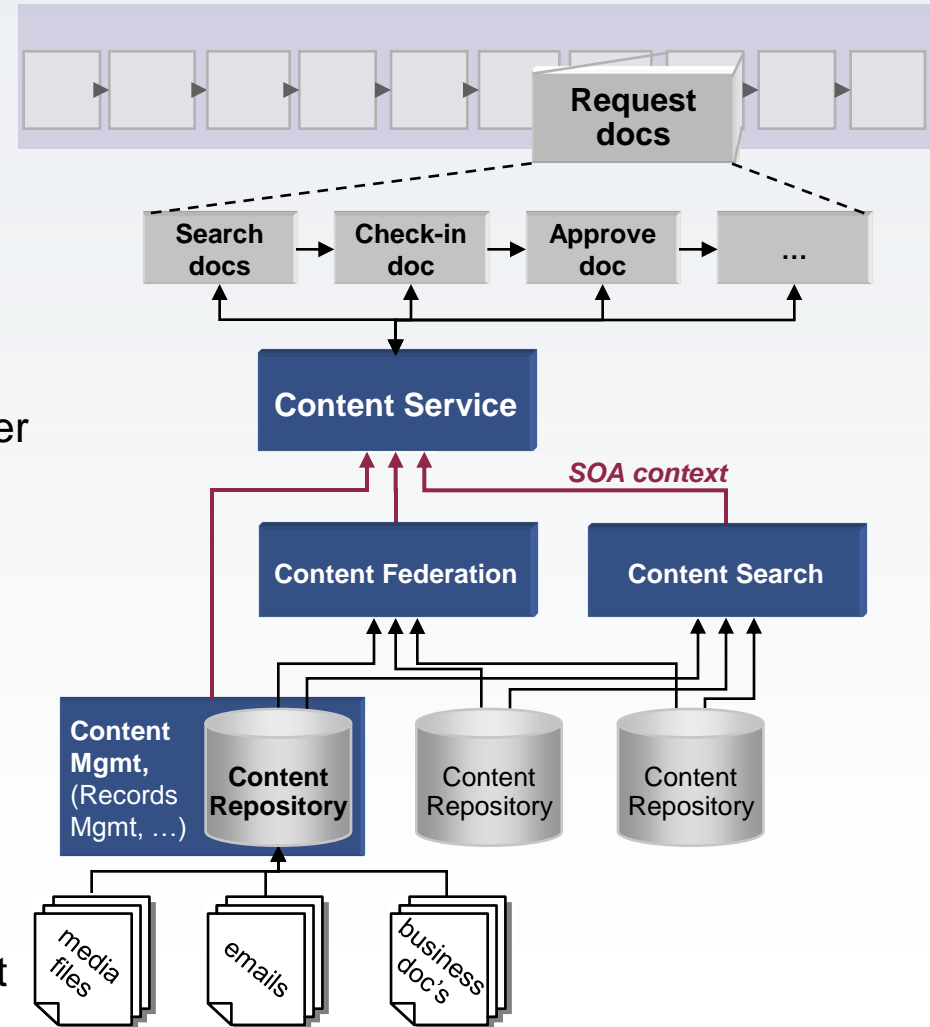
- Partially paper-based processes
- Inefficient processes to manage documents
- Disparate content repositories, point-to-point implementations to access content

■ Solution Characteristics

- Decouple content consumer from provider through reusable services, leveraging:
 - *Content management functionality*
 - *Content federation from disparate repositories into common virtual view*
- Optimized content-centric processes

■ Results

- Optimized process to manage content
- Content-centric process aligned with overall business process
- Access content through single consistent content service interface



Enterprise Content Management

Optimize content, process and compliance management

Optimize content-centric business processes

IBM FileNet BPM



Capture, manage & leverage your enterprise content

IBM FileNet Content Manager,
IBM Content Manager

Create insight from unstructured information

IBM OmniFind

Manage regulatory compliance

IBM Compliance Warehouse

Shared Metadata Across Domains and Tools

Business Challenge

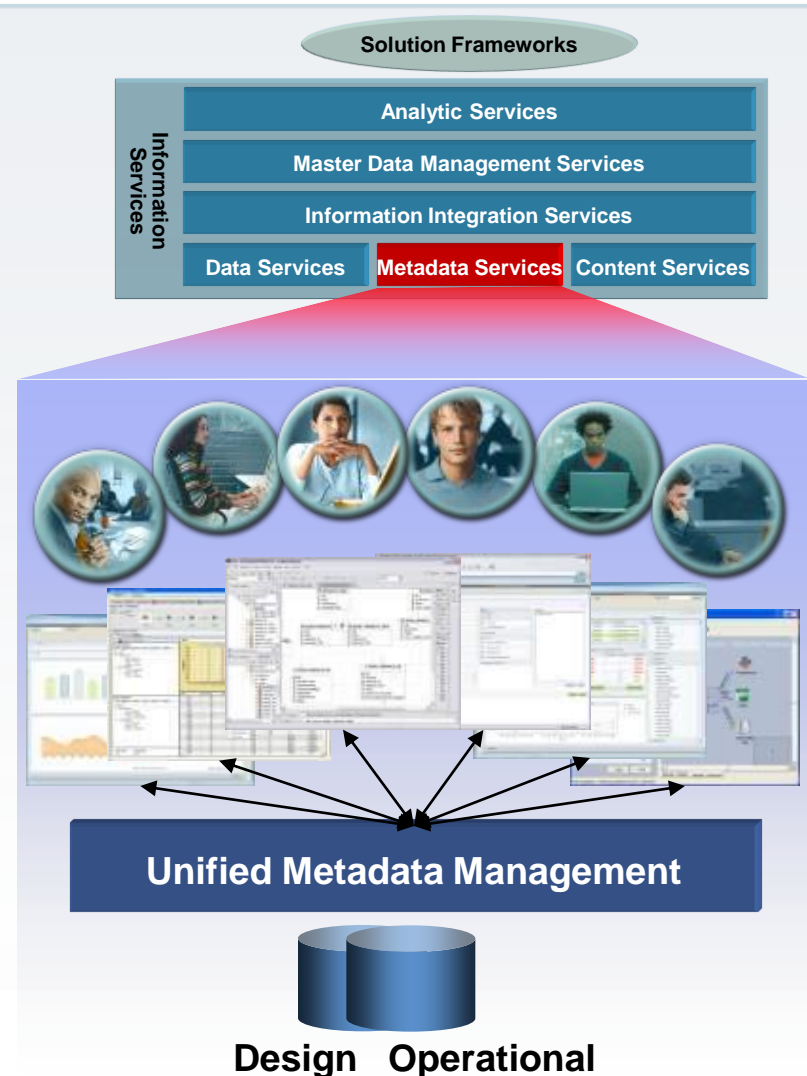
- IT staff spends too much time searching for artifacts related to their tasks

Key Capabilities

- Common metadata foundation to access and share artifacts
- Role-based views and functionality

Business Benefit

- Improve common understanding
- Improve collaboration
- Increase in worker productivity



Unified Access to & Management of XML & Enterprise Data

Business Challenge

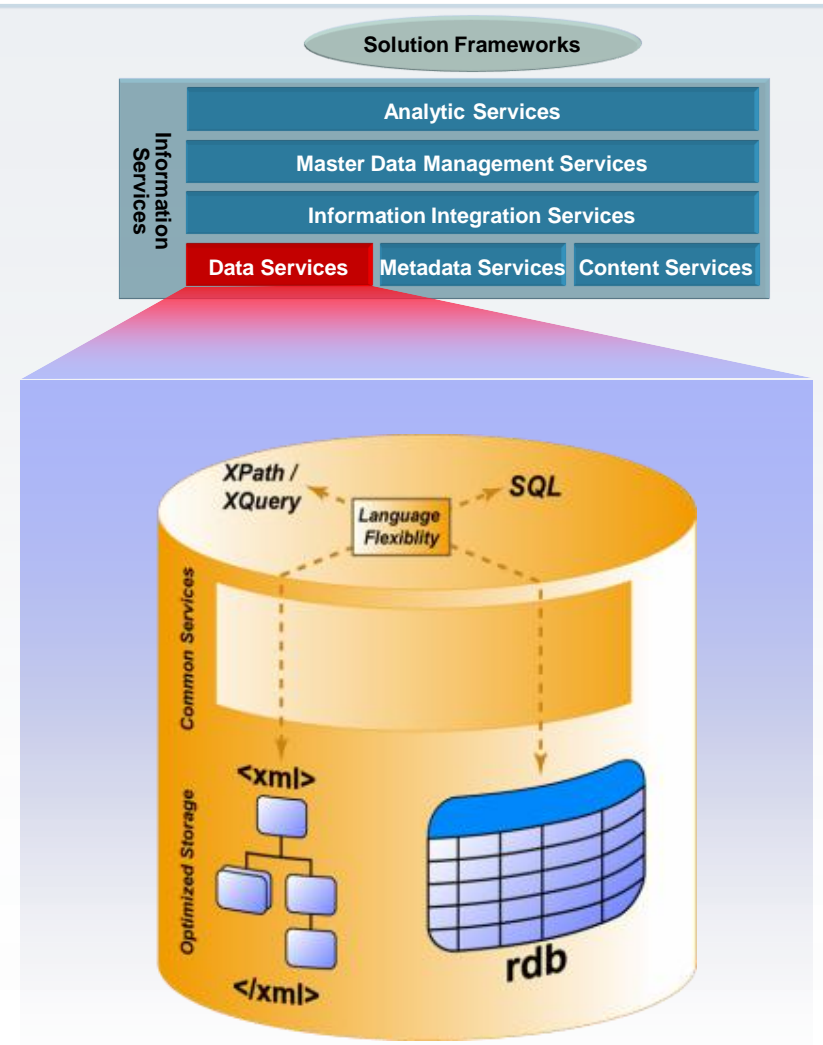
- Lack of holistic view of enterprise information, specifically around XML and relational data

Key Capabilities

- Performance, integrity, protection, and scale combined with flexibility of XML
- Manage XML and relational data holistically – in the same database

Business Benefit

- Significant reduction in development time and in iterative deployment
- Significantly fewer lines of code
- Significantly higher performance



IBM Data Server Software

Use your data more effectively and efficiently



Optimized for near hands free administration, high availability and clustering for transaction intensive solutions

Optimized for a diverse range of solutions requiring maximum flexibility and performance

Optimized for extreme speed delivering up to 10 times the performance of conventional databases



Optimized for rapid and flexible development of solutions requiring dynamic data records

Optimized for solutions requiring the highest levels of transaction & data volume and performance

The industry's broadest range of database and data warehouse management innovations optimized for every business need

Single Interface to Disparate Data Sources

Business Challenge

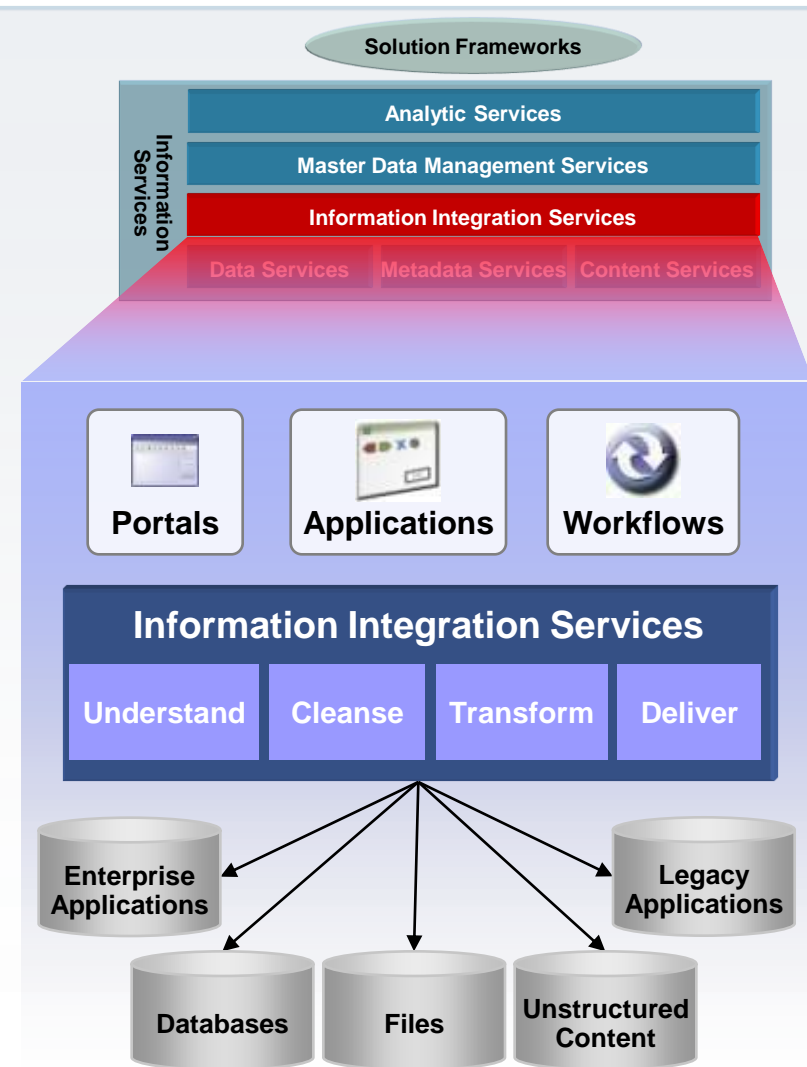
- Lack of business insight and poor decisions due to inaccurate, inconsistent and partial information
- Significant overhead to provide correct data

Key Capabilities

- Profile & understand your service data
- Enterprise-wide consistent cleansing rules for applications and data
- Integrate and transform data from various sources (federate, consolidate)

Business Benefit

- Increased worker productivity: Information accessible to every user when and how they need it



Understand Your Data

Data Analysis as a Prerequisite to Service Exposure

■ As-Is Environment

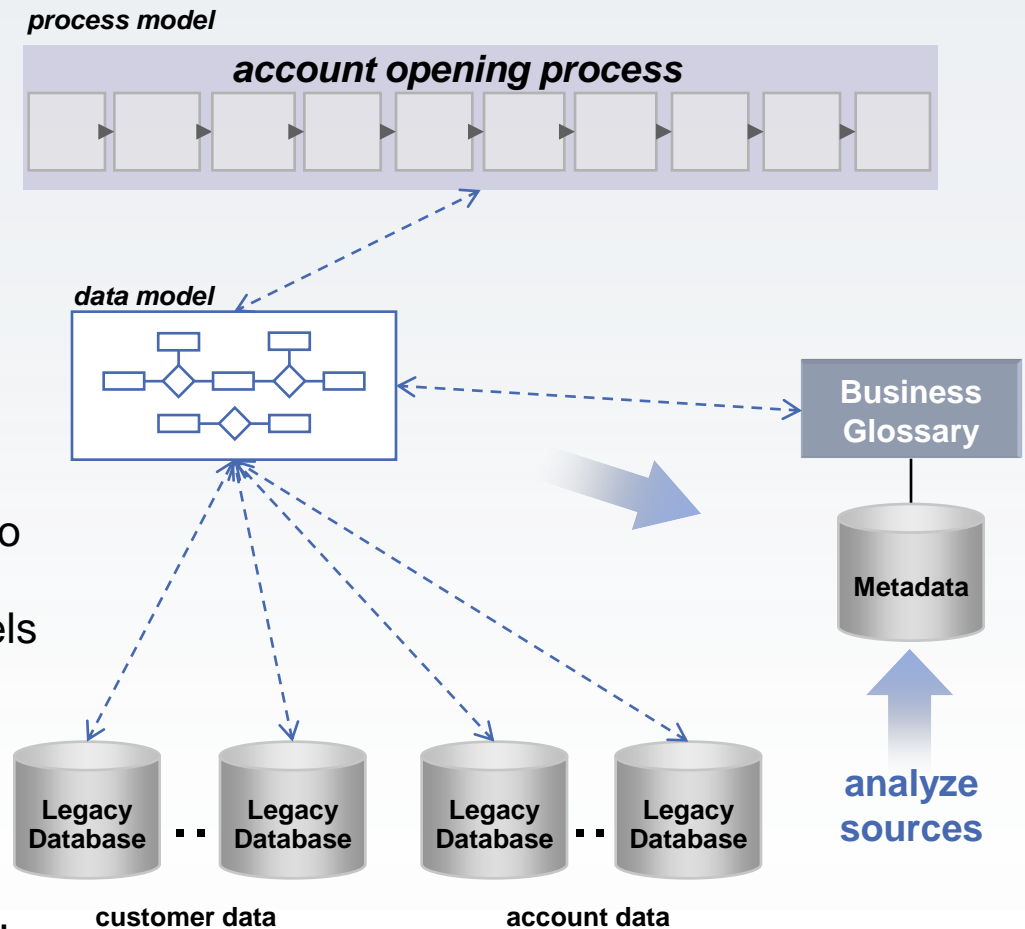
- Unclear business terms; inconsistency between business and technical terms
- Uncertainty of data quality
- Inconsistency between process models and data models

■ Solution Characteristics

- Common business glossary
- Assess and analyze data sources to determine degree of data quality
- Align data, process & service models

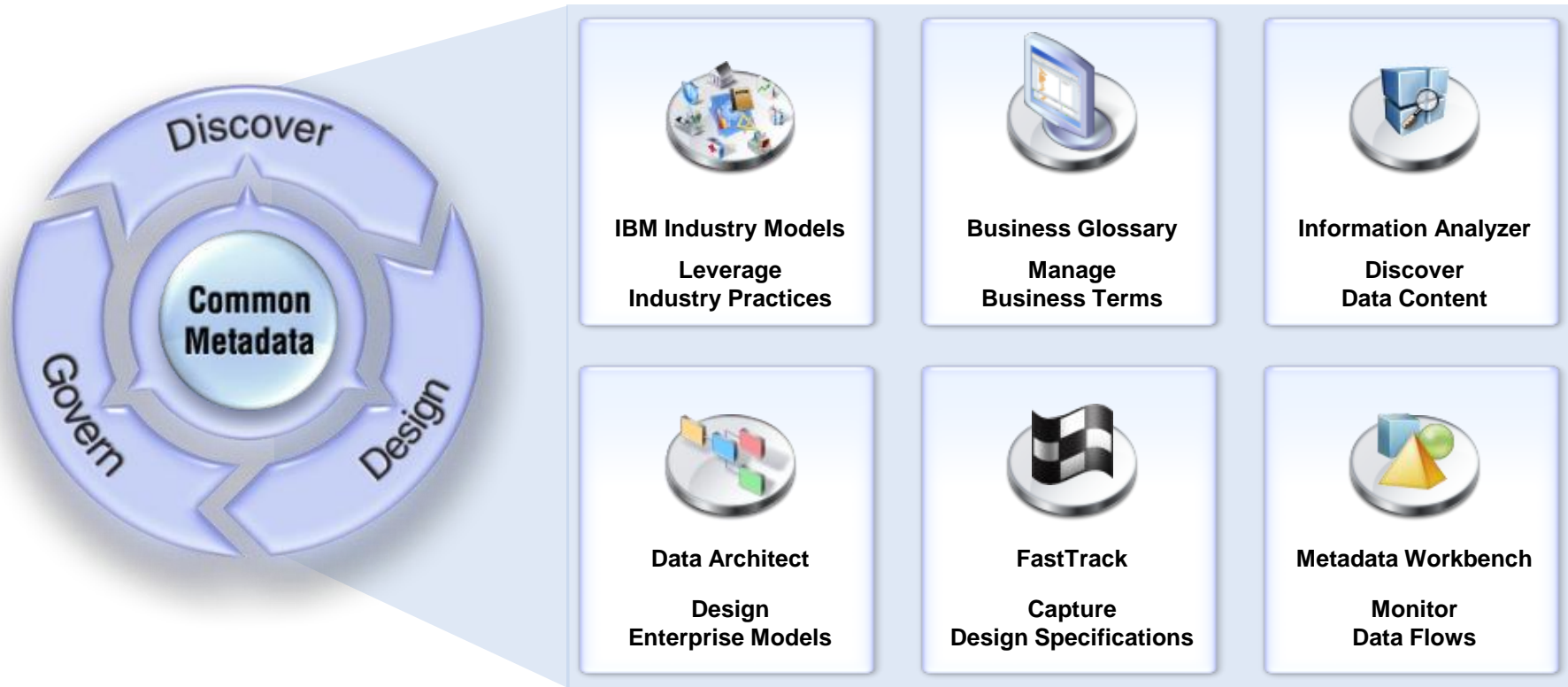
■ Results

- Common definition of key terms
- Discover structural inconsistencies and anomalies in data formats
- Consistent data format across data, service and process layers



InfoSphere Foundation Tools

Software to convert information into trusted a trusted strategic asset



- *Discover* and understand the data across heterogeneous systems
- *Design* trusted information structures for business optimization
- *Govern* that information over time

Cleanse Your Data

Consistent, Standardized Data Throughout the Enterprise

As-Is Environment

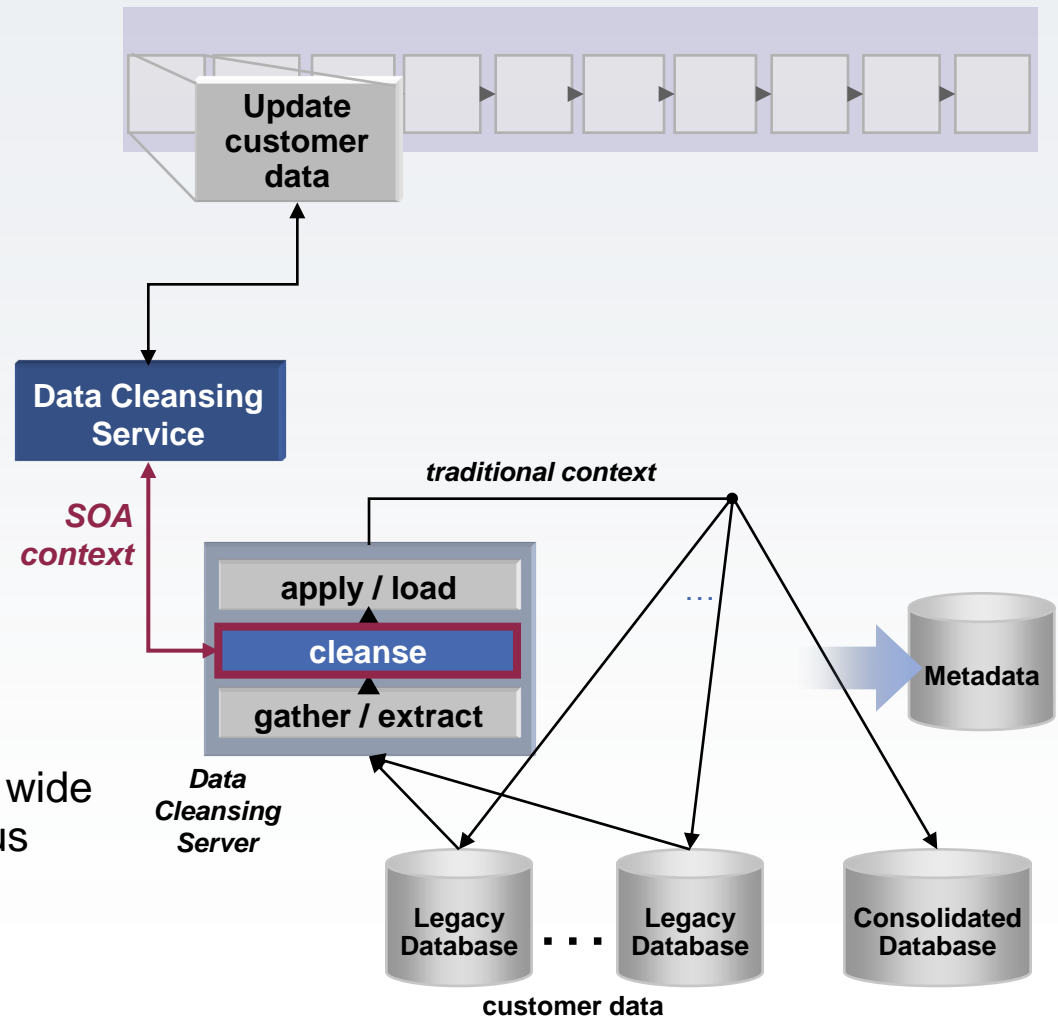
- Lack of data standards
- Data inconsistencies
- Data redundancies

Solution Characteristics

- Standardization of data formats
- Data enrichment
- Duplicate identification & removal
- Apply same data cleansing rules against persisted data and expose as services

Results

- Single & consistent definition of cleansing rules, reused enterprise wide
- Apply against data stored in various customer databases
- Apply during data entry



Transform Your Data

Create Trusted Information from Disparate Sources

■ As-Is Environment

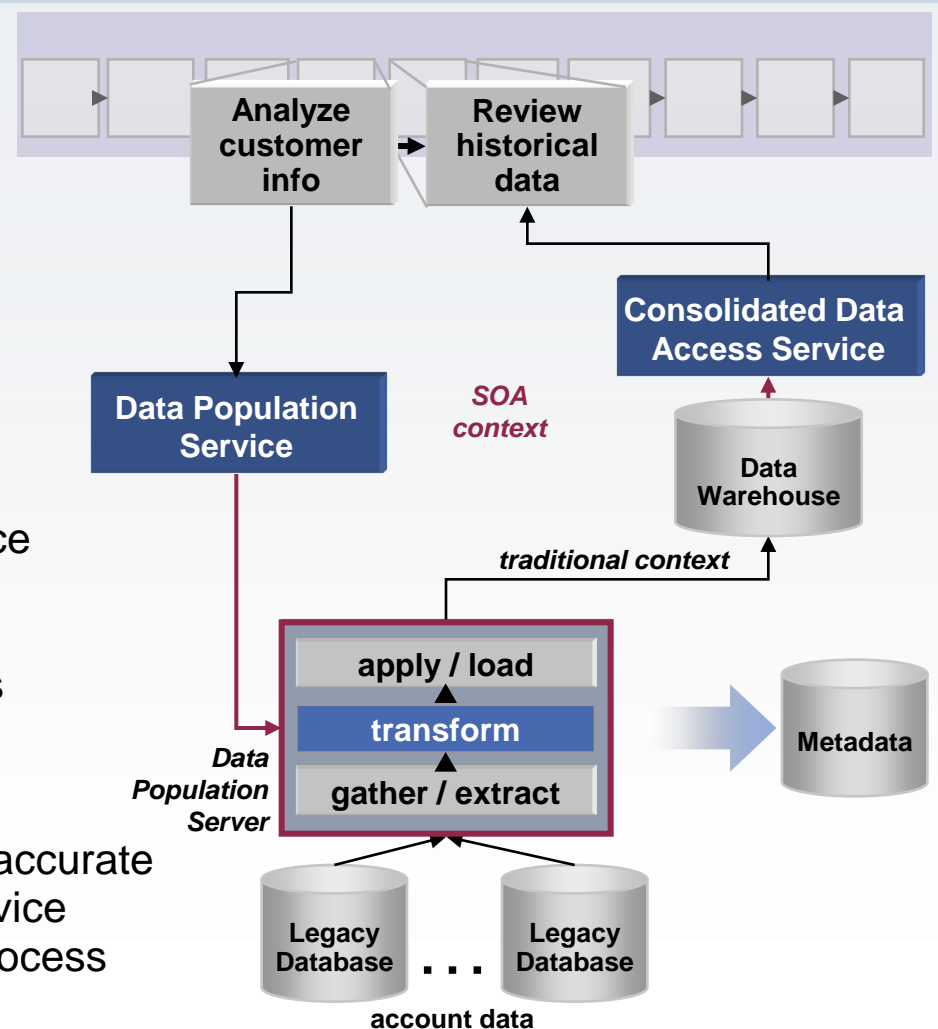
- Data resides in disparate sources
- Manual & redundant integration of data by multiple consumers results in high costs and inconsistent/inaccurate data
- Slow response time due to large data volume and complex transformations

■ Solution Characteristics

- Apply transformations on extracted source data; copy into consolidated target and expose consolidated data as services
- Invoke population from business process

■ Results

- Multiple consumers can access trusted, accurate and integrated information through a service
- Data availability aligned with business process



Deliver Your Data

Virtualized Through Services

■ As-Is Environment

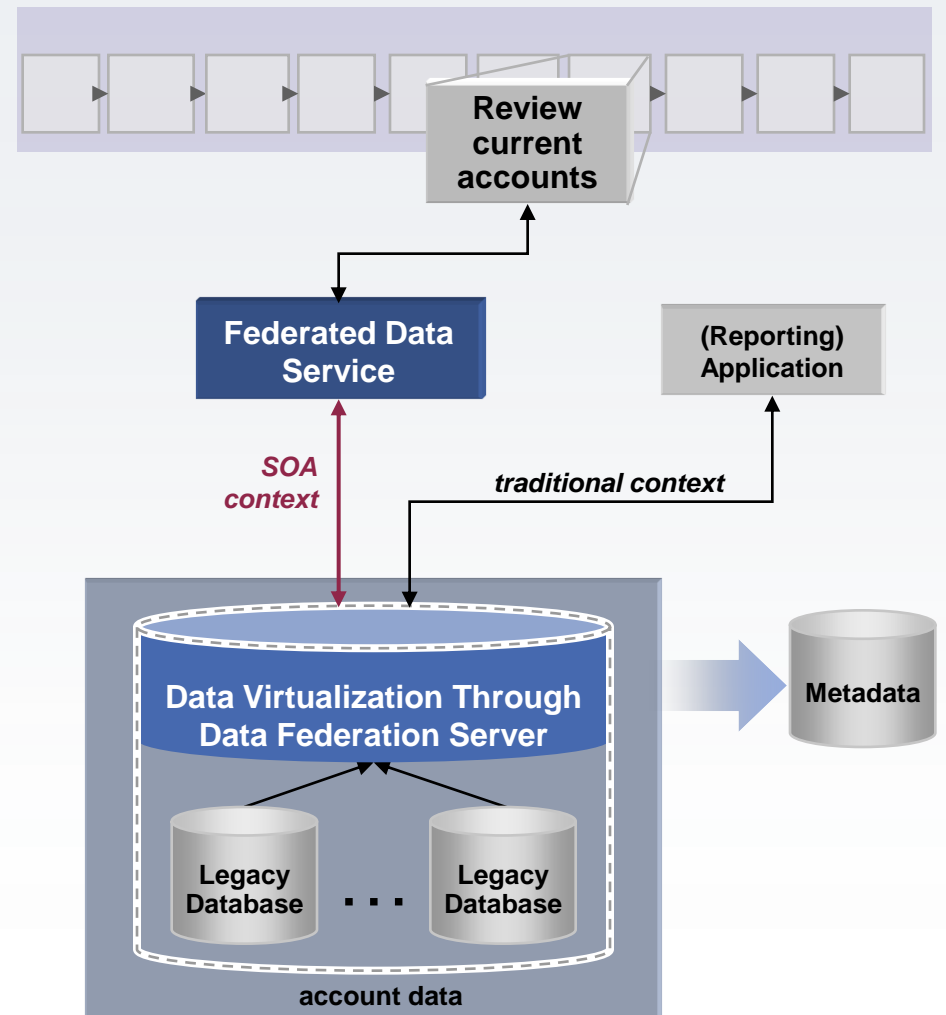
- Data resides in disparate sources
- Manual & redundant integration of data by multiple consumers results in high costs and inconsistent/inaccurate data
- Slow response time due to inefficient real-time access

■ Solution Characteristics

- On demand integration instead of redundant data
- Transparent & optimized access to distributed, heterogeneous sources

■ Results

- Real-time access to distributed information, fast response time
- Scalable approach for adding more data sources

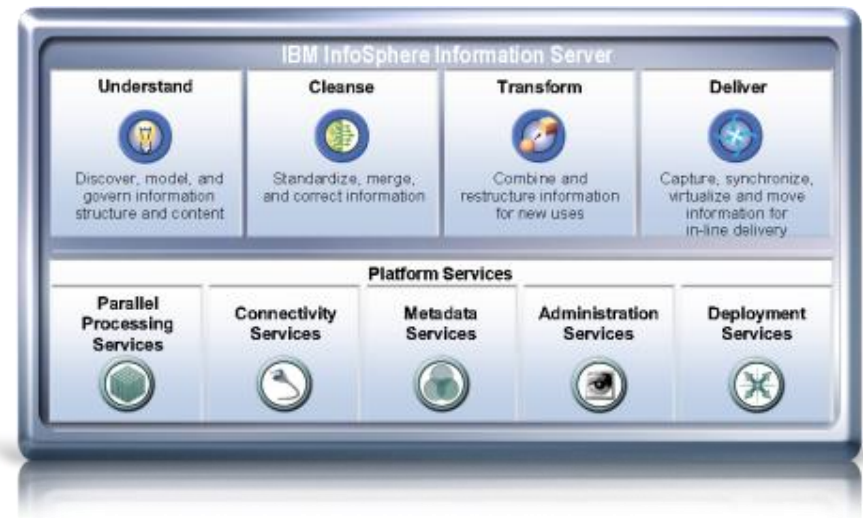


InfoSphere Information Server



Full capabilities to deliver *Trusted Information* across heterogeneous systems

- Accelerate Data Integration Projects
 - Metadata-driven design
 - Business IT alignment
- Leverage Existing Resources
 - Broad native connectivity
- Architected for Growth
 - Massive scalability
 - Parallel processing



Access to Trusted & Integrated Master Data

Business Challenge

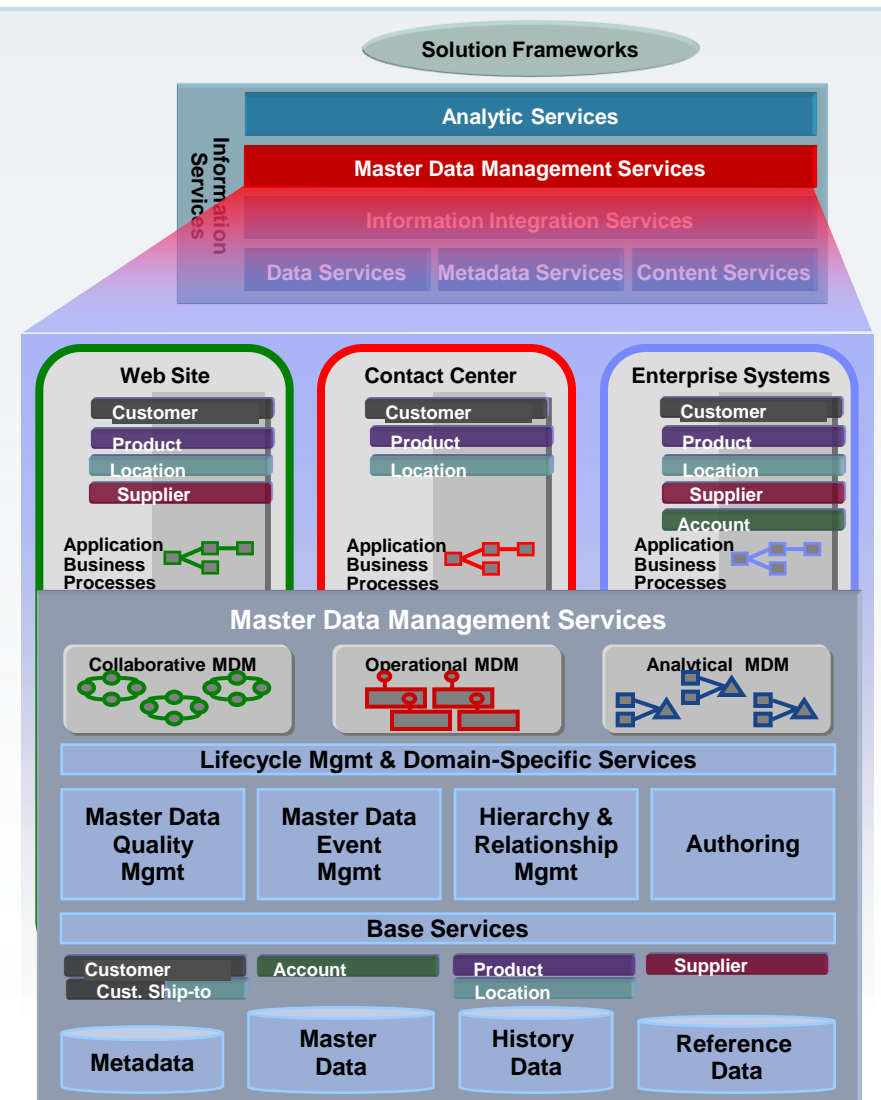
- Single view of customers or products
- Gain control of disparate silos

Key Capabilities

- Consolidate and cleanse master data from disparate sources
- Provide trusted source of master data in various styles: collaborative, operational, analytical

Business Benefit

- Organizational effectiveness
- Increase in data accuracy
- Significant savings



Providing Trusted, Timely, Consistent & Complete Information

- **As Is Environment**

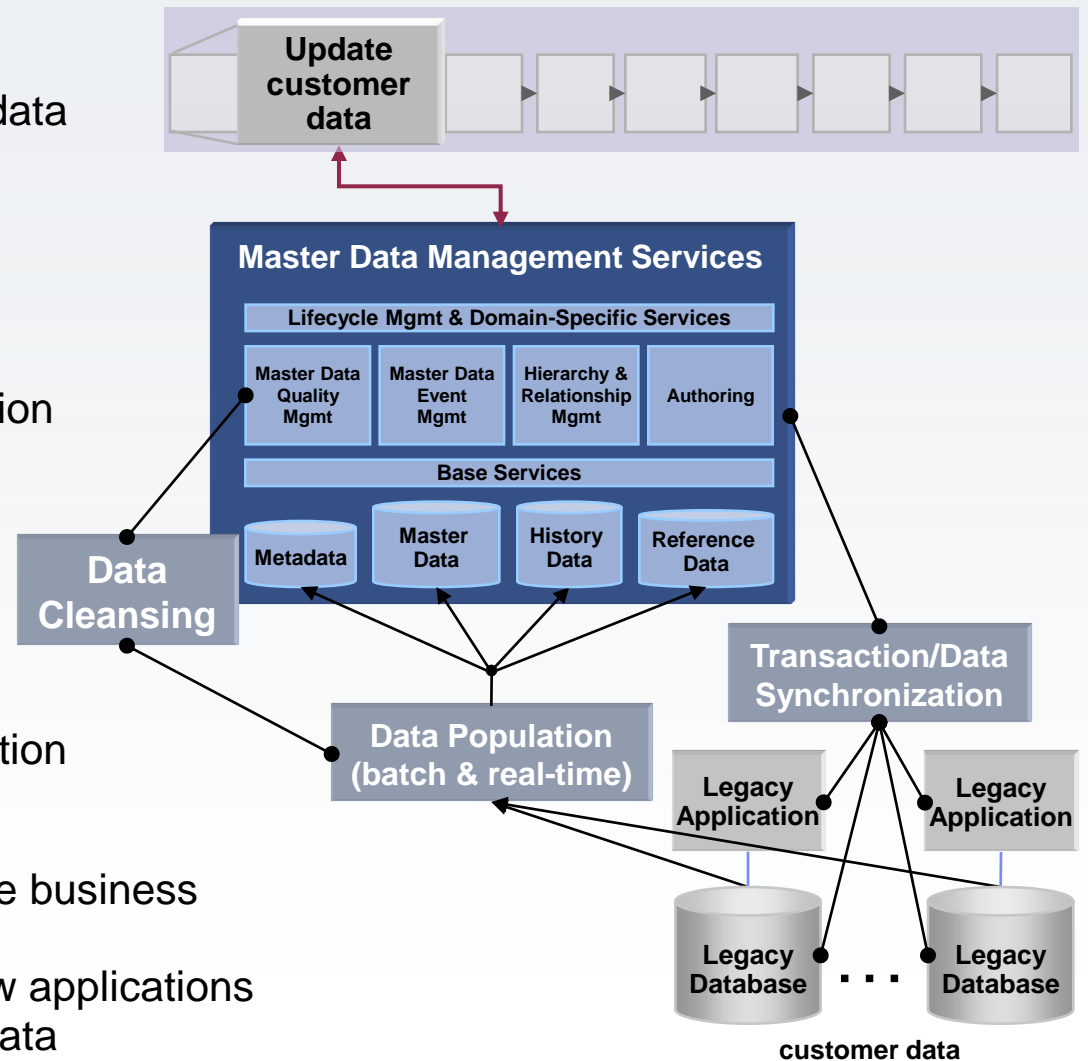
- Inconsistent, incomplete master data
- Redundant and inaccurate implementations to access and integrate master data

- **Solution Characteristics**

- Integrate data using data population
- Guarantee quality using data cleansing
- Master data repository to provide single version of the truth for service access
- Ensure consistency through transaction and data synchronization

- **Results**

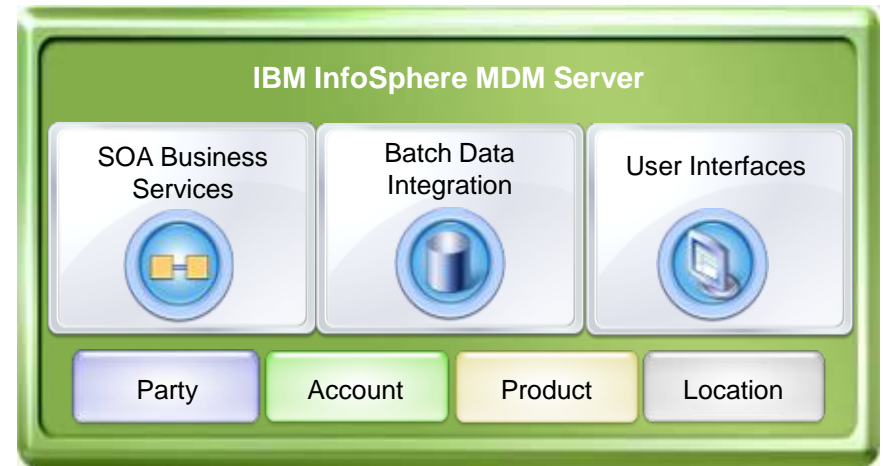
- Established trusted source of core business information
- Scalable approach for adding new applications and providing access to trusted data



InfoSphere MDM Server



- Master data management across party, account, product & location data
- Centralizes and synchronizes master data across heterogeneous systems
- Enabled as an SOA Library with 800 pre-packaged business services
- High performance, high scalability foundation



Leverage Insight From Analytic Data in SOA

Business Challenge

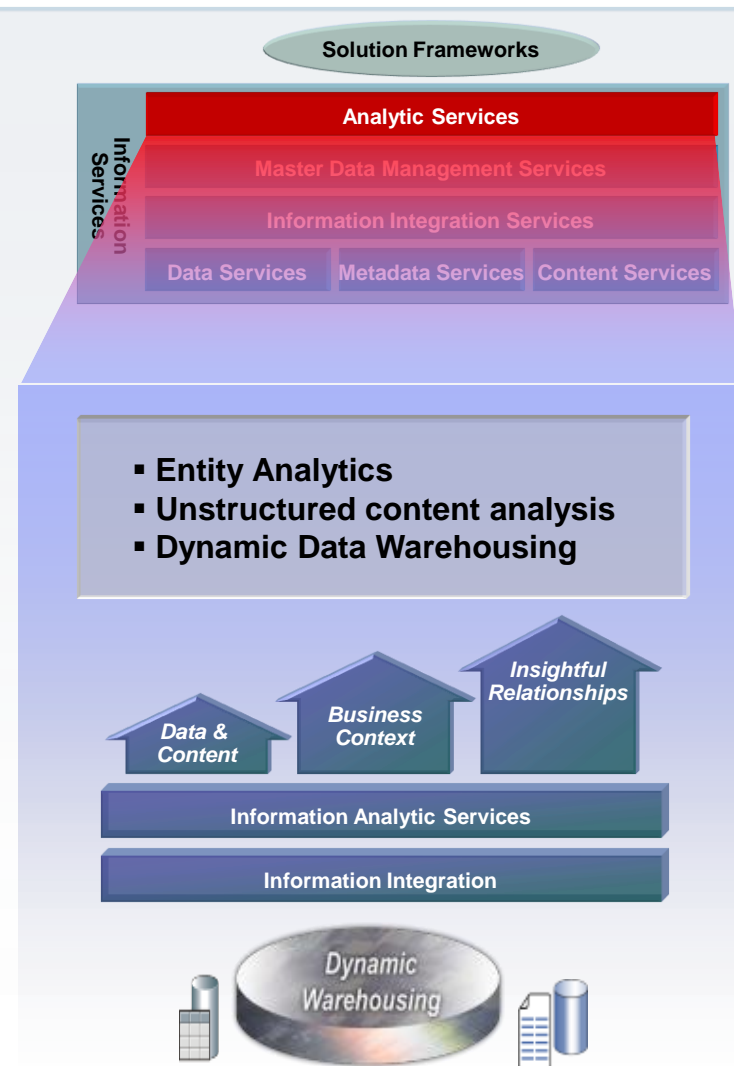
- Key metrics are not current and consistent
- Lack of early warnings
- Identity conflicts and uncertainty
- Fraud, risk & compliance

Key Capabilities

- Expose analytical data as services: KPIs, scoring, extracted insight from structured and unstructured data
- Embed real-time analytics into applications and business processes

Business Benefit

- Improved insight into key metrics; accurate information, in-line and in-context
- Improved decision-making



Leverage Analytic Insight in SOA

■ As Is Environment

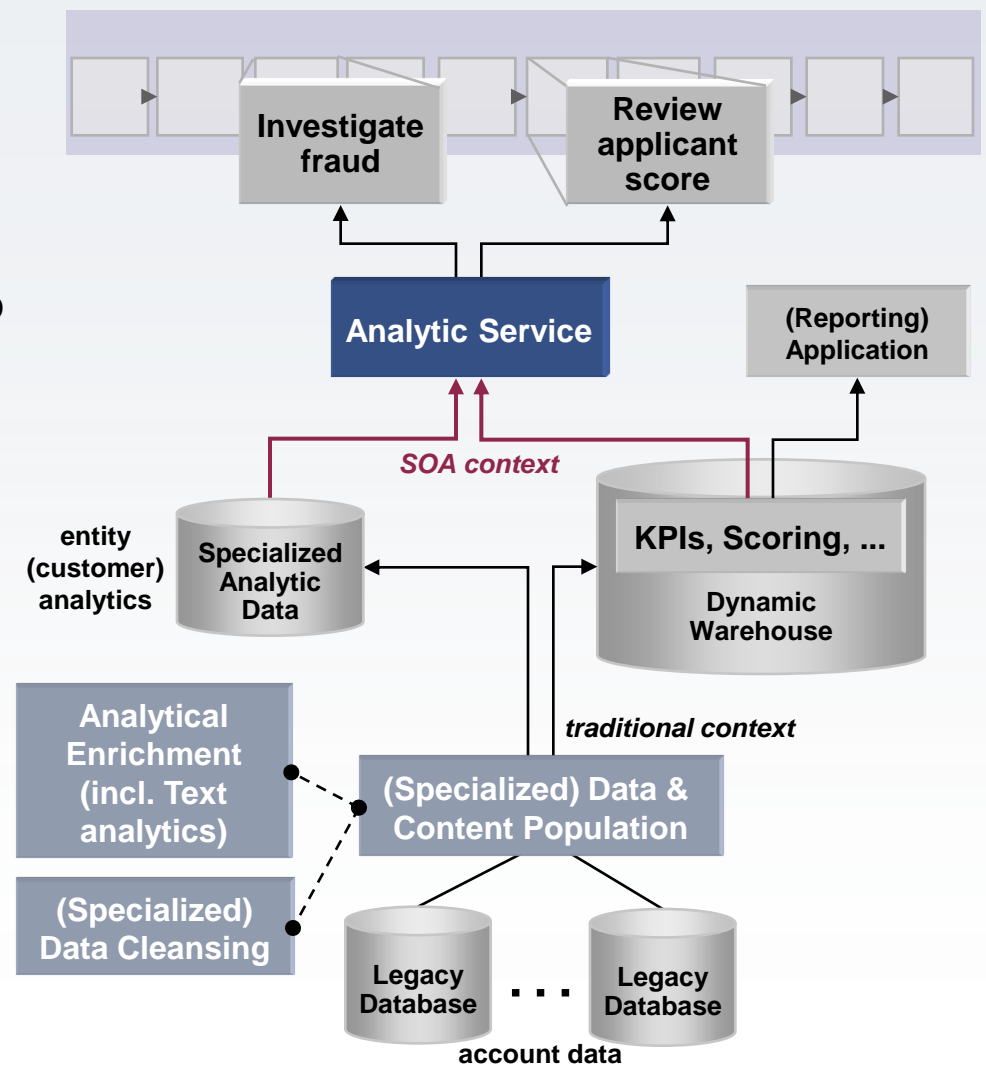
- High exposure to fraud due to disparate data about individuals
- Significant overhead to implement compliance guidelines
- Manual, inefficient implementations to aggregate data for KPIs, scores, etc.

■ Solution Characteristics

- Aggregate data by applying data population pattern, cleansing pattern and possibly analytical enrichment
- Expose analytic insight from warehouses and stores as services

■ Results

- Improve analytical insight
- Time to market improvement; scalability and performance gains



Information Server

InfoSphere MDM Server

InfoSphere Warehouse



- Unified, powerful data warehouse foundation
- Advanced partitioning, data mining, retention & cubing features
- Optimized performance for operational & transactional use
- As big or as small as your business needs

Storage Optimization

Increase warehouse capacity

Performance Management

Identifies usage patterns and trends



Workload Management

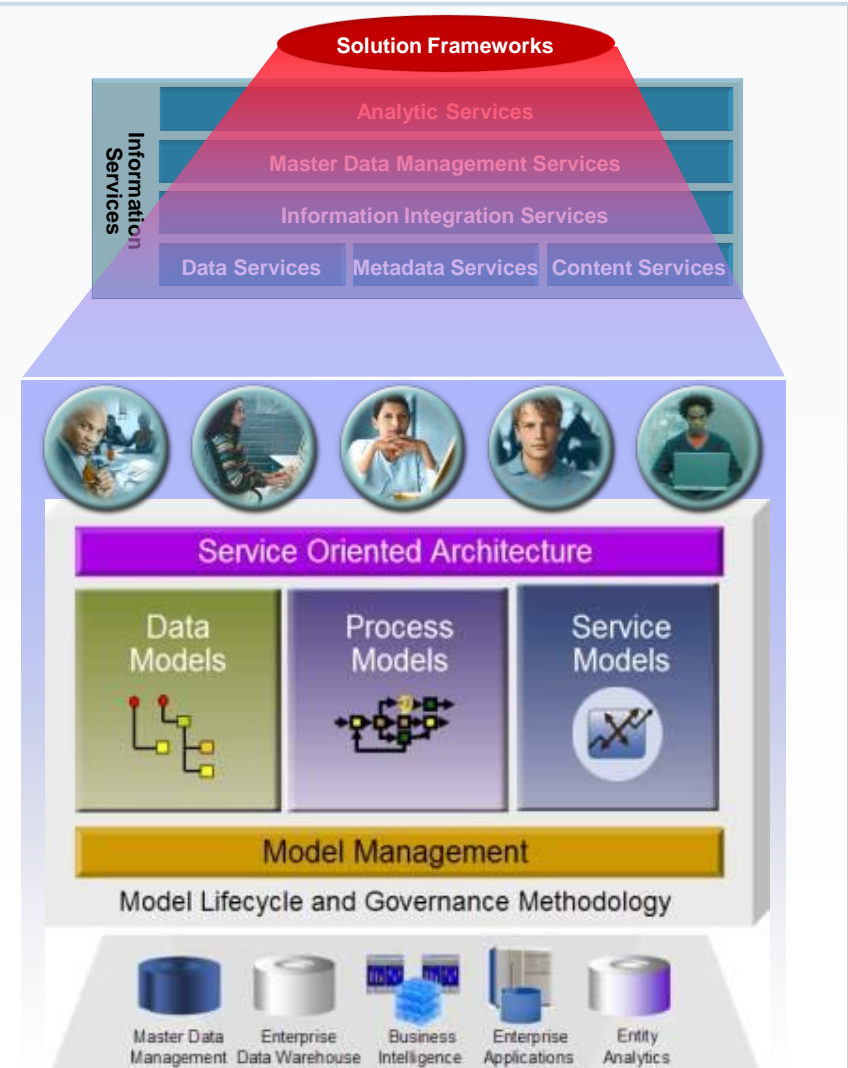
Optimizes workloads and priorities

Data Retention

based on usage patterns and data governance

Accelerate Your Projects With Industry Models

- **Business Challenges**
 - Integration through SOA
 - Core system renewal
 - Process transformation
 - Operational insight, risk and compliance
 - Data governance and standardization
- **Key Capabilities**
 - Banking models
 - Insurance models
 - Retail models
 - Telecommunication models
- **Business Benefit**
 - Reduces process and use case analysis
 - Broad coverage of data requirements
 - Accelerates stakeholder approval
 - Reduces development time









IBM Industry Models



Proven data models *Accelerate Data Warehouse Projects* across six industries

- Business templates for industry specific KPIs ie.
 - Claims (Insurance)
 - Provider and network (Health Plan)
- Accelerator for migration & integration projects
- Act as acceleration templates within Information Server & Cognos 8 BI
 - Deliver target data structures
 - Pre-built business glossaries

IBM Information Server and IBM Industry Data Models		
 <p>Banking (Banking data warehouse)</p> <ul style="list-style-type: none"> • Profitability • Relationship marketing • Risk management • Asset and liability management • Compliance 	 <p>Financial markets (Financial markets data warehouse)</p> <ul style="list-style-type: none"> • Risk management • Asset and liability management • Compliance 	 <p>Health plan (Health plan data warehouse)</p> <ul style="list-style-type: none"> • Claims • Medical management • Provider and network • Sales, marketing and membership • Financials
 <p>Insurance (Insurance information warehouse)</p> <ul style="list-style-type: none"> • Customer centricity • Claims • Intermediary performance • Compliance • Risk management 	 <p>Retail (Retail data warehouse)</p> <ul style="list-style-type: none"> • Customer centricity • Merchandising management • Store operations and product management • Supply chain management • Compliance 	 <p>Telco (Telecommunications data warehouse)</p> <ul style="list-style-type: none"> • Churn management • Relationship management and segmentation • Sales and marketing • Service quality and product lifecycle • Usage profile

Summary

- Turning information into a trusted asset is a key component of an SOA environment
- Processes, services and information assets are all interrelated, and need to be architected in the context of a business solution
- Using Information as a Service patterns and principles, information becomes accessible in a standardized fashion across the SOA fabric of the enterprise

धन्यवाद

Hindi

多謝

Traditional Chinese

Teşekkür ederim

Turkish

Спасибо

Russian

Gracias

Spanish

شكراً

Arabic

Thank You

English

Obrigado

Portuguese

Grazie

Italian

Danke

German

Merci

French

Mulumesc

Romanian

多谢

Simplified Chinese

감사합니다

Korean

ありがとうございました

Japanese