

Master Data Management

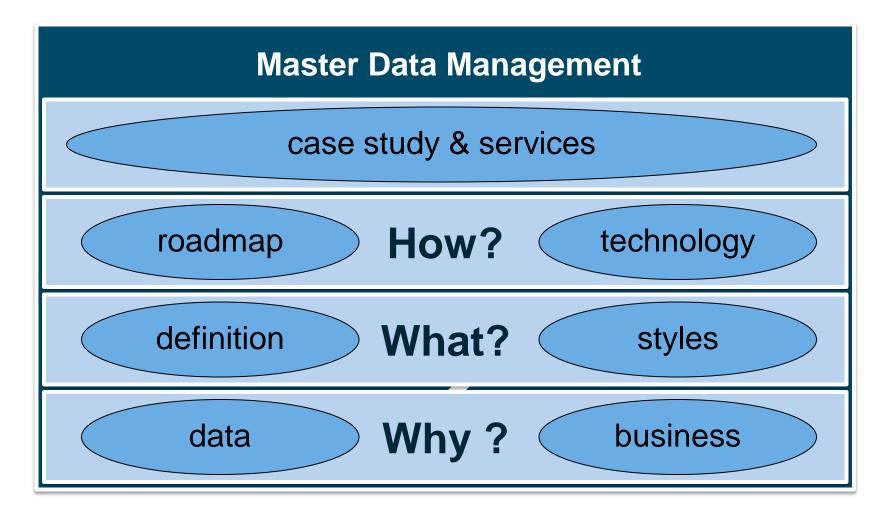
Myth or Reality?

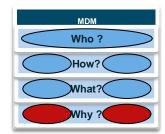


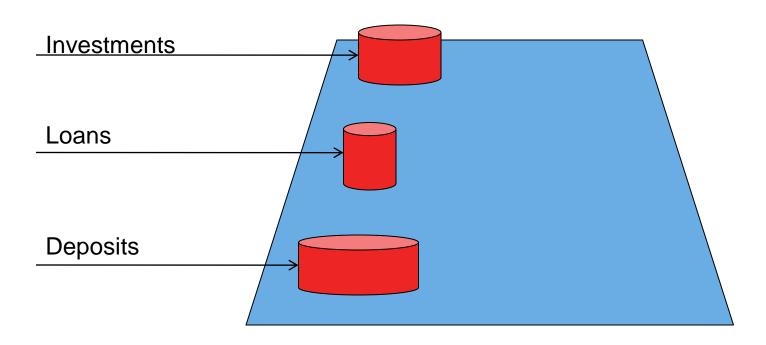
Patrice Latinne

ULB 30/3/2010

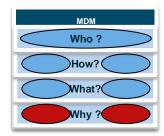
Agenda

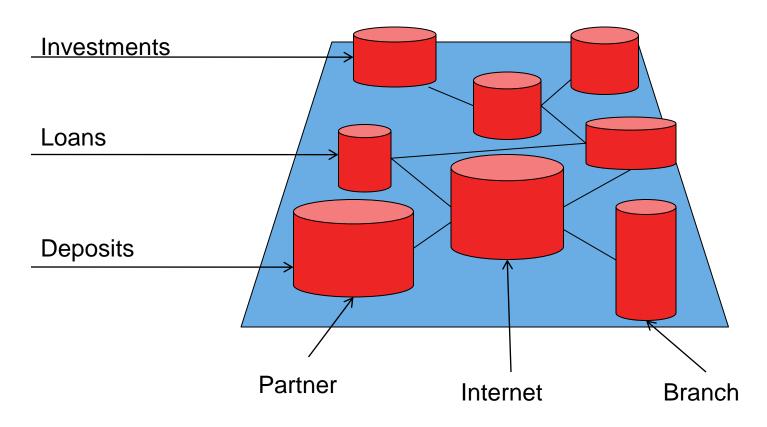






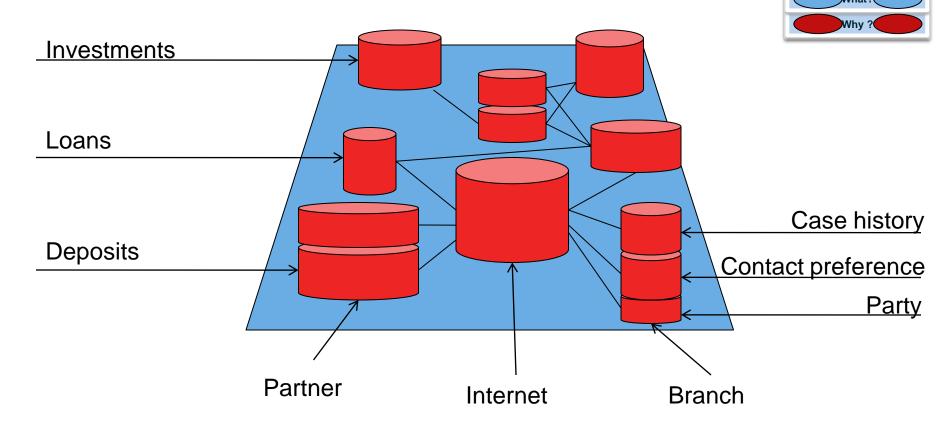
- Cross-Line of Business
- Different Regulatory requirements
 - Different Controls





- Cross-Line of Business
- Cross-Channel

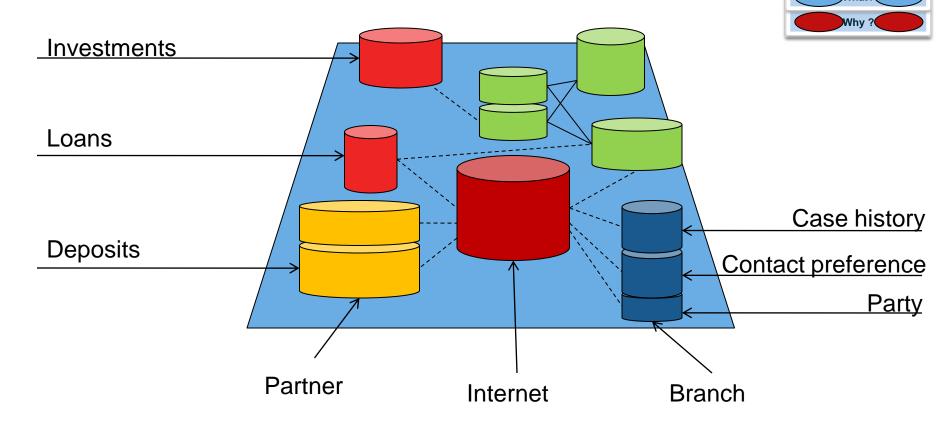
- Different complexities
- Different treatments
- Different locations



- Cross-Line of Business
- Cross-Channel
- Cross-Business Subdomain
- Different scopes (of interest, of biz information)
- Different subsets

Who?

How?

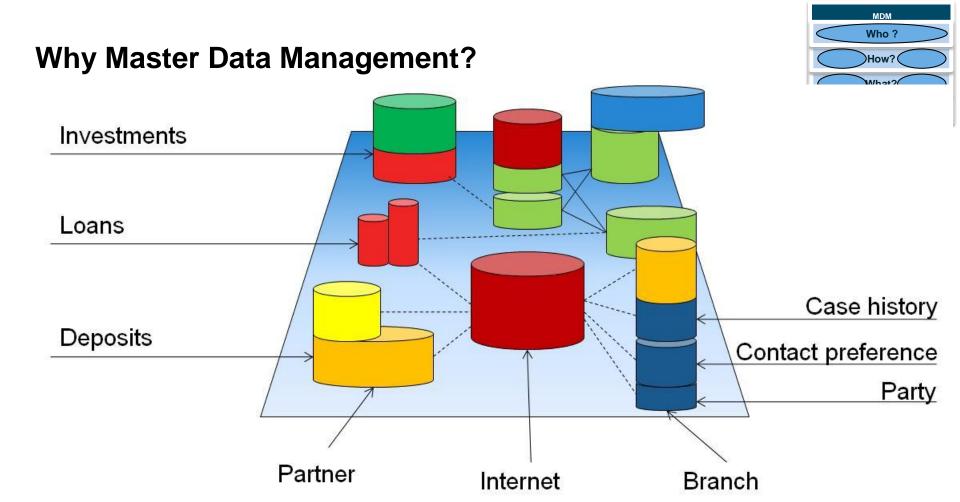


- Cross-Line of Business
- Cross-Channel
- Cross-Business Subdomain
- Cross-Application

- Different packages (CRM, ERP, SCM, ...)
- Different technologies (SAP, IBM, Oracle, ...)
- Different representations

Who?

How?

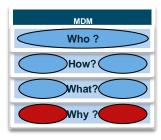


- Cross-Line of Business
- Cross-Channel
- Cross-Business Subdomain
- Cross-Application
- Mergers & Acquisitions

- The worse of all inputs?

Why MDM?

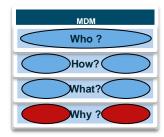
A big Shift in Enterprise Information Architectures where MDM will play a significant role

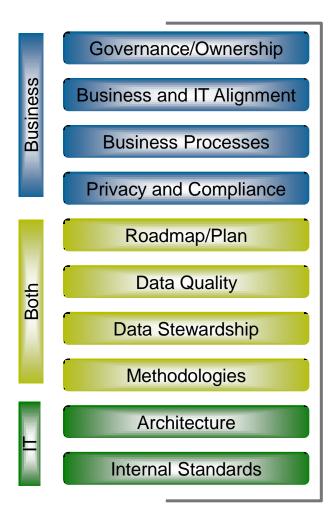


Strategic	Current State		Future Vision
Drivers Vision:	"Need to Know" — Sharing when deemed necessary		"Responsibility to Provide" — Sharing with appropriate security
Scope:	<u>Department-Centric</u> — Based on unit's primary		Enterprise-Centric — Ecosystem stretching across boundaries
Operational Drivers	function		ou eterning deress bearidanes
Collaboration:	Static — Policies with little change or flexibility		<u>"Self-Generating"</u> — Rapidly adapt to changing needs
Security:	Network-Centric — Security designed (DMZ, firewalls)	<i>'</i>	Information-Centric — Security built into data (XML)
Access:	Compartment-Based — Security access and contro	ls	Attribute-based — Based on attribute classification
Usage:	"Data Owner" — Controls of access and distribution	on	"Data Steward" — Shift mind- set to facilitate sharing

US Intelligence Community Information Sharing Strategy, produced by the Office of the Director of National Intelligence (DNI), published in February of 2008

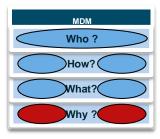
Why MDM? Strategy Components Provide a Foundation for a MDM Business-IT Partnership

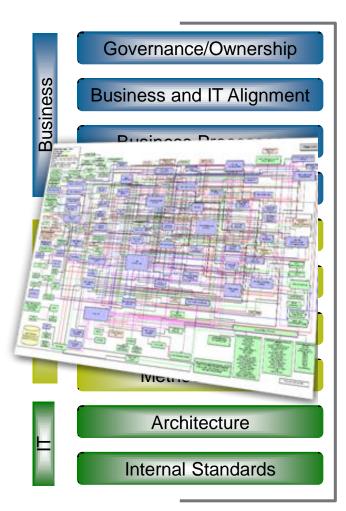




- •What are we trying to achieve?
- •How can the data be used?
- •How do we define the data?
- •What gets prioritized?
- •How do we make data usable for everyone?
- •What data can be shared and with whom?
- •What data will be addressed when?
- •How do we make sure Quality data is available?
- •How do we manage our data projects?
- •What are the roles and responsibilities?
- •What new skills will be necessary?
- •What tools/technologies will be necessary?
- •How should we organize the data?
- •How do we interact with the business?

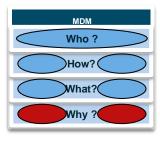
Why MDM? Technical challenges...

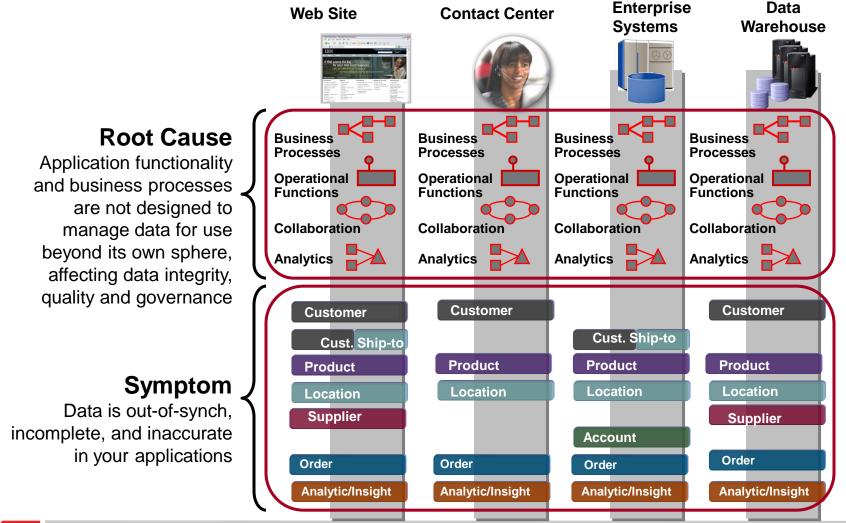




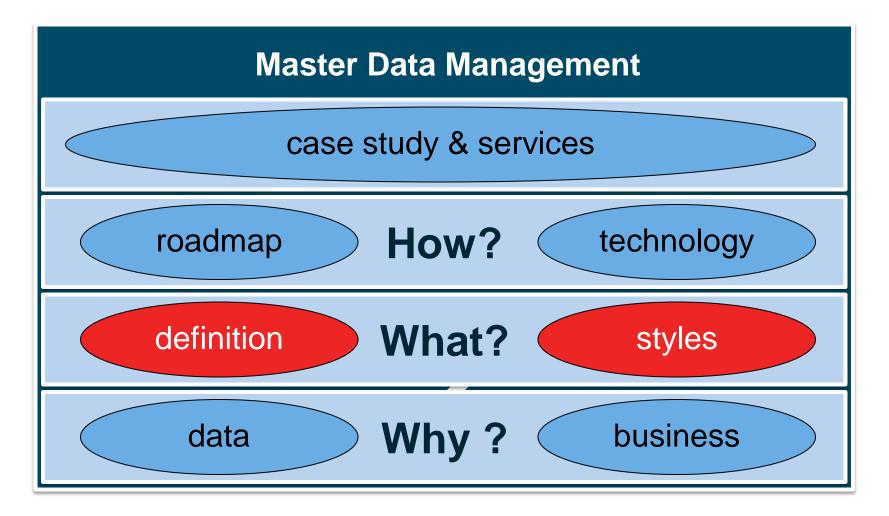
- A Proliferation of Data, Stored in
- A Proliferation of Databases, Containing
- A Proliferation of Definitions, Satisfying
- A Proliferation of Requirements, Accessed by
- A Proliferation of Applications, *Enabled by*
- A Proliferation of Tools, Yielding
- A Proliferation of Answers

Why MDM? Summary

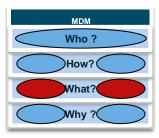




Agenda



What is Master Data?



Master Data <u>IS NOT</u>

- All the data within the enterprise
 - such as transaction data, billing data, sales data, inventory data, etc.
- Application-unique data

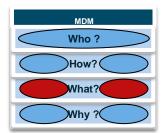
Master Data <u>IS</u>

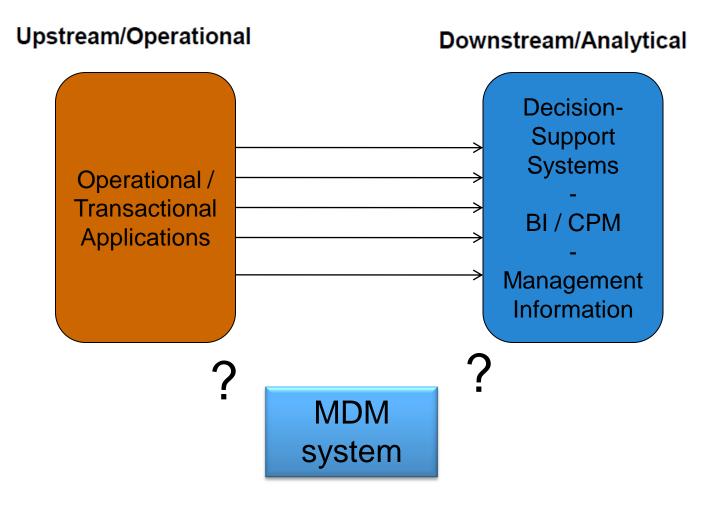
 The key facts describing your core business entities: customers, partners, employees, products, bill of materials, list of accounts and locations

and the **relationships** between them

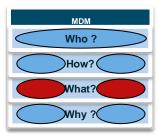
 The high value information an organization uses repeatedly across many business processes

MDM position within Information Management



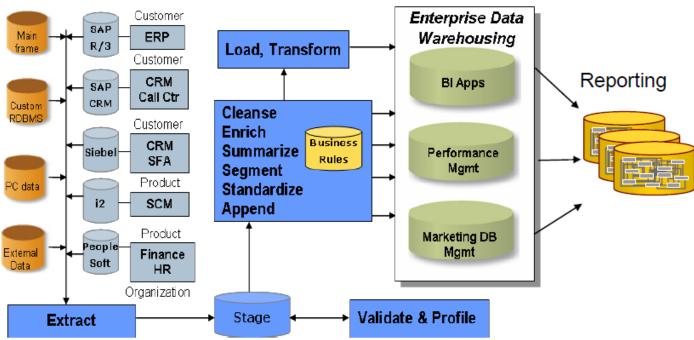


MDM position within Information Management



Upstream/Operational

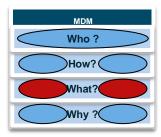
Downstream/Analytical

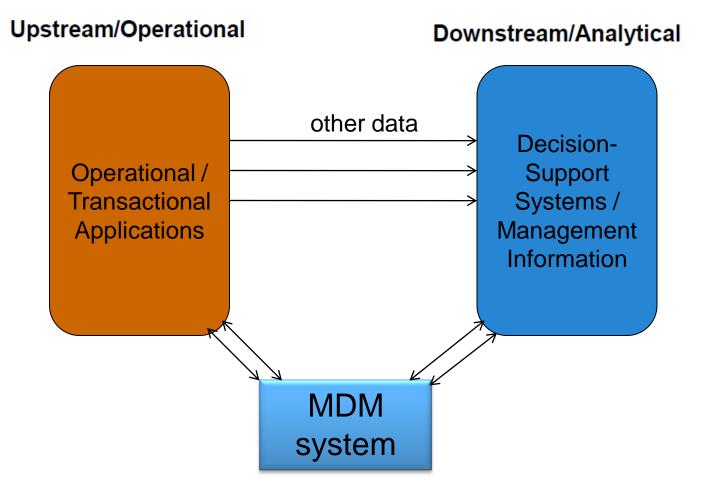


Point to Consider

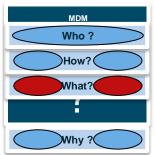
- Both environments may have "heterogeneity" many operational systems, many data marts.
- Master data in the two environments needs to be aligned MDM ultimately "belongs" upstream.
- Analytical MDM is not solving the problem at source, but can "improve" the BI infrastructure.
- MDM as a discipline (and maybe as a technology) is needed in both places.

MDM position within Information Management high-level idea...

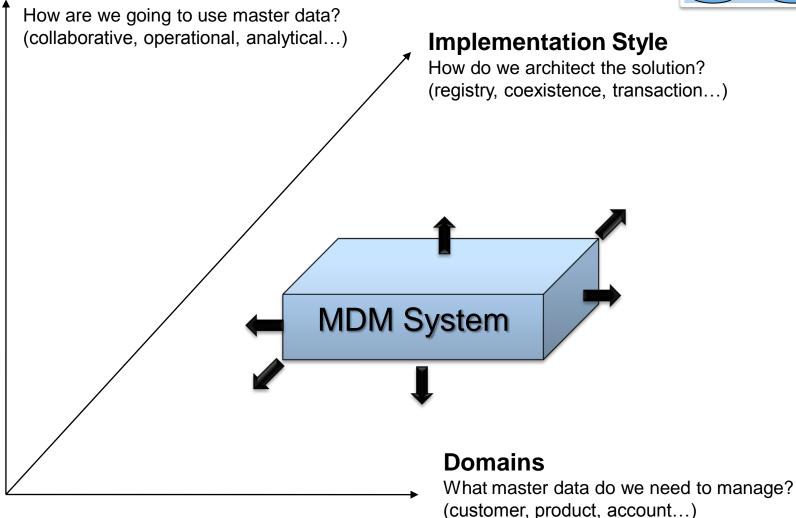




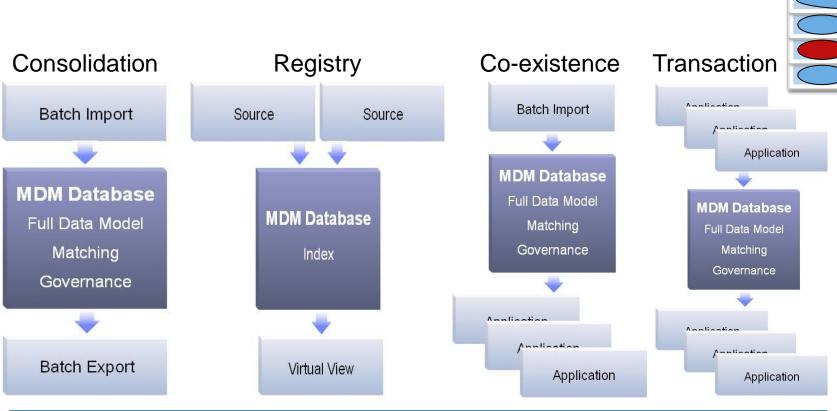
How to define a MDM system or discipline?

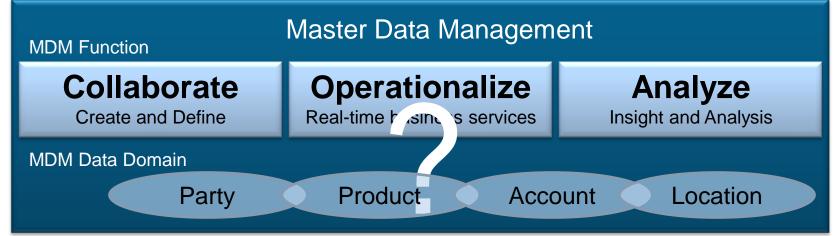


Method of Use



What? a question of Style...





Who ?
How?

Why ?

MDM Who? How? What? Why?

What? Master Data domains

- Party can reflect any legal entity, whether individual or organization
- Product encompasses both physical goods as well as services
- Account includes terms and conditions, and associated relationships
- Location may serve as a primary or secondary domain
- ...Not only must these domains be managed but also the relationships among them...

PARTY

Agent Customer Employee Prospect Supplier

CUSTOMER to ACCOUNT Relationship

ACCOUNT

Contract
Agreement
Transaction
Reward Program
Financial Account

PRODUCT

Part
Product
Product Bundle
Item/SKU
Service

CUSTOMER to PRODUCTRelationship

ACCOUNT to LOCATION Relationship

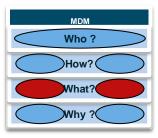
Terms & Conditions

PRODUCT to LOCATION Relationship

LOCATION

Location
Address
Contact Method
Geography/Region

Collaborative MDM

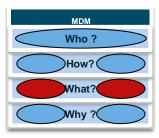


Collaborative Function of MDM:

- Manages the process of Creating, Defining, and Verifying master data
- Focused on the definition of Master Data that can be synchronized with Operational and Analytical Systems

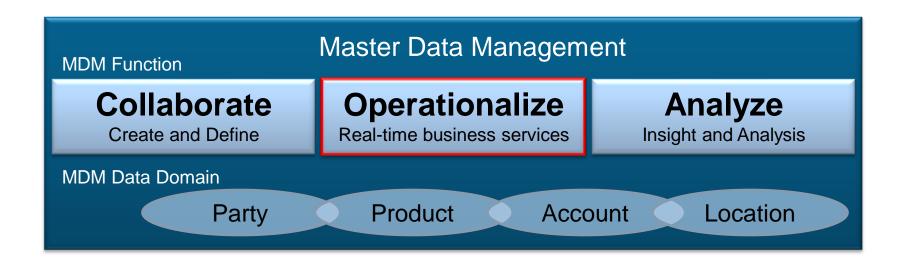


Operational MDM

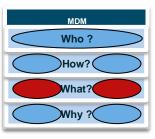


Operational Function of MDM:

- Use and Maintenance of Master Data occurs within Operational process/applications
- Master Data is consumed by other systems via real-time accessible SOA Services



Analytical MDM

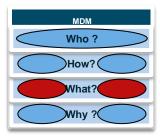


Analytical Function of MDM:

- Integration with existing data warehouse & analytics environment to provide master data
- Inject insight from analytic systems into operational business processes



Consolidation style



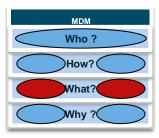
Consolidation



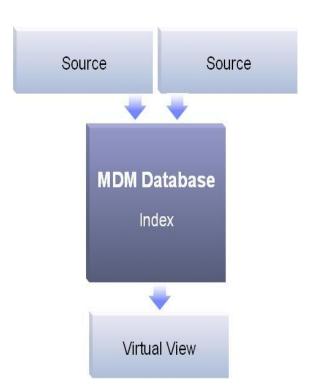
Consolidation

- Full data model across multiple data domains
- Batch import capabilities +Information Server integration
- Data stewardship and governance functionality
- Batch export to target systems

Registry style



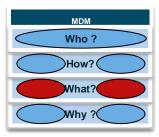
Registry



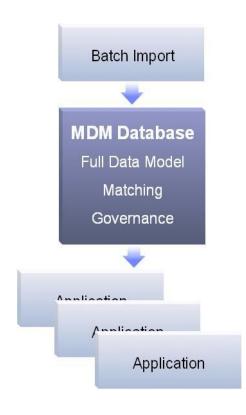
Registry

- Index (cross-reference) capabilities for any data entity and attribute
- Search and inquiry services
- Capabilities for virtual consolidated view via MDM database server capabilities (federated queries)
- Data stewardship and matching

Co-existence style



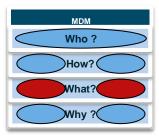
Co-existence

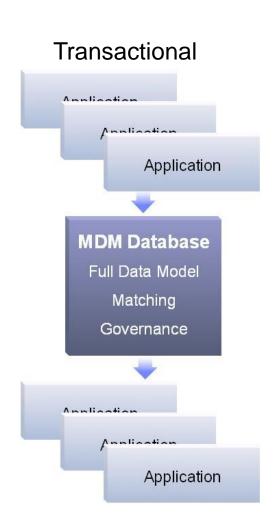


Co-existence

- Full data model across multiple data domains
- Cross-reference keys, subscription management, and message notification capabilities
- Search and inquiry SOA services

Transactional style





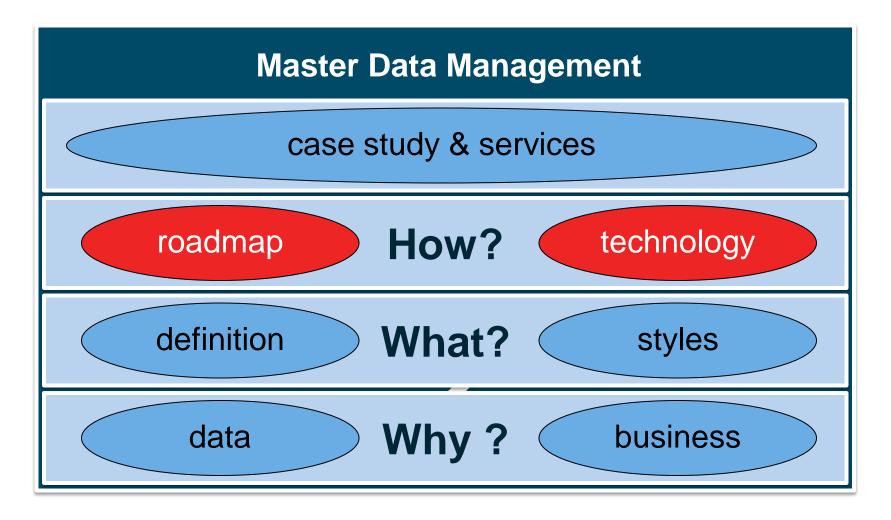
Transaction

- System of record add and update SOA transactions, with full business logic
- Transaction audit logging and database change logging and auditing
- Authorization an the data attribute level rules of visibility to control data access
- Transaction processing capabilities transactional integrity across all business services and ability to participate in enterprise (cross application) transactions

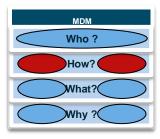
Remember, a question of Style... Who? How? What? Registry Consolidation Co-existence Transaction Why ? Annlination Batch Import Batch Import Source Source Application **MDM** Database **MDM** Database Full Data Model MDM Database **MDM** Database Full Data Model Matching Full Data Model Matching Governance Matching Index Governance Governance Indication **Batch Export** Virtual View Application Application Master Data Management **MDM Function Collaborate Operationalize Analyze**

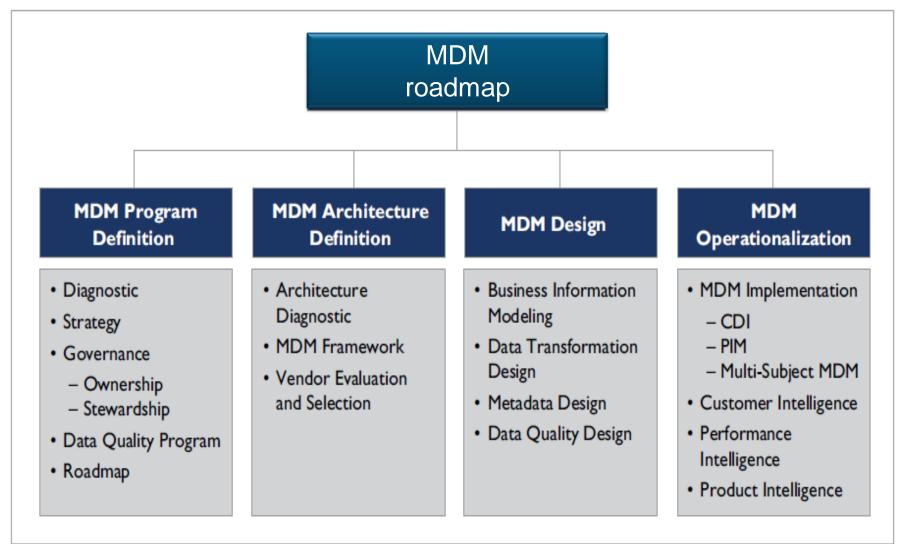


Agenda

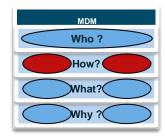


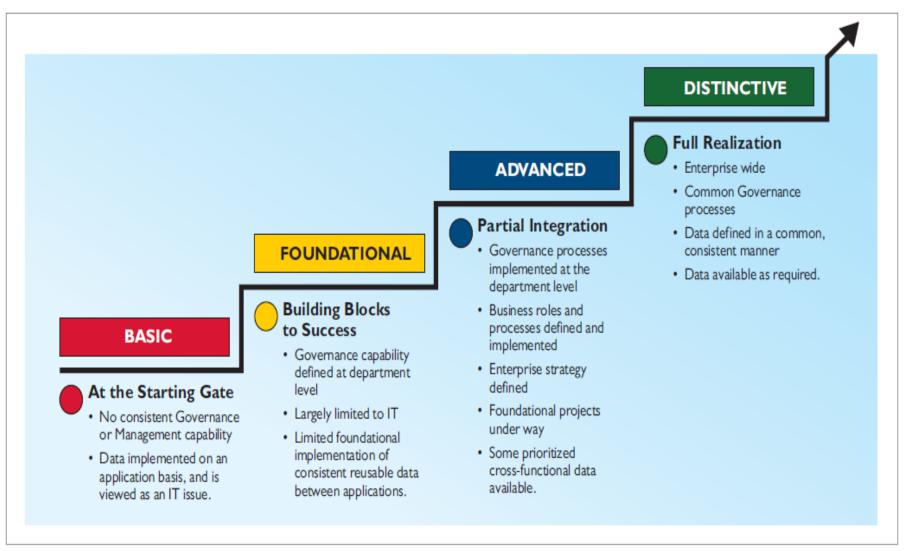
How to implement MDM?



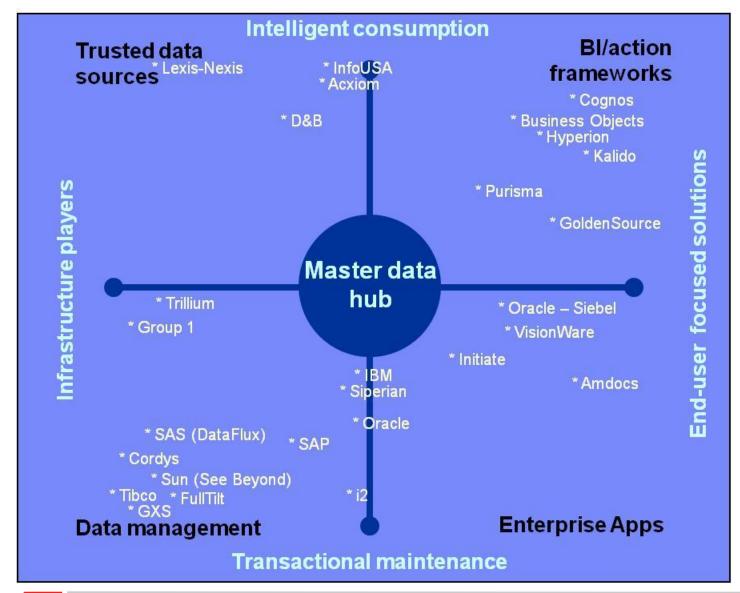


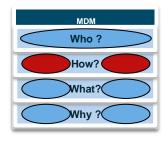
MDM Programme: Data Maturity Model



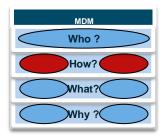


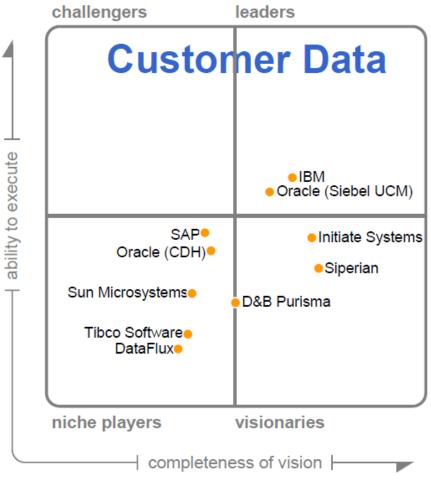
MDM technology: Forrester's analysis





MDM technology: Gartner's analysis





As of July 2008

ability to execute

challengers leaders **Product Data** Oracle SAP-IBM Hybris Tibco Software Riversand Stibo Heiler Software GXS Enterworks QAD (FullTilt Solutions) visionaries niche players completeness of vision

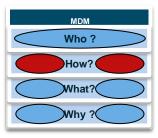
(From "Magic Quadrant for Master Data Management of Product Data" 7 July 2008)

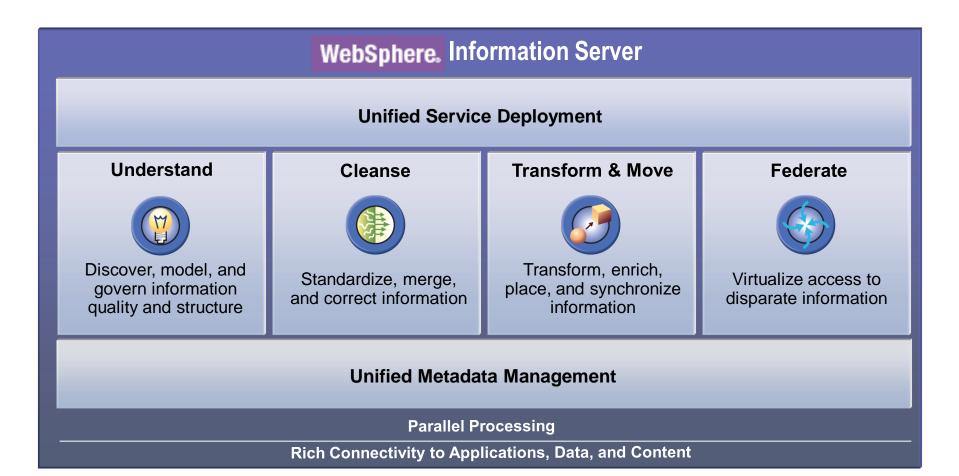
As of July 2008

(From "Magic Quadrant for Master Data Management of

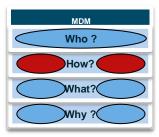
Customer Data" 10 July 2008)

Example of technology IBM WebSphere Information Server





Example of technology IBM WebSphere Information Server













Data Administrators

Implementers

Architects

Subject Matter Experts, Data Stewards

Data Analysts

WebSphere. DataStage
WebSphere. QualityStage

Rational, Data Architect

WebSphere. Business Glossary

WebSphere. Information Analyzer

Database application and transformation development

Metadata and datadriven data modeling and management Business context mapped to information technology assets

Data-driven analysis, reporting, monitoring, data rule & integration specification









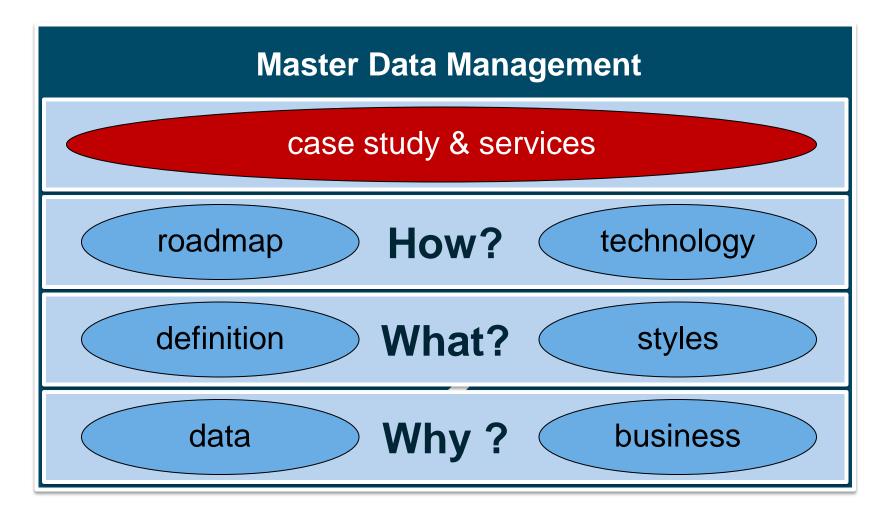
WebSphere.

Metadata Server

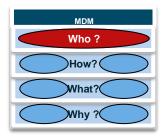
Simplify integration

- Facilitate change management & reuse
- Increase compliance to standards
- Increase trust and confidence in information

Agenda



Case Study of FOD/SPF Economie



Energy

Consumers Competition

Statistics

SMEs

External competitiveness

«Create the conditions for a competitive, sustainable and balanced functioning of the goods and services market in Belgium»

Information society

Economic prospects

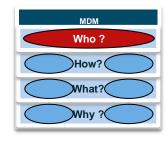
Regulations

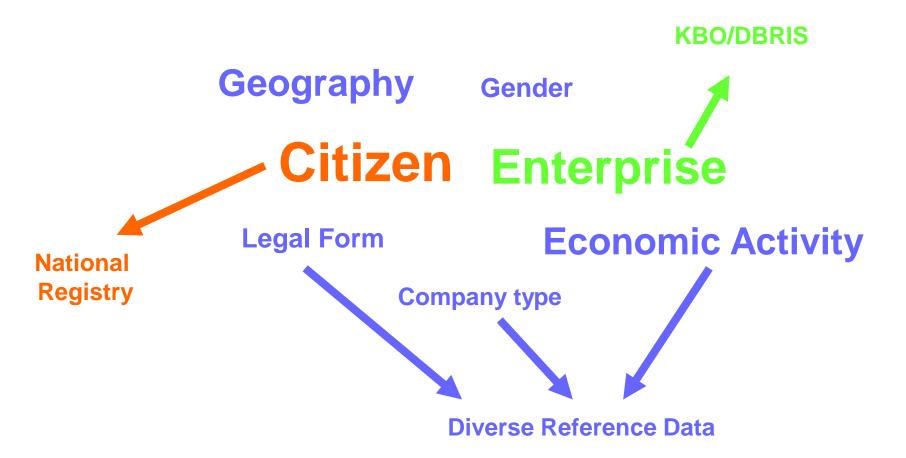
Goods and services market

Innovation

Market surveillance

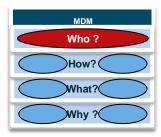
Case Study of FOD/SPF Economie





Case Study of FOD/SPF Economie: initial state

Operational



Analytical Survey NIS/INS Data Reference Results Data Queries Survey Data Reference Results Data Survey Data Reference Results Queries Data Survey Data Reference Results Data Survey Data NIS/INS Reference Results Data

Case Study of FOD/SPF Economie: final situation

