

# Master Data Management

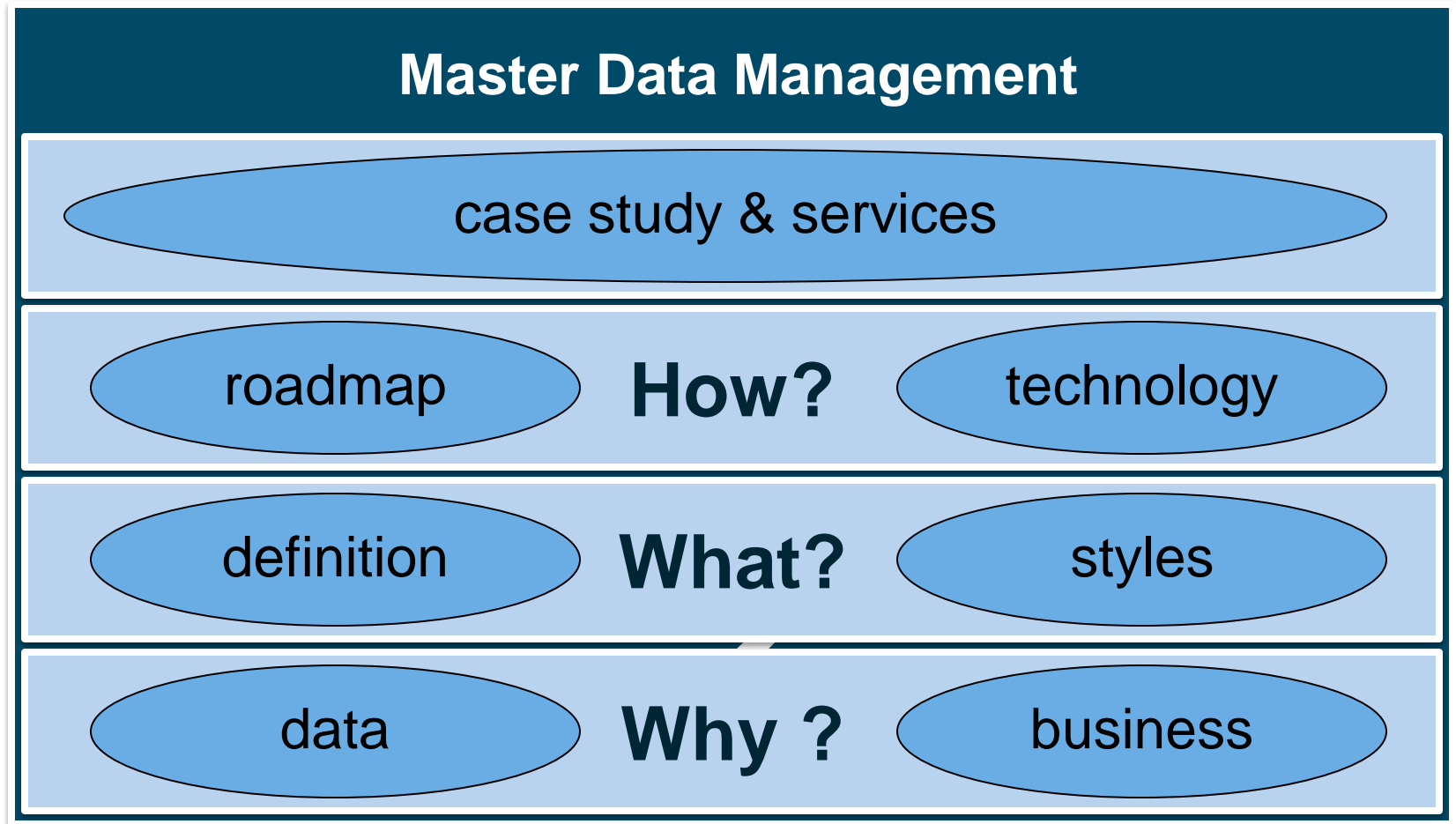
Myth or Reality?

Patrice Latinne

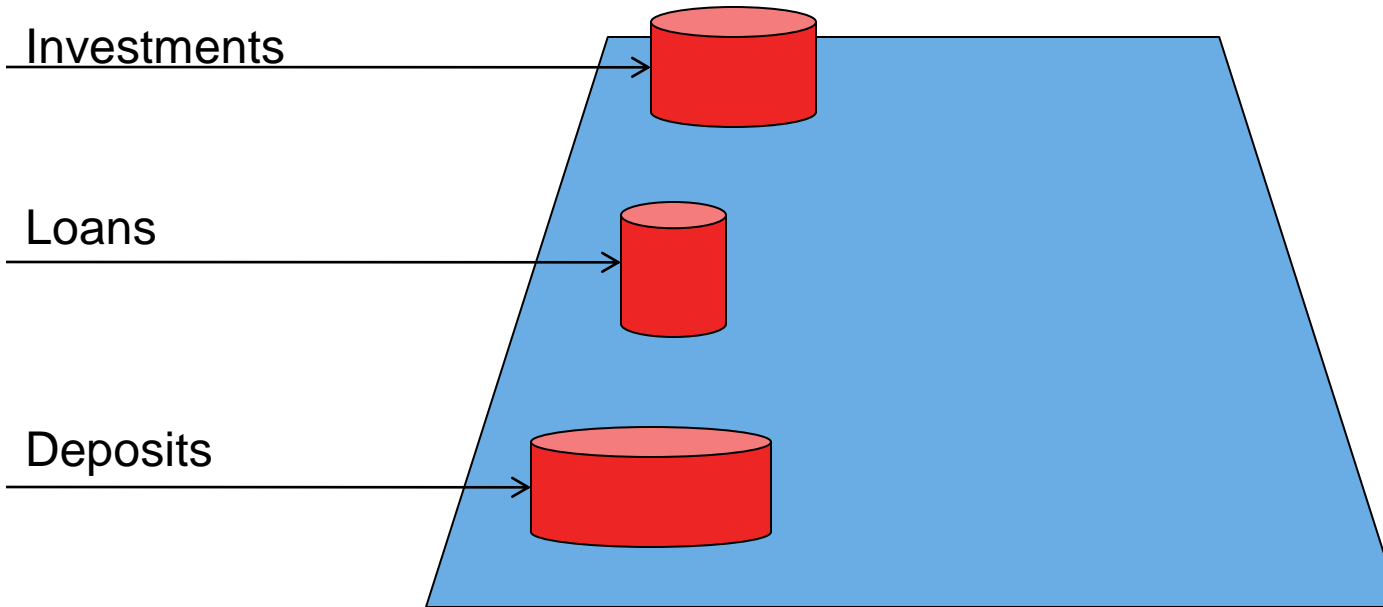
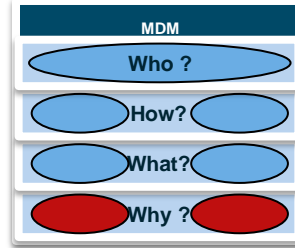
ULB 30/3/2010



# Agenda

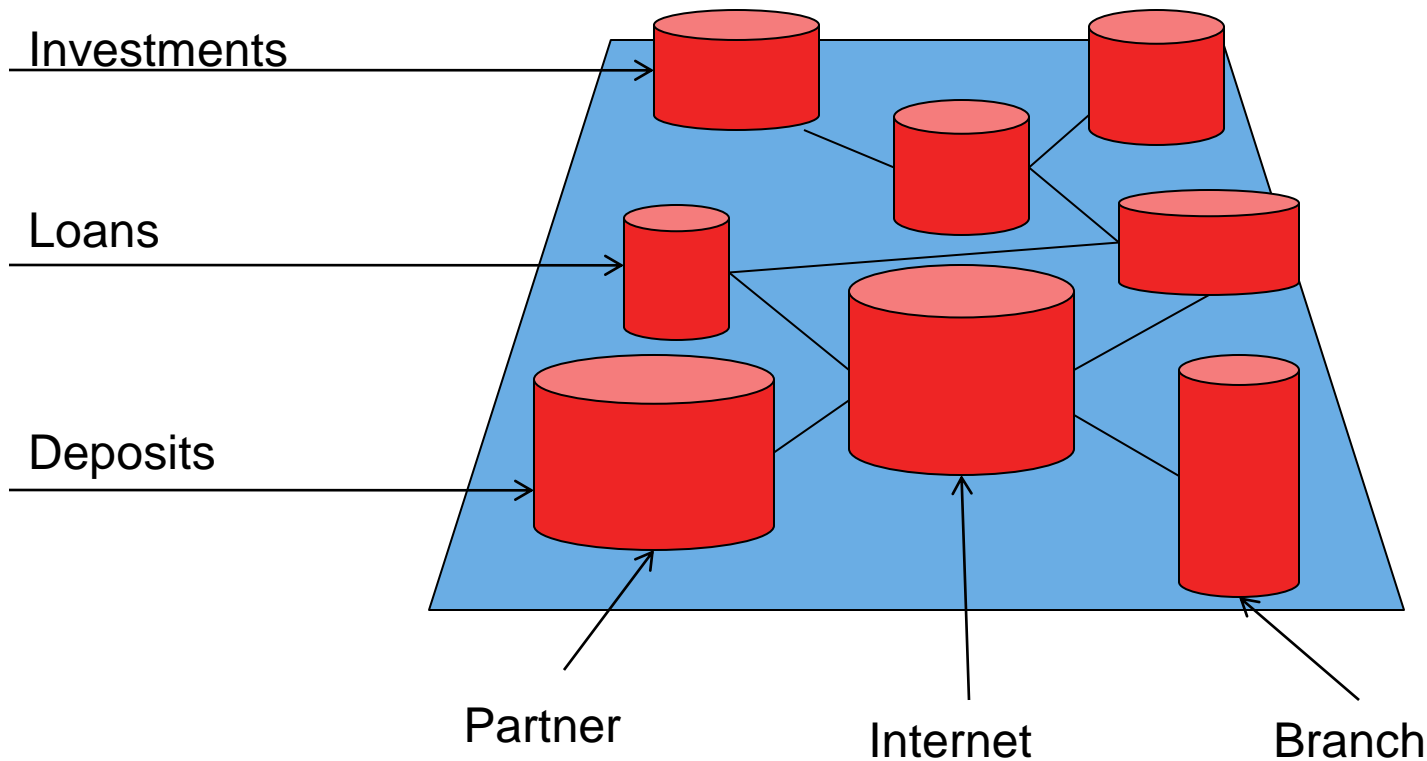
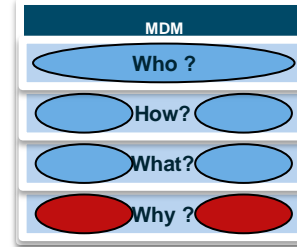


# Why Master Data Management?



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

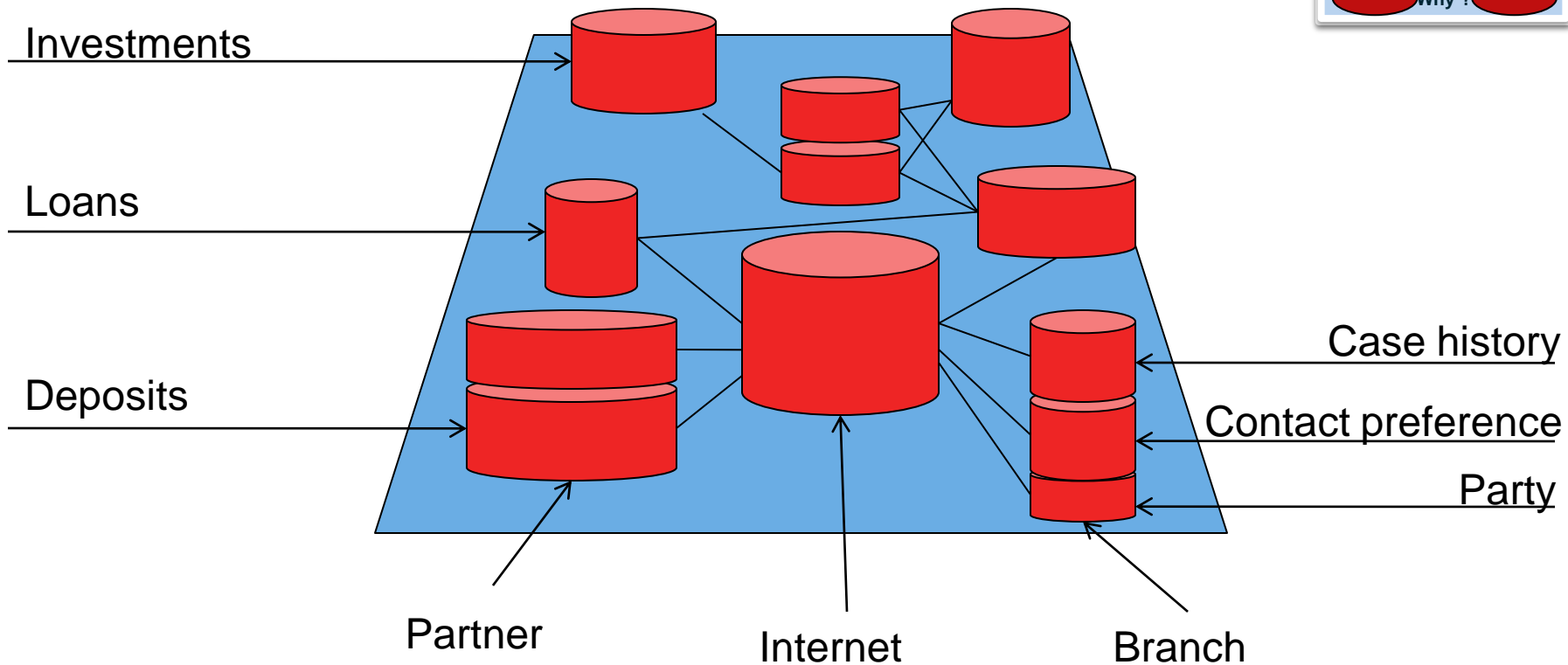
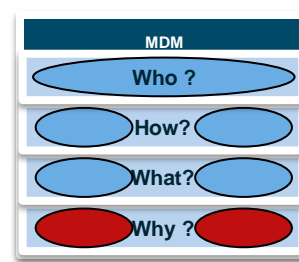
# Why Master Data Management?



- Cross-Line of Business
- Cross-Channel

- Different complexities
- Different treatments
- Different locations

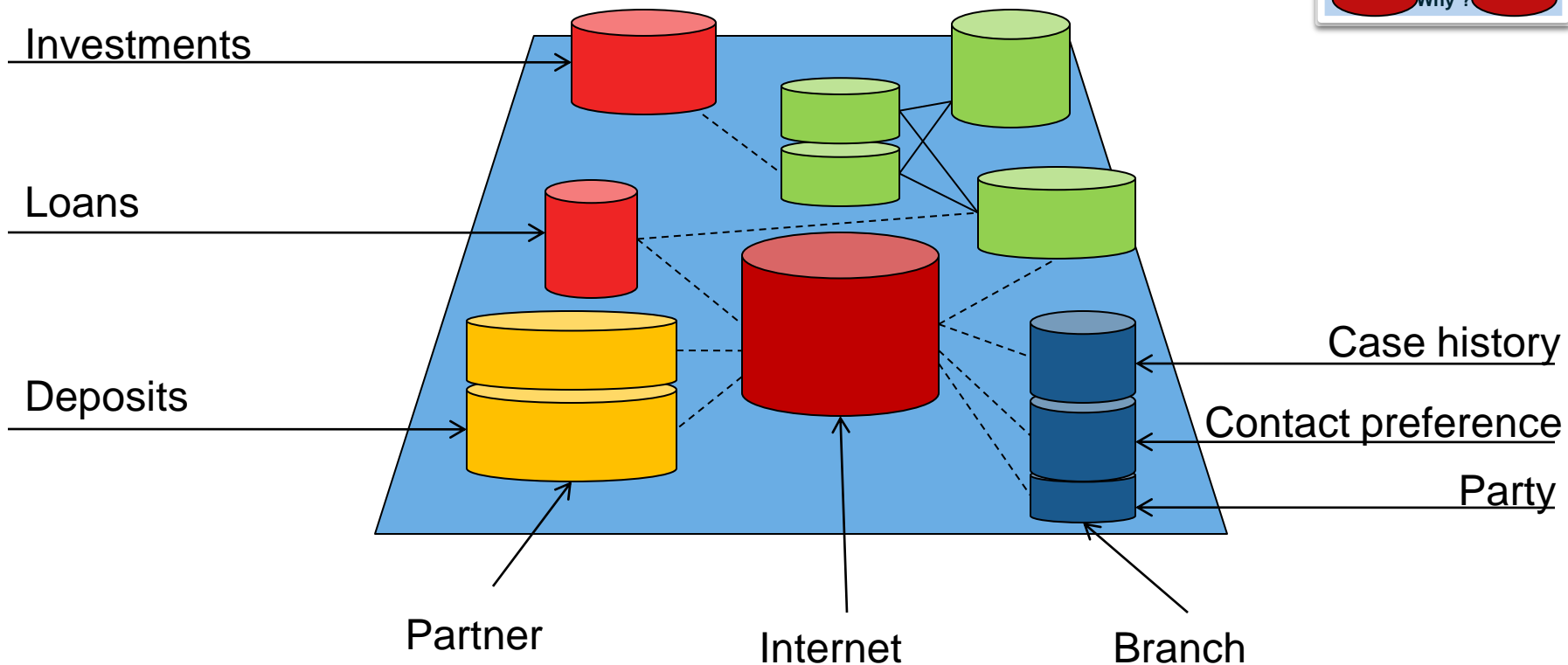
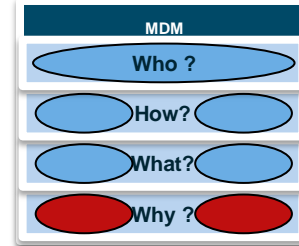
# Why Master Data Management?



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

- Different scopes (of interest, of biz information)
- Different subsets

# Why Master Data Management?

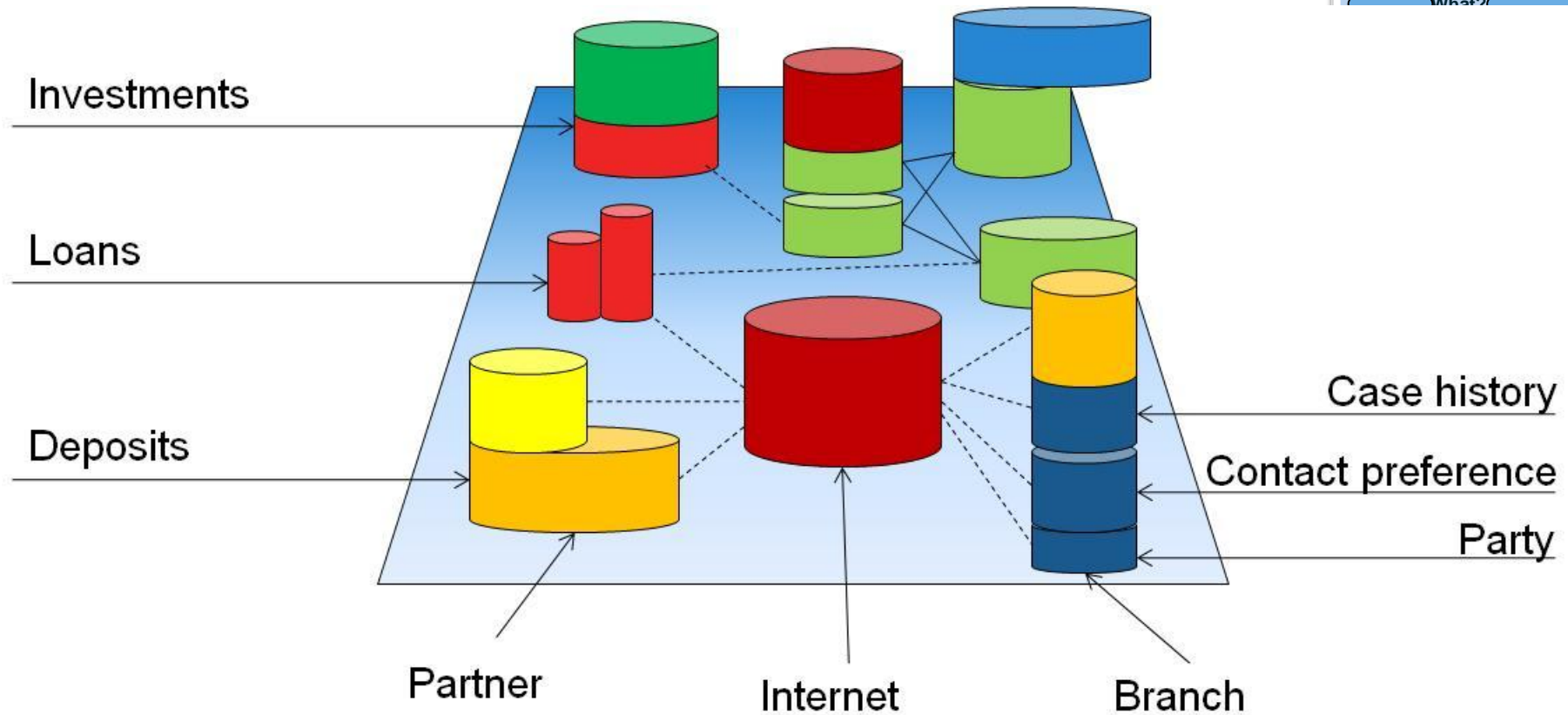


- Cross-Line of Business
- Cross-Channel
- Cross-Business Subdomain
- Cross-Application

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

# Why Master Data Management?

MDM
Who ?
How?
What?

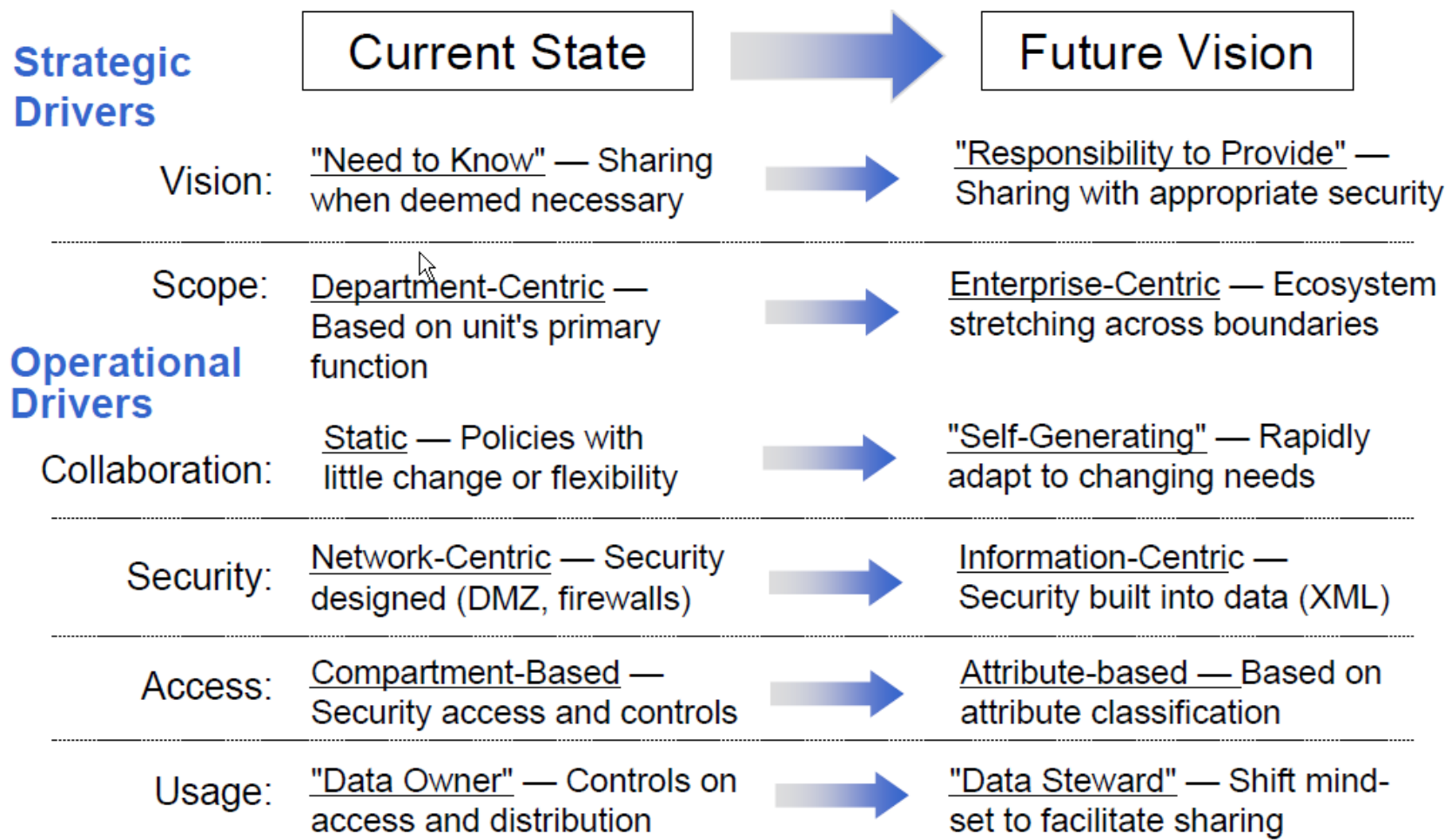
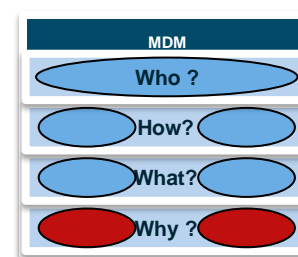


- Cross-Line of Business
- Cross-Channel
- Cross-Business Subdomain
- Cross-Application
- Mergers & Acquisitions

- The worse of all inputs?

# Why MDM?

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

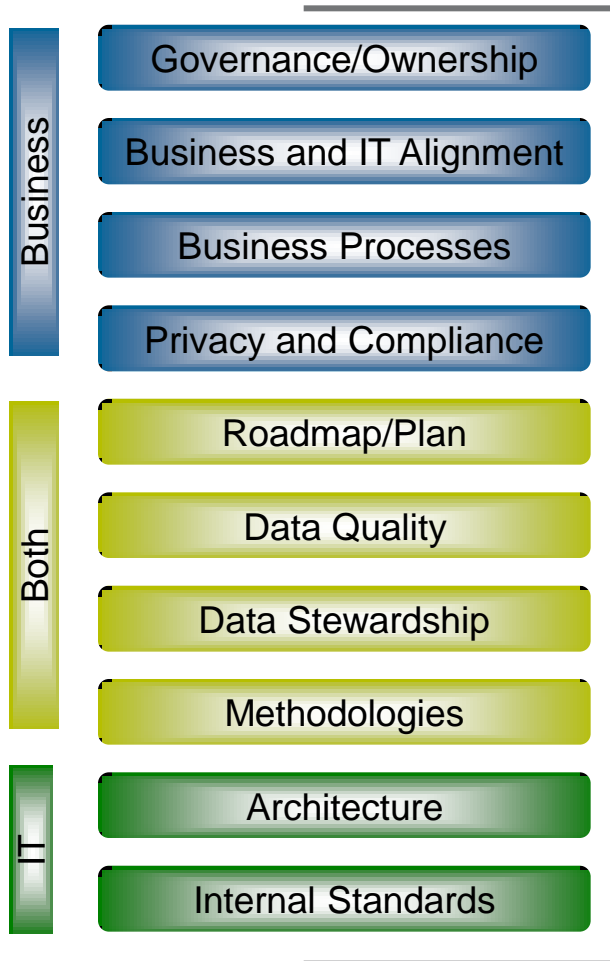
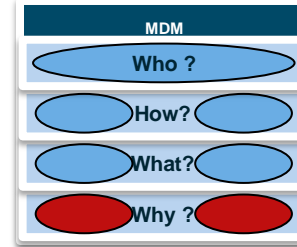


US Intelligence Community Information Sharing Strategy, produced by the Office of the Director of National Intelligence (DNI), published in February of 2008



# Why MDM?

## Strategy Components Provide a Foundation for a MDM Business-IT Partnership



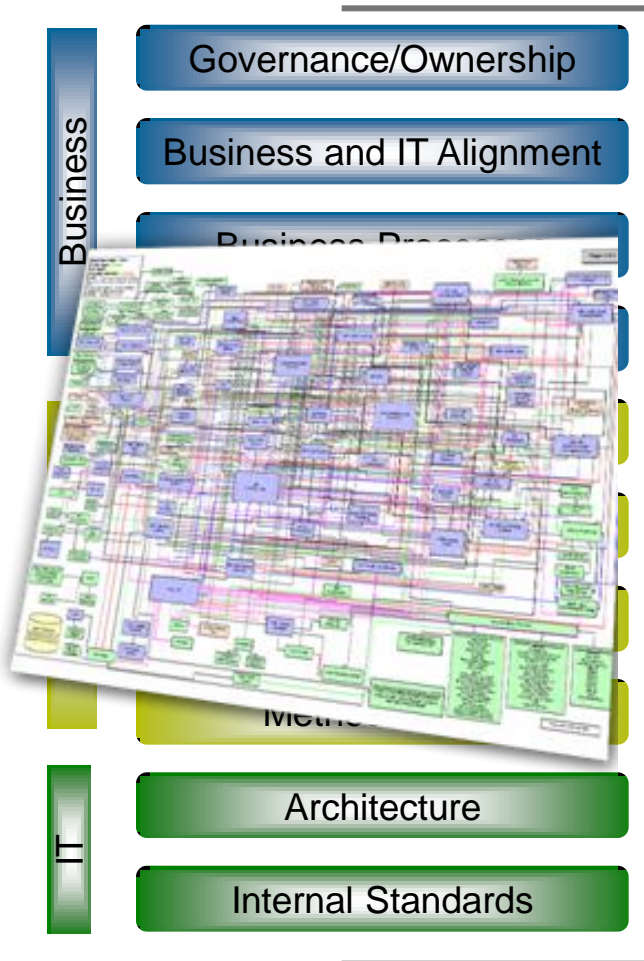
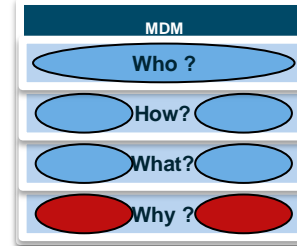
- What are we trying to achieve?
- How can the data be used?
- How do we define the data?
- What gets prioritized?
- How do we make data usable for everyone?
- What data can be shared and with whom?

- 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?

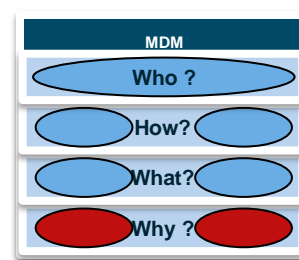
## Technical challenges...



- 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?

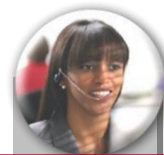
## Summary



### Web Site



### Contact Center



### Enterprise Systems



### Data Warehouse

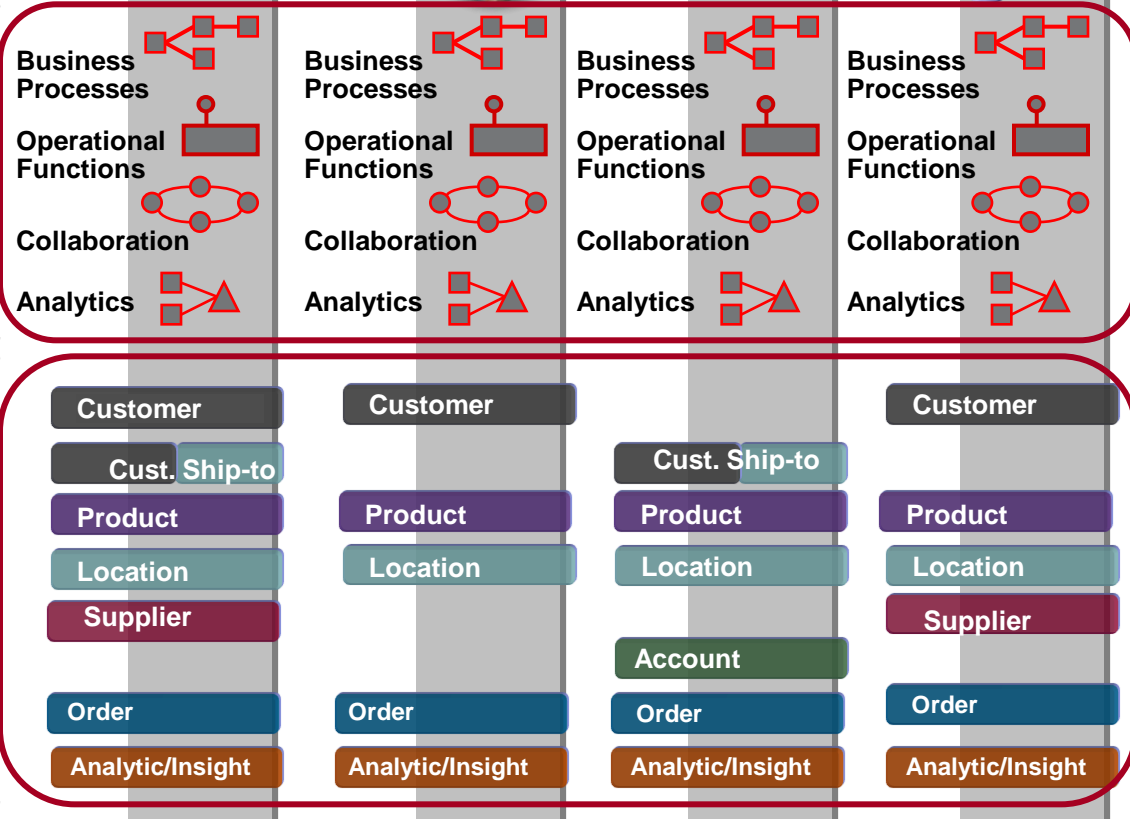


## Root Cause

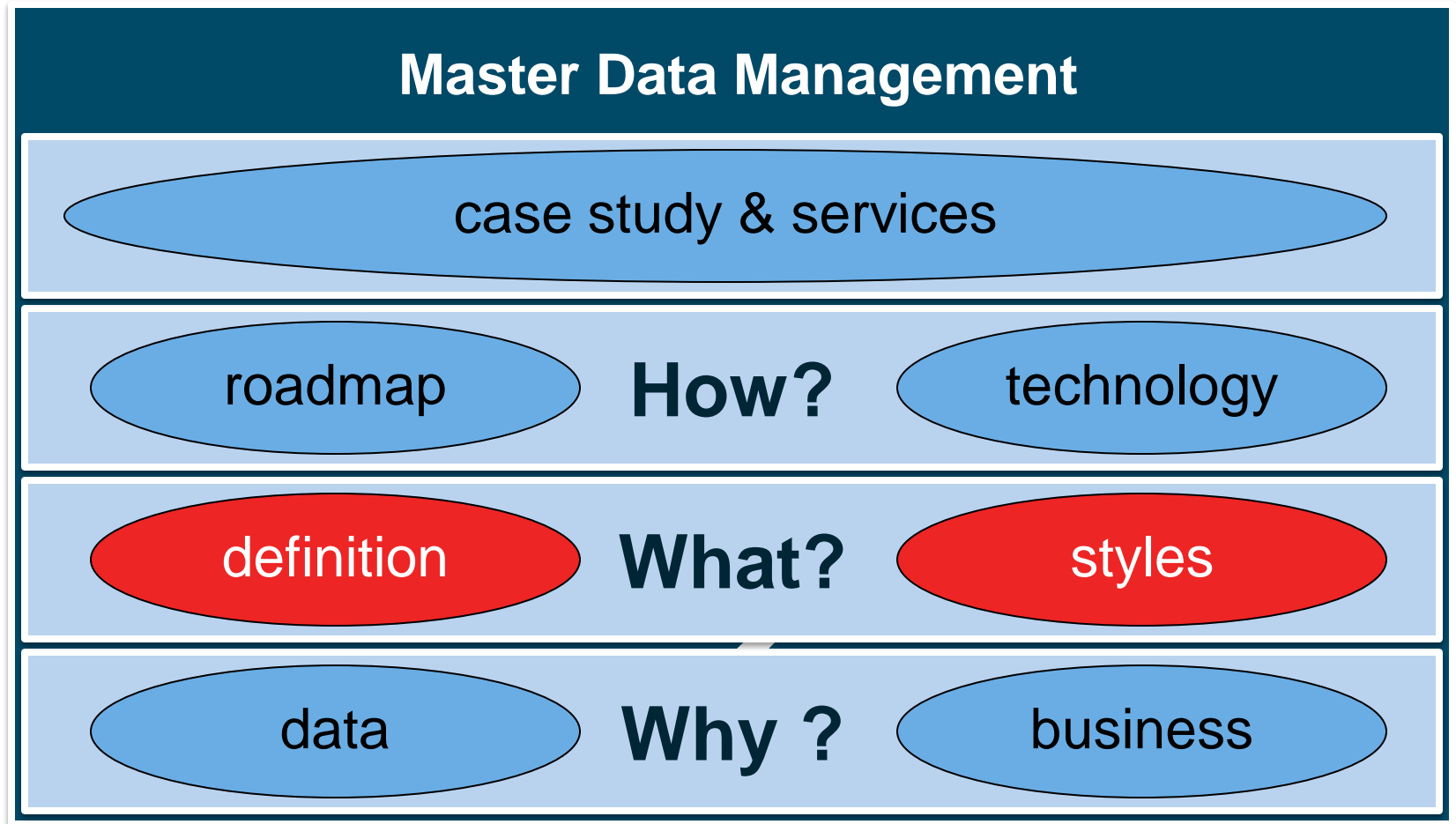
Application functionality and business processes are not designed to manage data for use beyond its own sphere, affecting data integrity, quality and governance

## Symptom

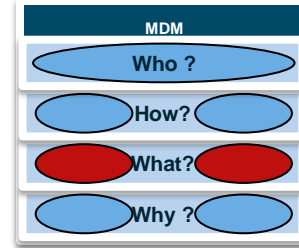
Data is out-of-synch, incomplete, and inaccurate in your applications



# Agenda



# What is Master Data?



- Master Data **IS NOT**

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

- Master Data **IS**

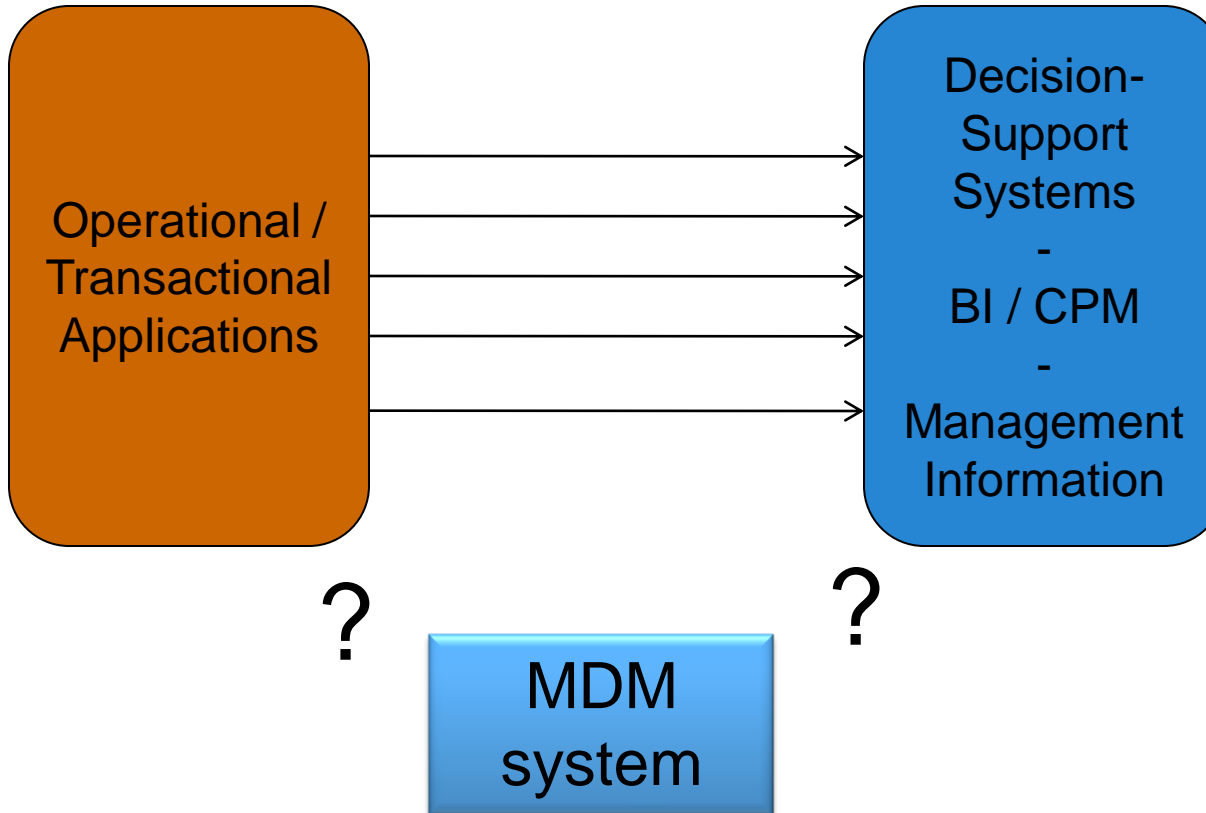
- The **key facts** describing your **core** business entities:  
customers, partners, employees, products, bill of materials, list of accounts  
and locations  
  
and the **relationships** between them
- The **high value** information an organization uses **repeatedly** across **many**  
business processes

# MDM position within Information Management

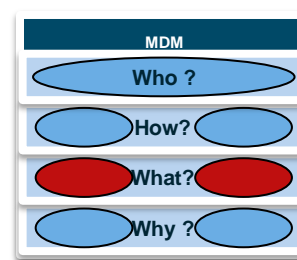
MDM	
Who ?	
How?	
What?	
Why ?	

Upstream/Operational

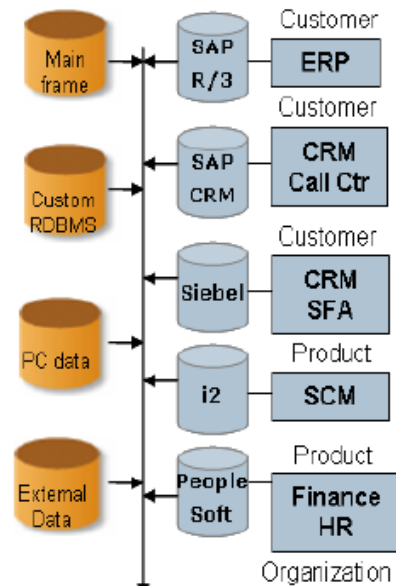
Downstream/Analytical



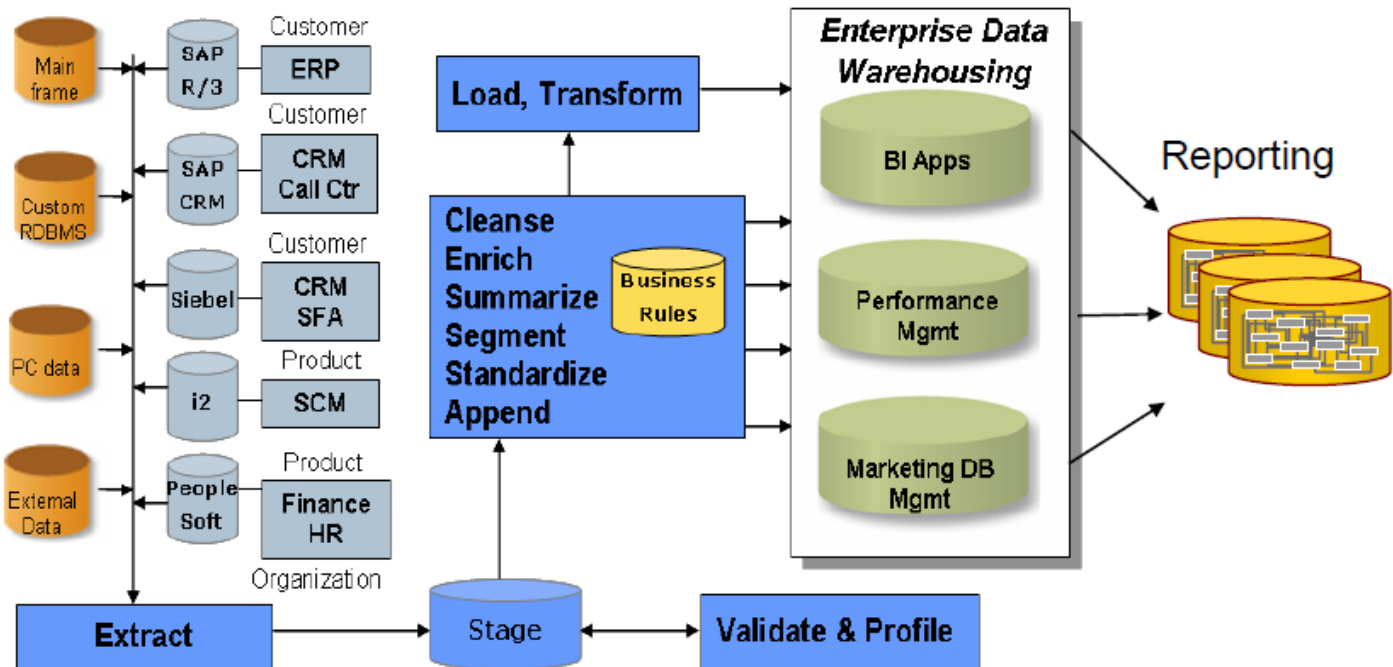
# MDM position within Information Management



## Upstream/Operational



## Downstream/Analytical

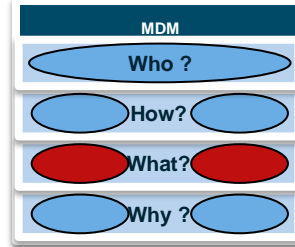


## Point to Consider

- 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.

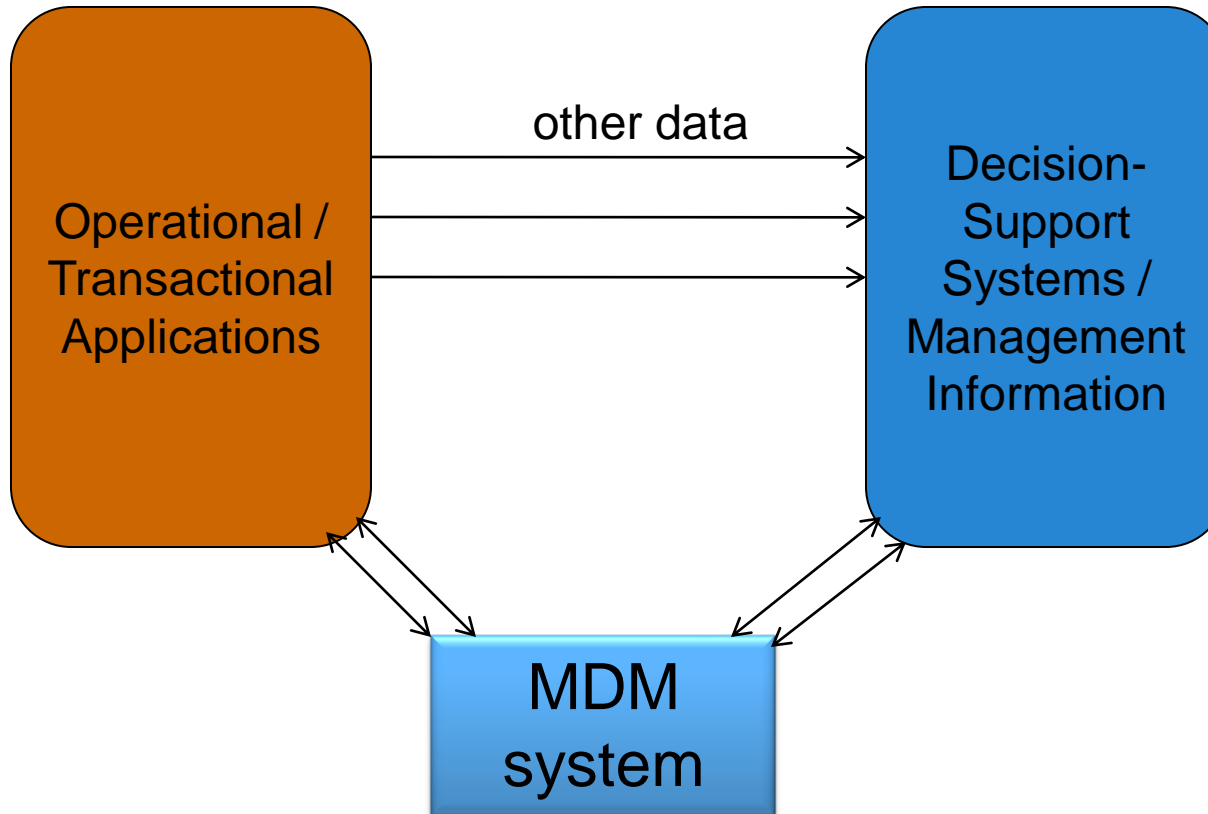
# MDM position within Information Management

## high-level idea...



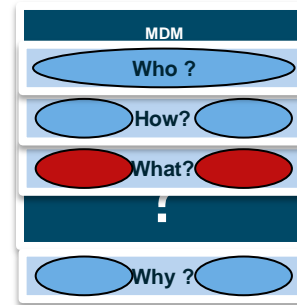
Upstream/Operational

Downstream/Analytical





# How to define a MDM system or discipline?

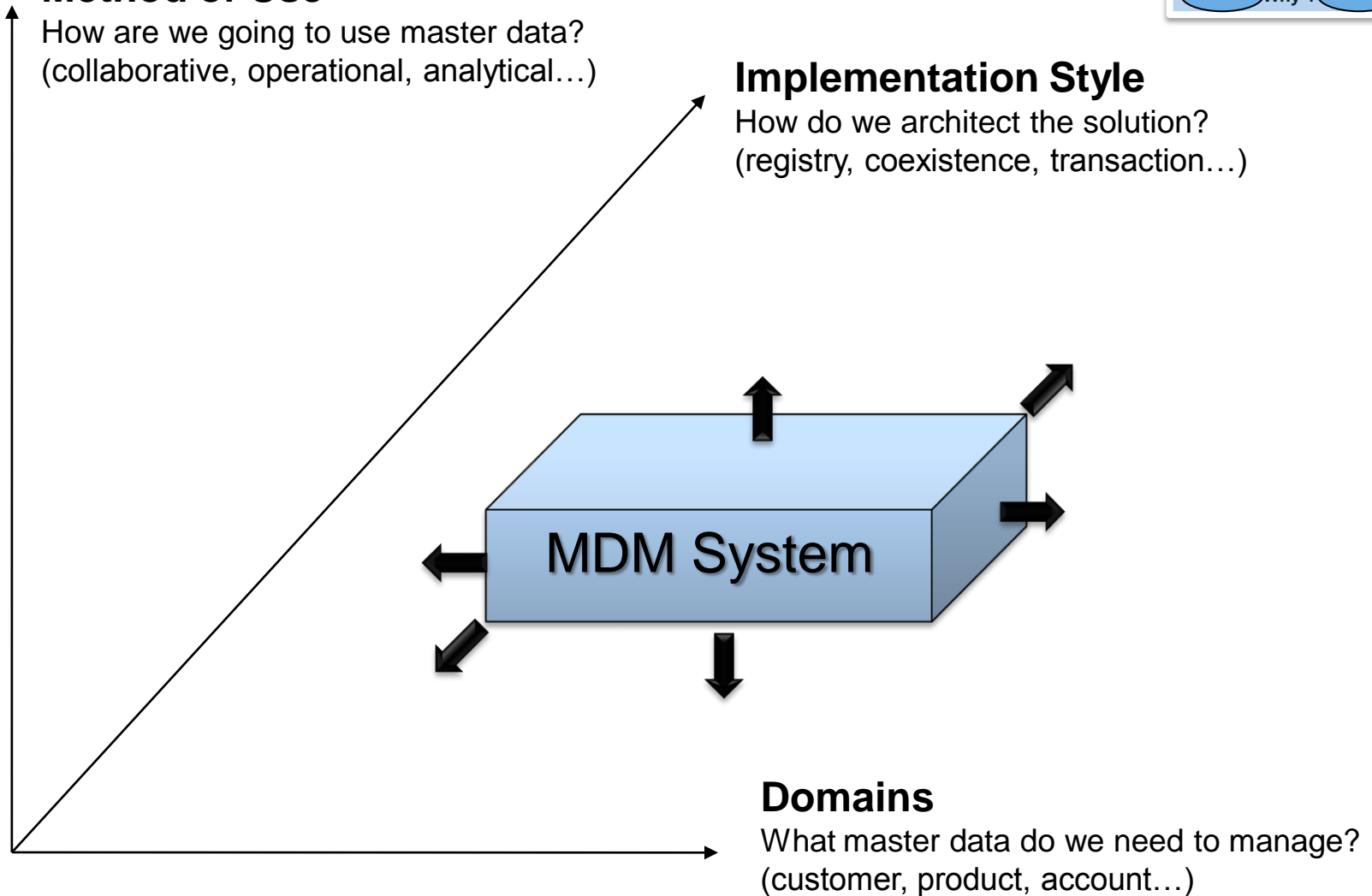


## Method of Use

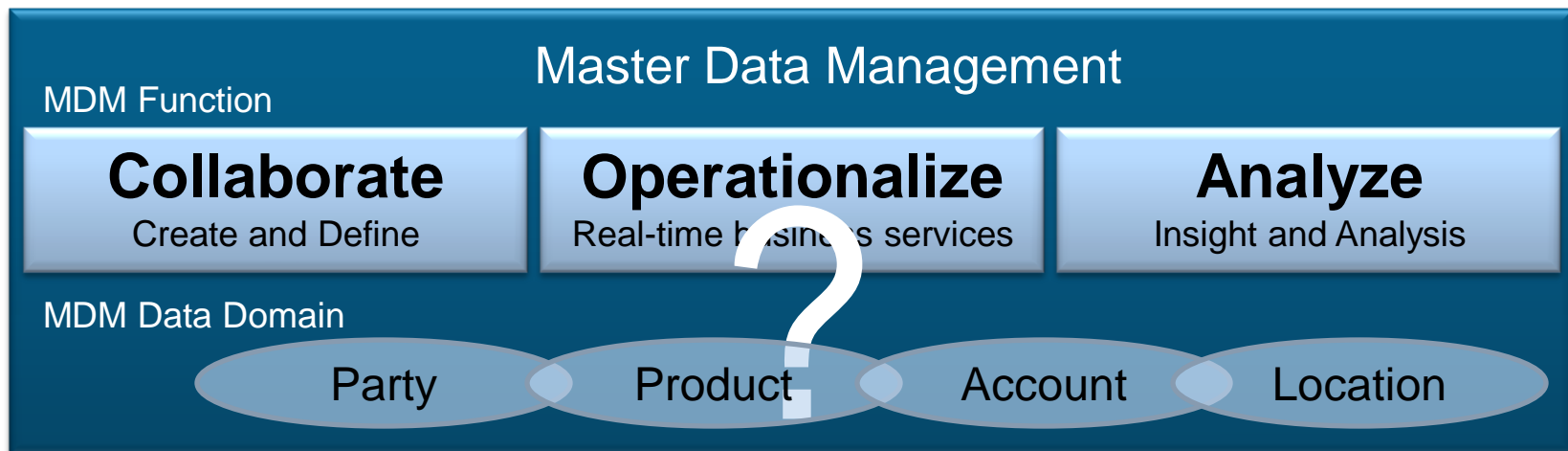
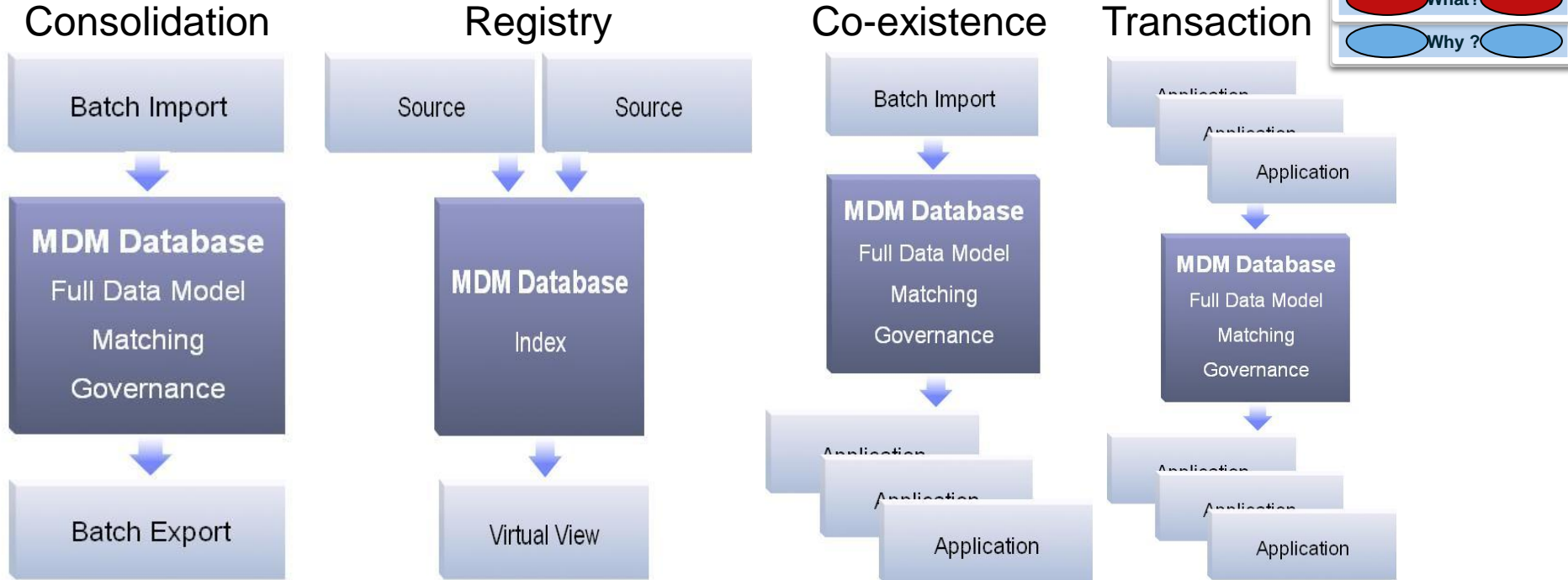
How are we going to use master data?  
(collaborative, operational, analytical...)

## Implementation Style

How do we architect the solution?  
(registry, coexistence, transaction...)

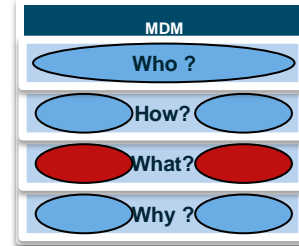


# What? a question of Style...

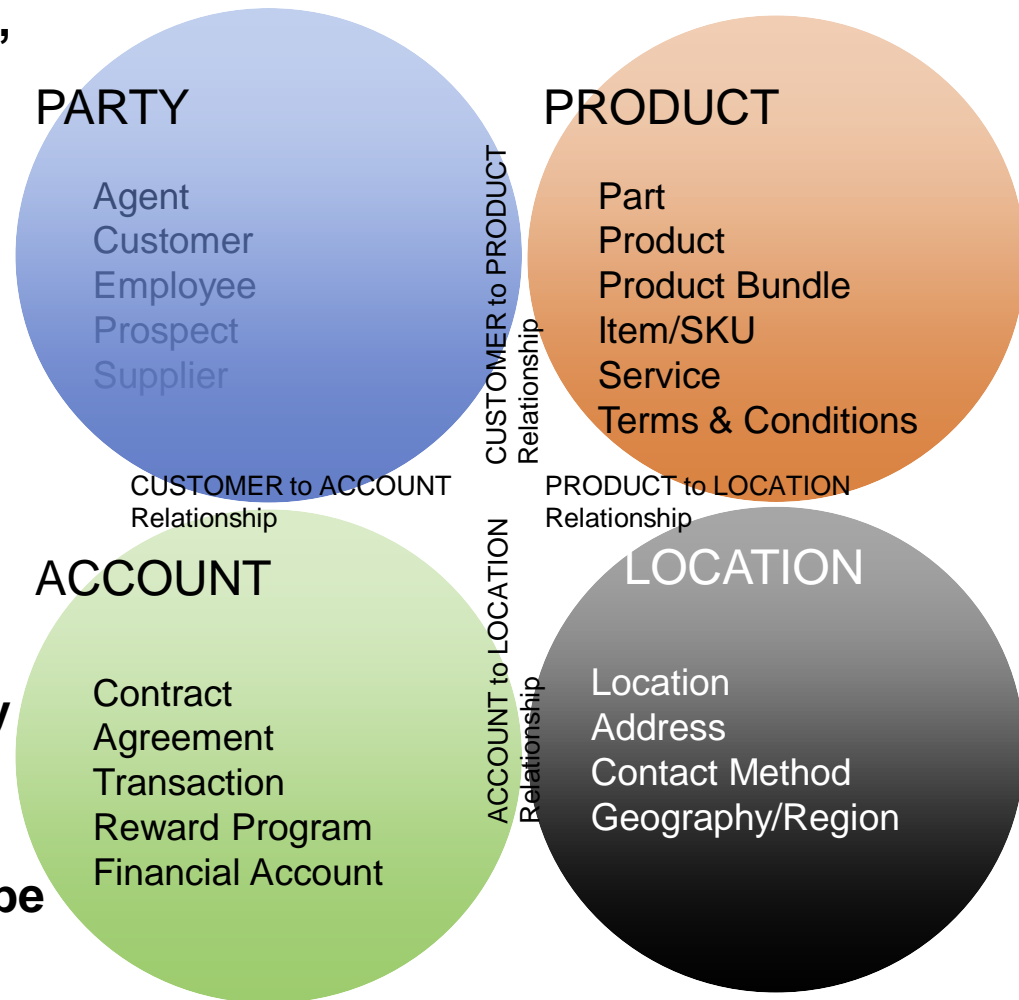


# What?

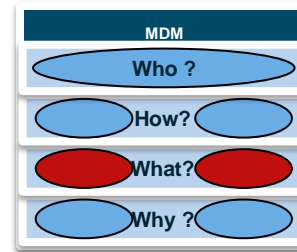
## Master Data domains



- **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...

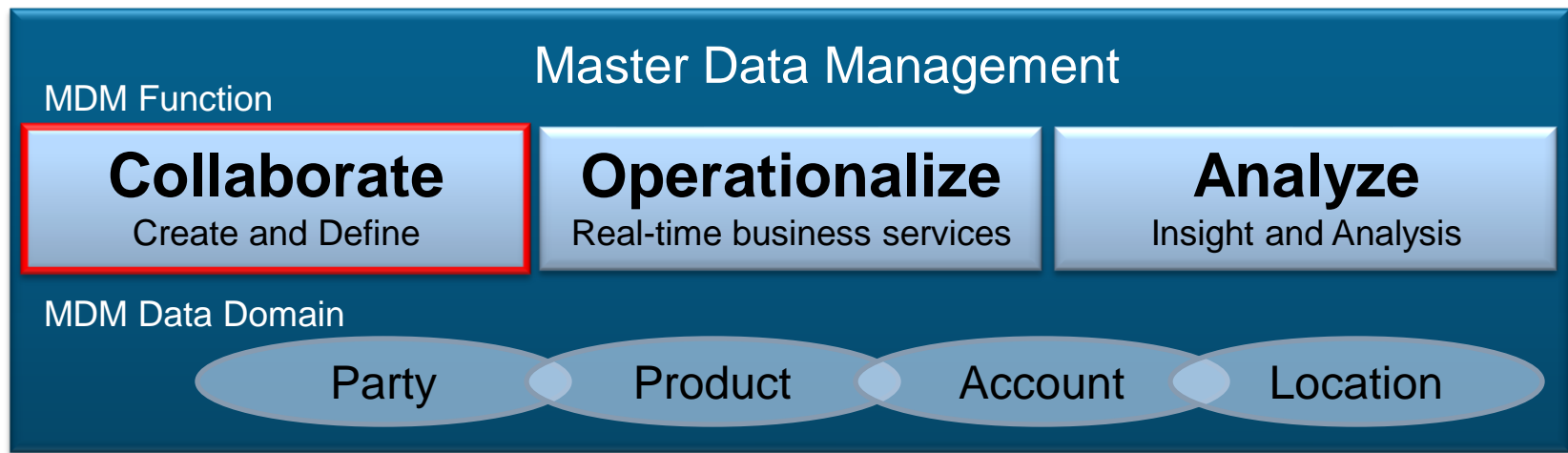


# Collaborative MDM

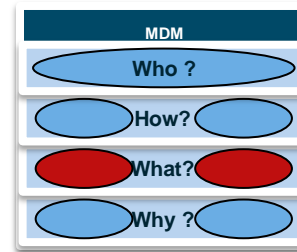


## Collaborative Function of MDM:

- 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

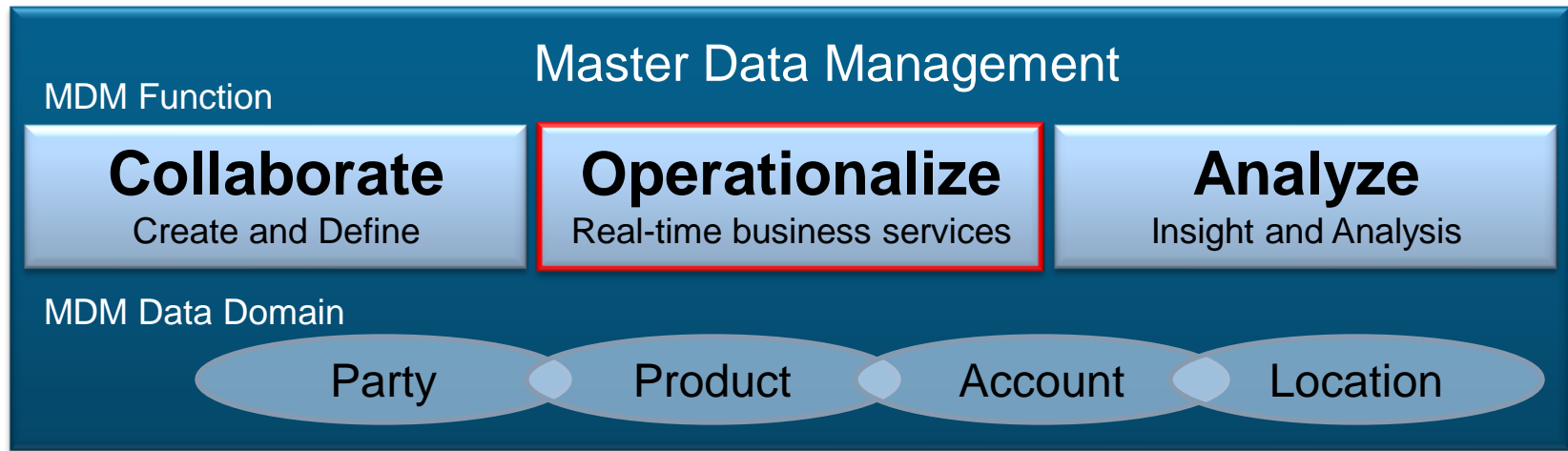


# Operational MDM

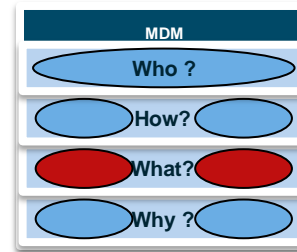


## Operational Function of MDM:

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

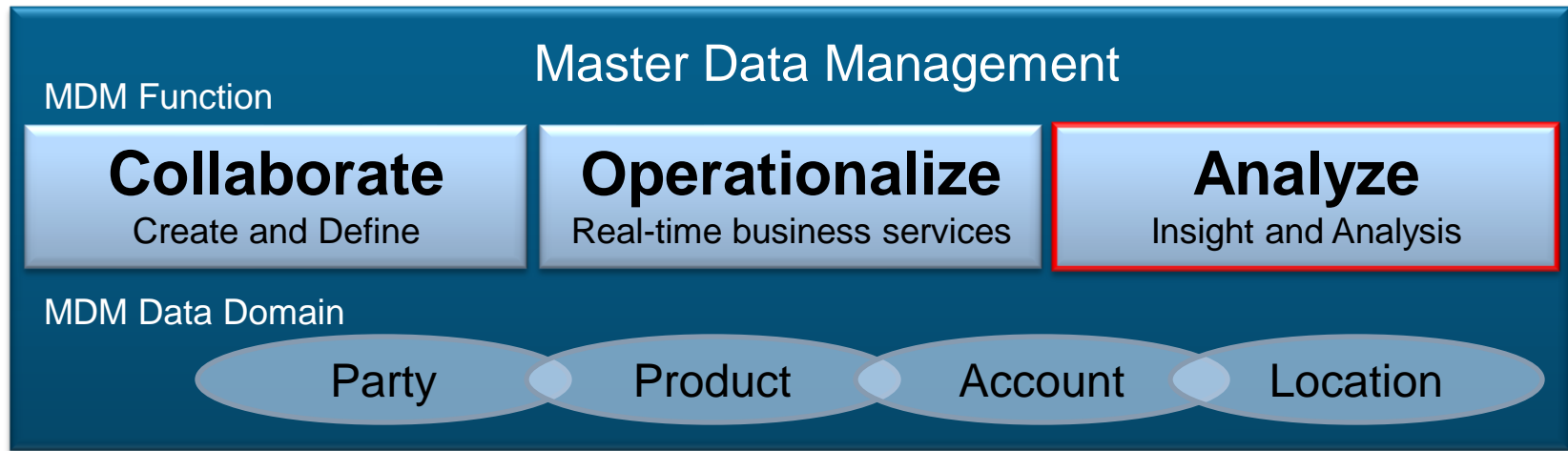


# Analytical MDM

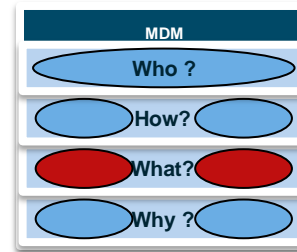


## Analytical Function of MDM:

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



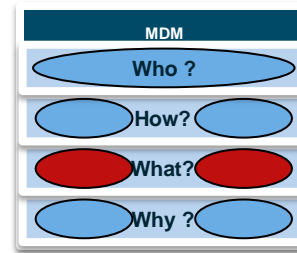
# Consolidation style



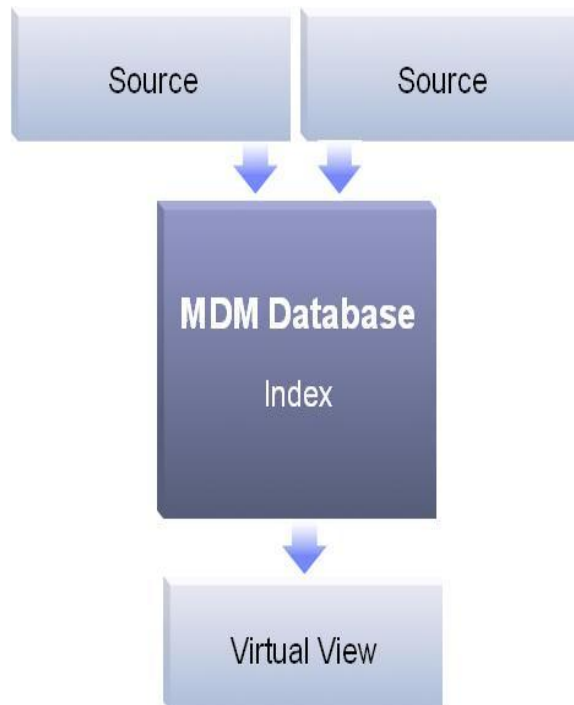
## Consolidation

- 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

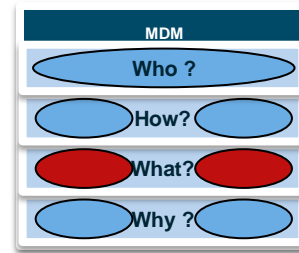


## Registry

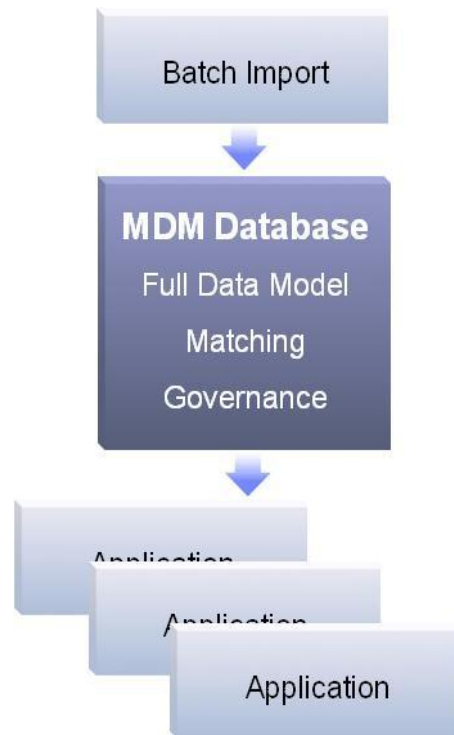
- Index (cross-reference) capabilities for any data entity and attribute
- Search and inquiry services
- Capabilities for virtual consolidated view via MDM database server capabilities (federated queries)
- Data stewardship and matching



# Co-existence style



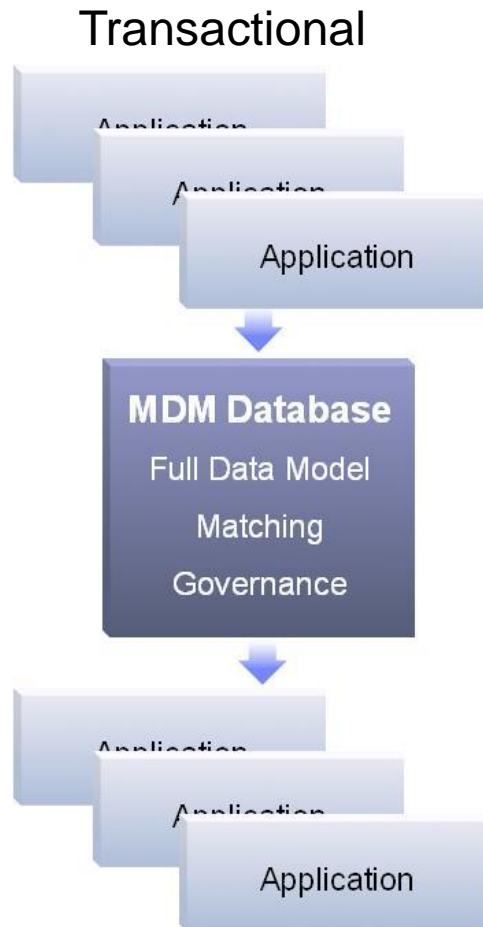
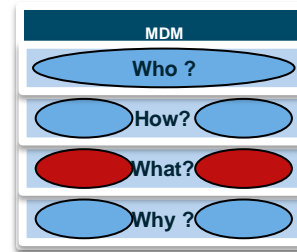
## Co-existence



## Co-existence

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

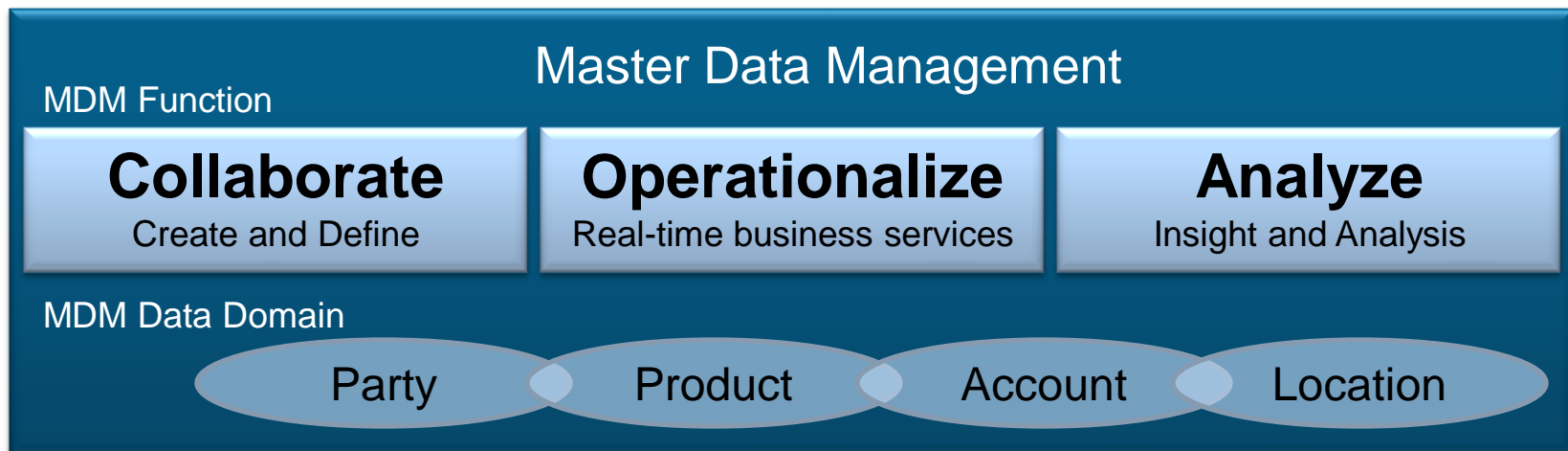
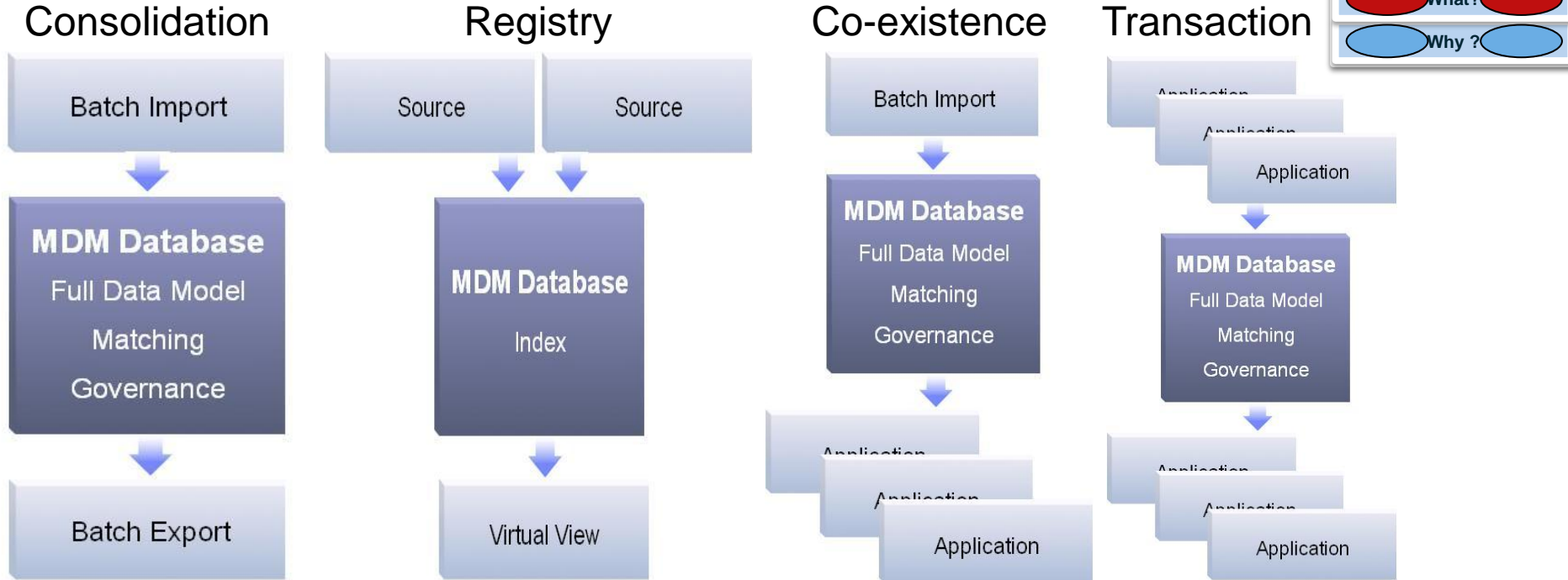
# Transactional style



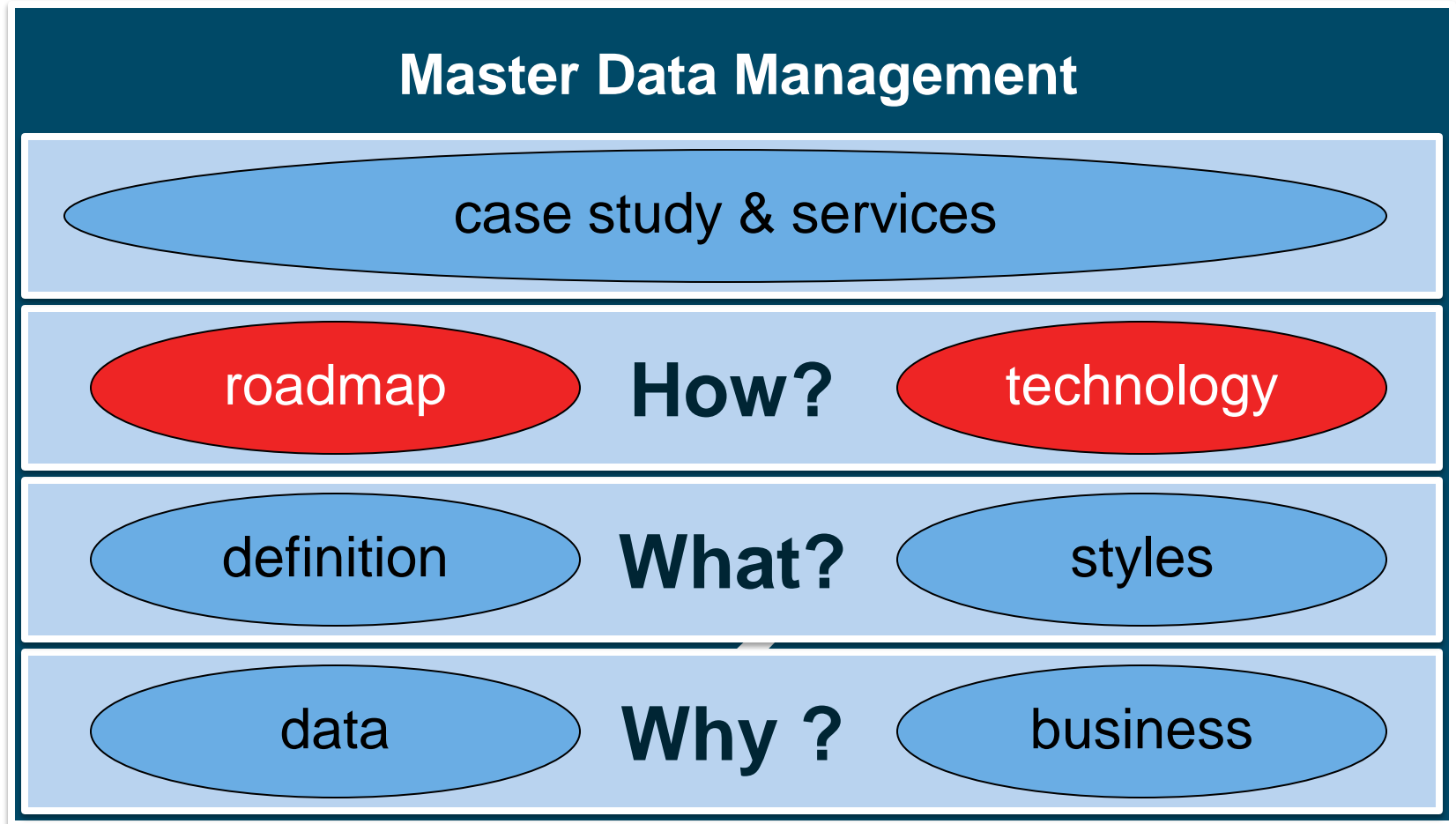
## Transaction

- 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

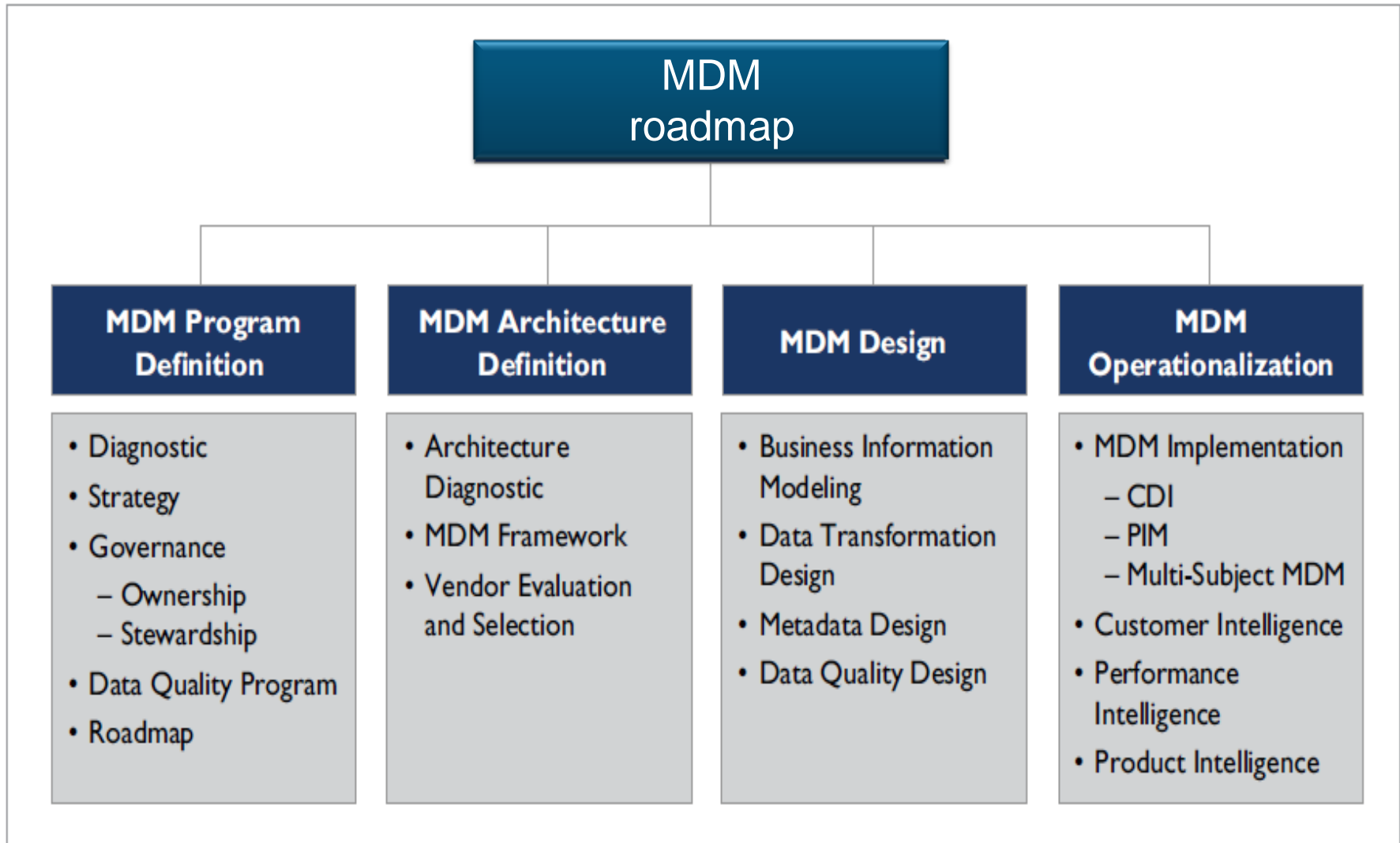
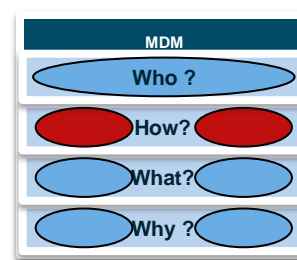
# Remember, a question of Style...



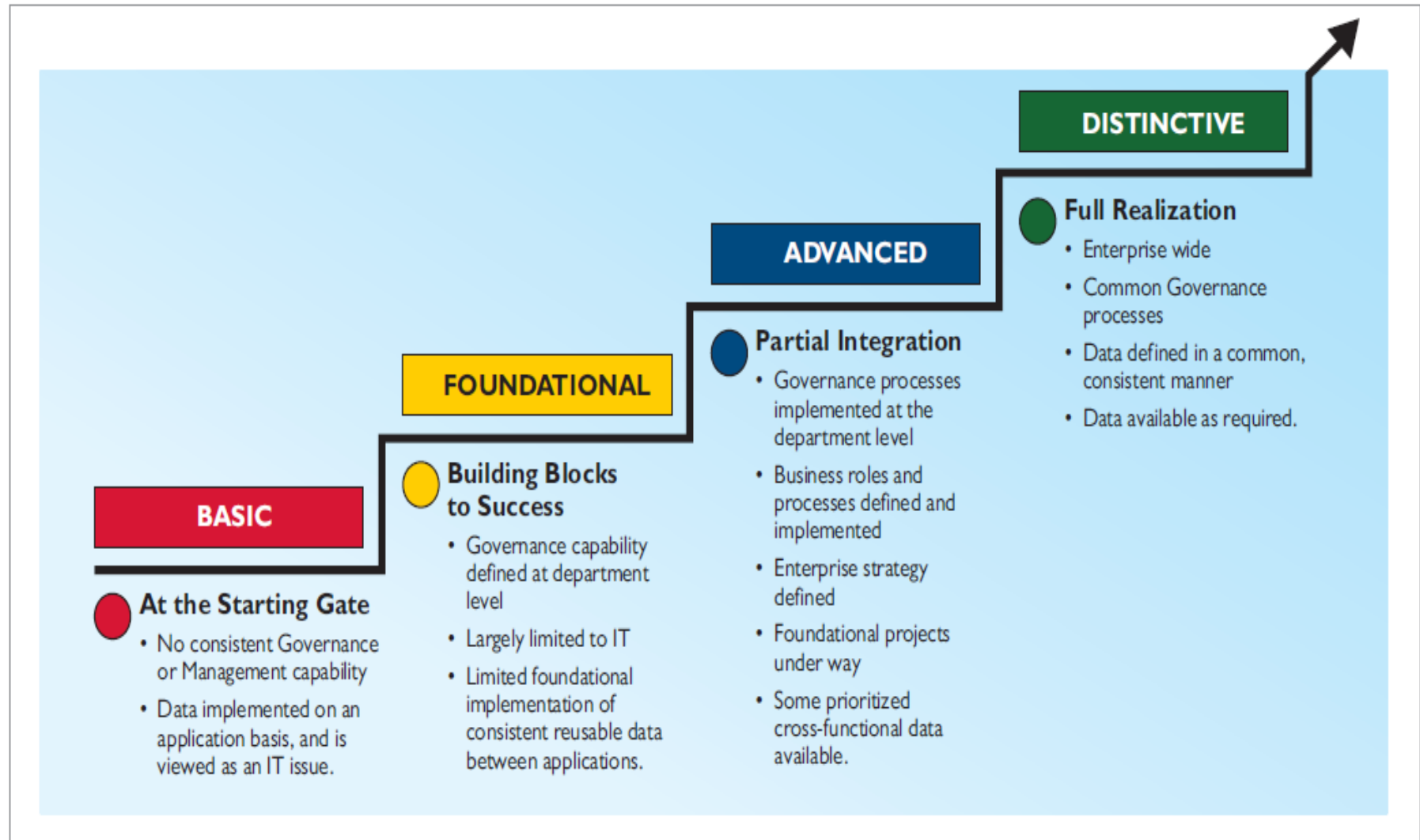
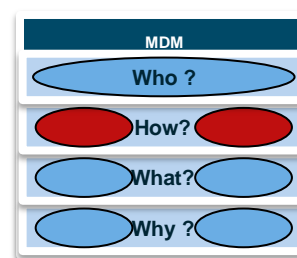
# Agenda



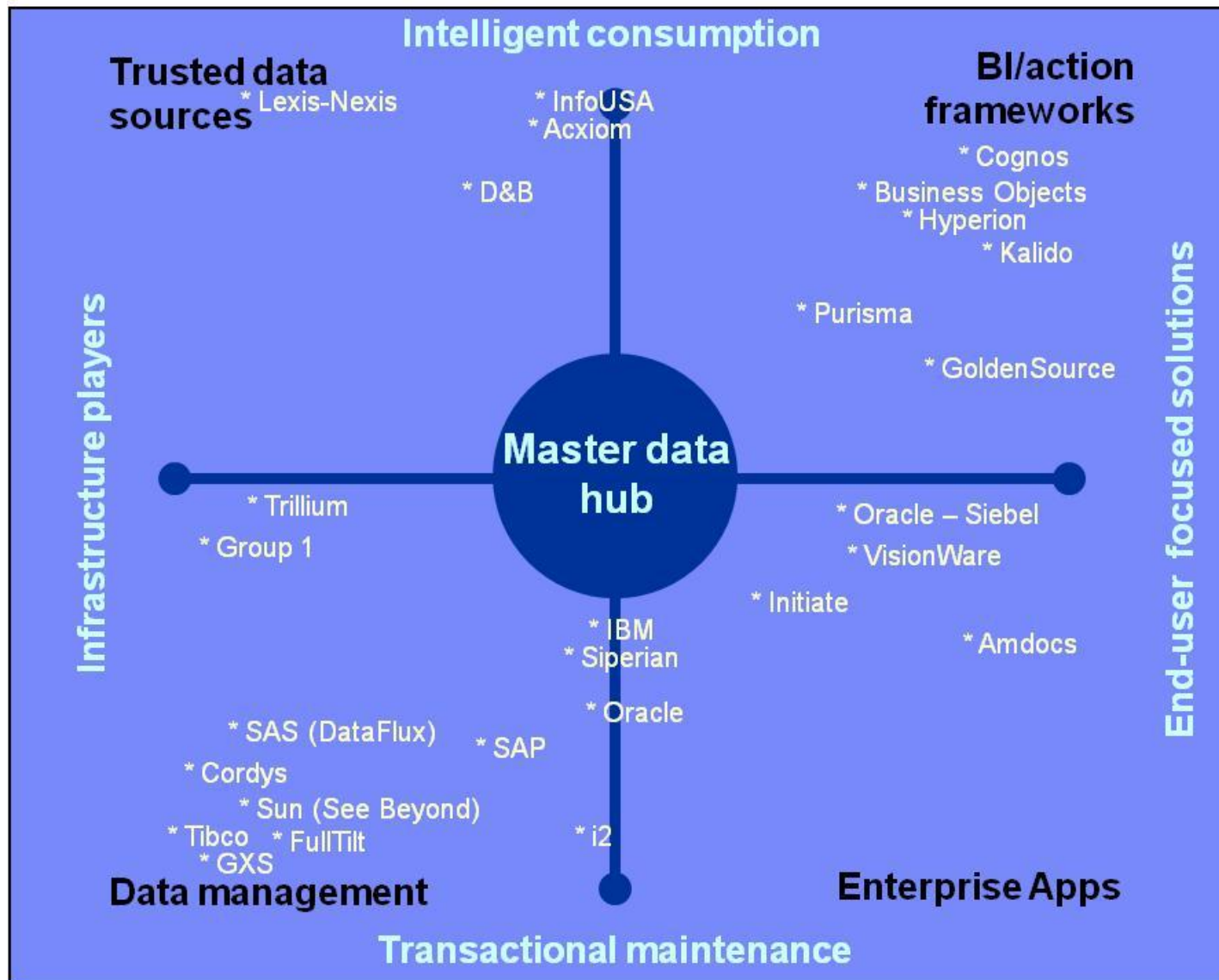
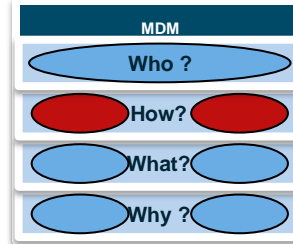
# How to implement MDM?



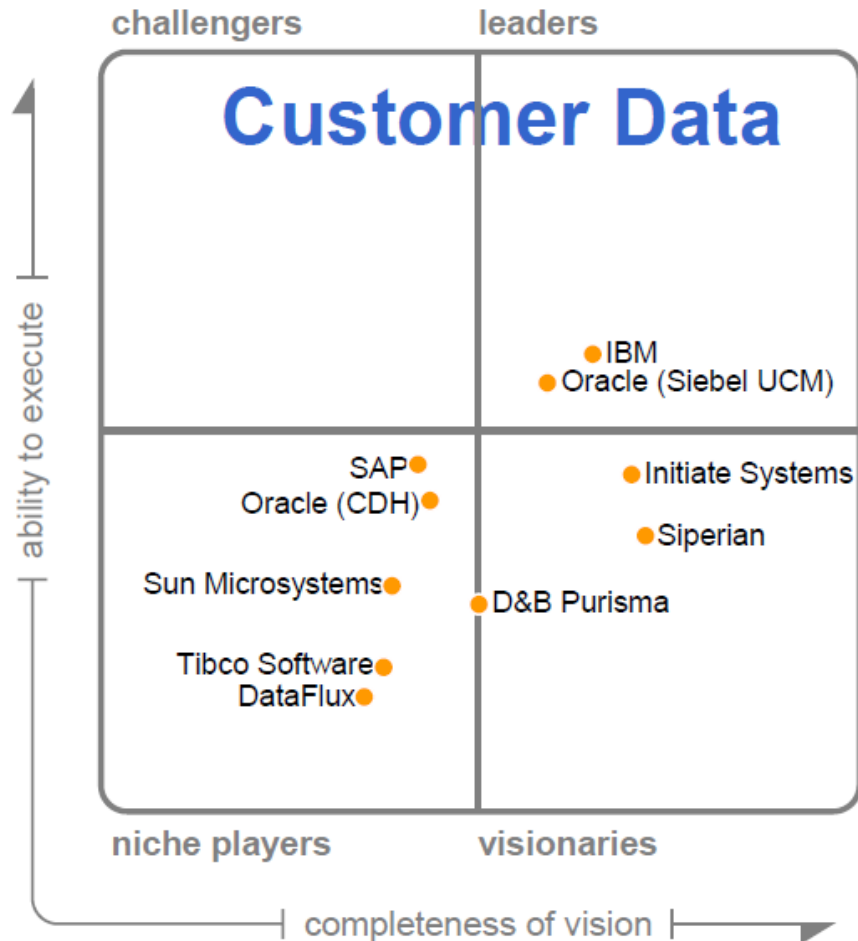
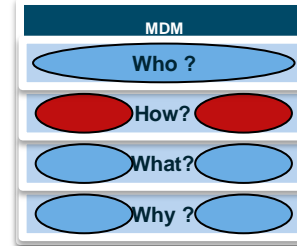
# MDM Programme: Data Maturity Model



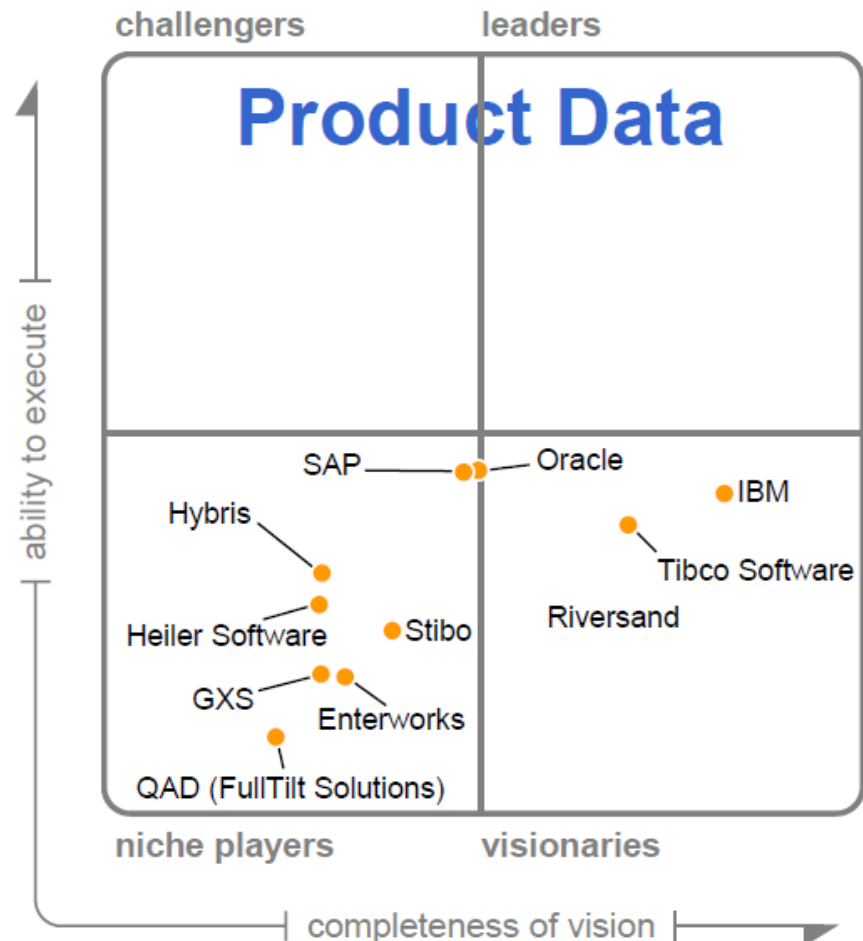
# MDM technology: Forrester's analysis



# MDM technology: Gartner's analysis



(From "Magic Quadrant for Master Data Management of Customer Data" 10 July 2008) As of July 2008



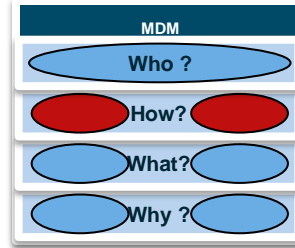
(From "Magic Quadrant for Master Data Management of Product Data" 7 July 2008) As of July 2008

**Gartner**



# Example of technology

## IBM WebSphere Information Server



### WebSphere Information Server

#### Unified Service Deployment

##### Understand



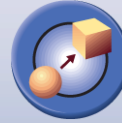
Discover, model, and govern information quality and structure

##### Cleanse



Standardize, merge, and correct information

##### Transform & Move



Transform, enrich, place, and synchronize information

##### Federate



Virtualize access to disparate information

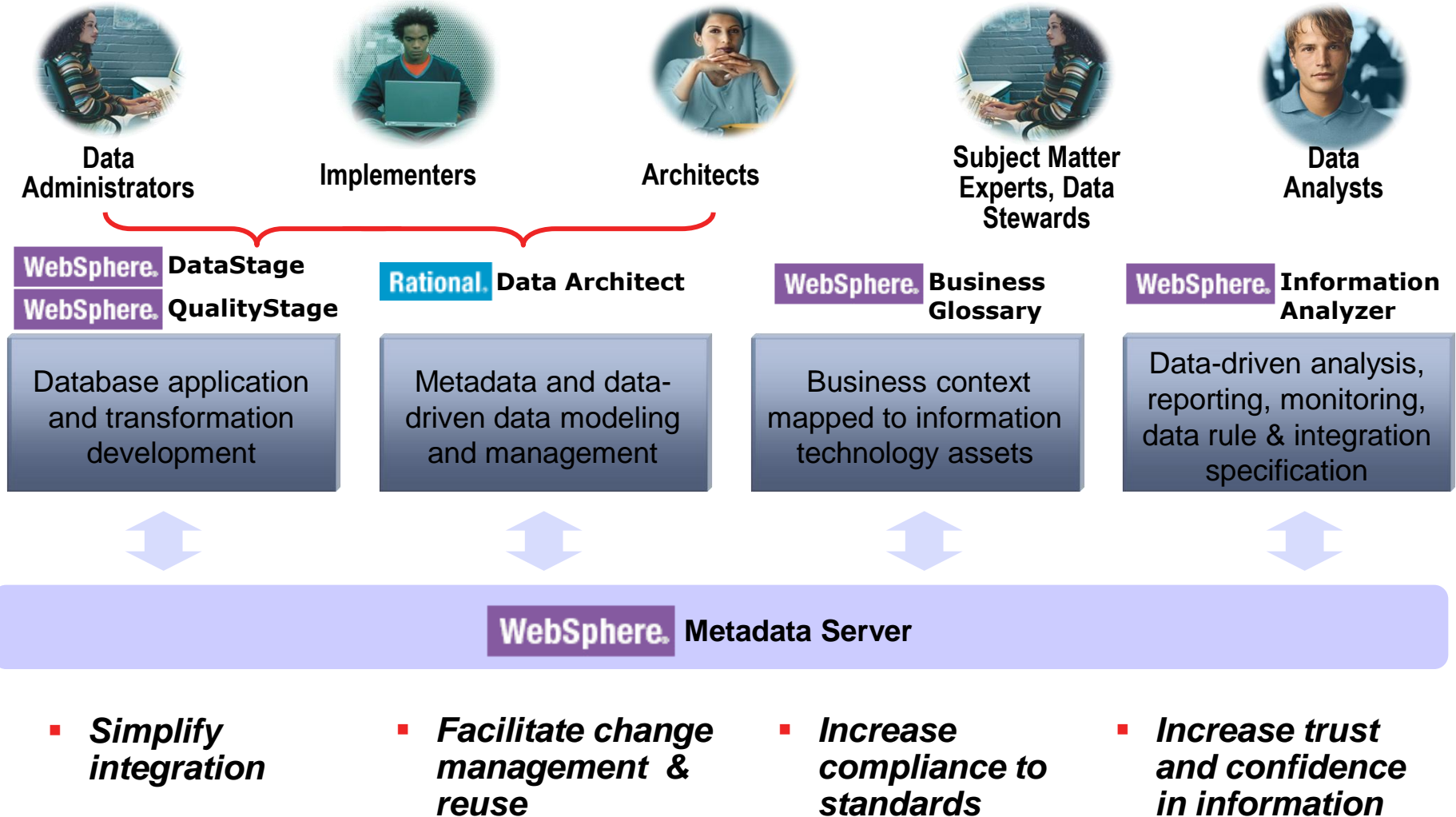
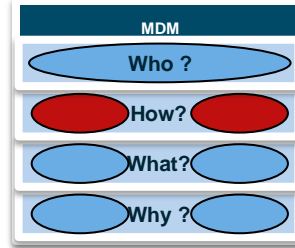
#### Unified Metadata Management

#### Parallel Processing

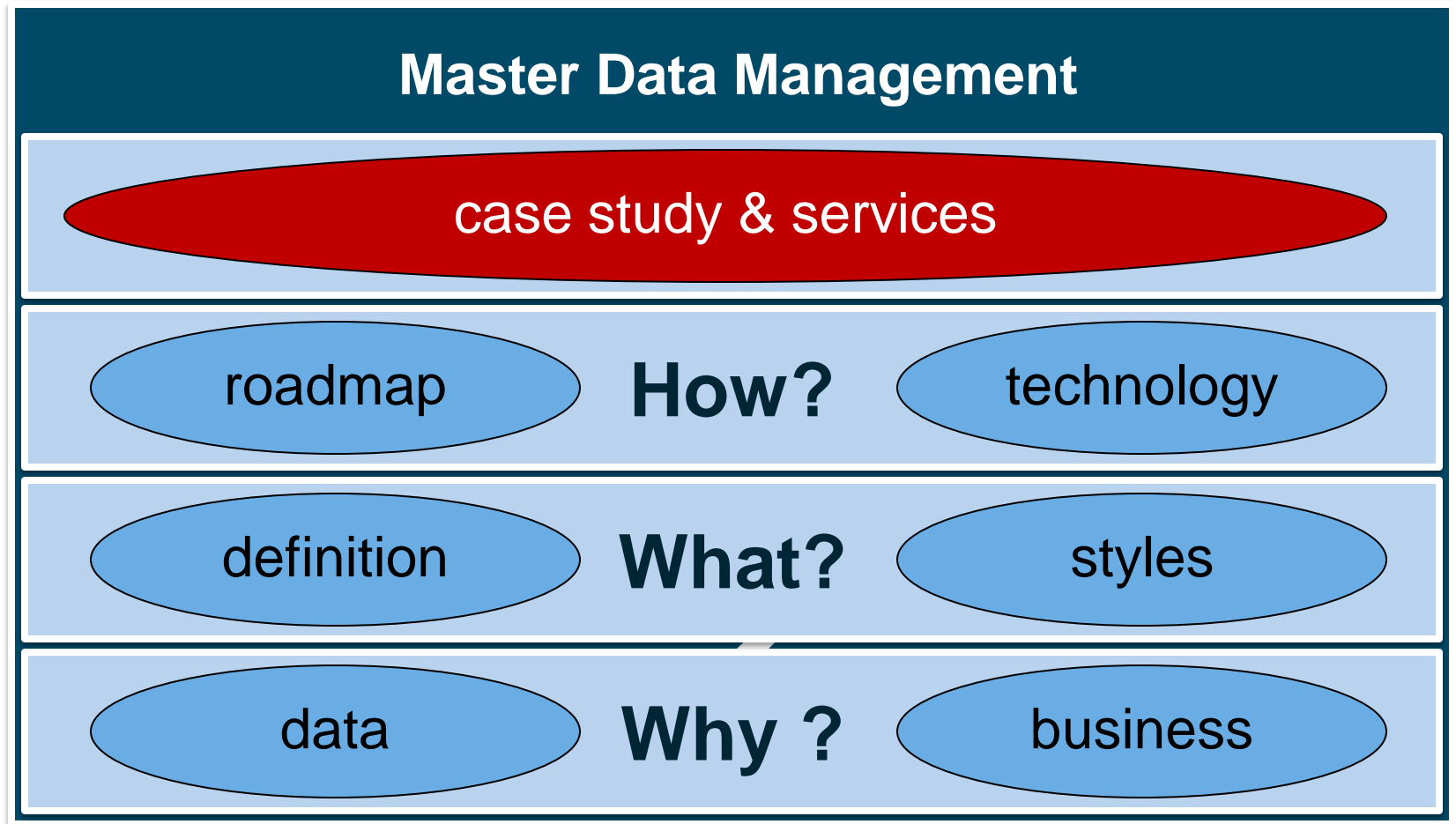
Rich Connectivity to Applications, Data, and Content

# Example of technology

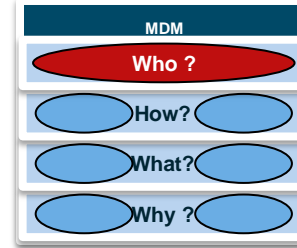
## IBM WebSphere Information Server



# 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

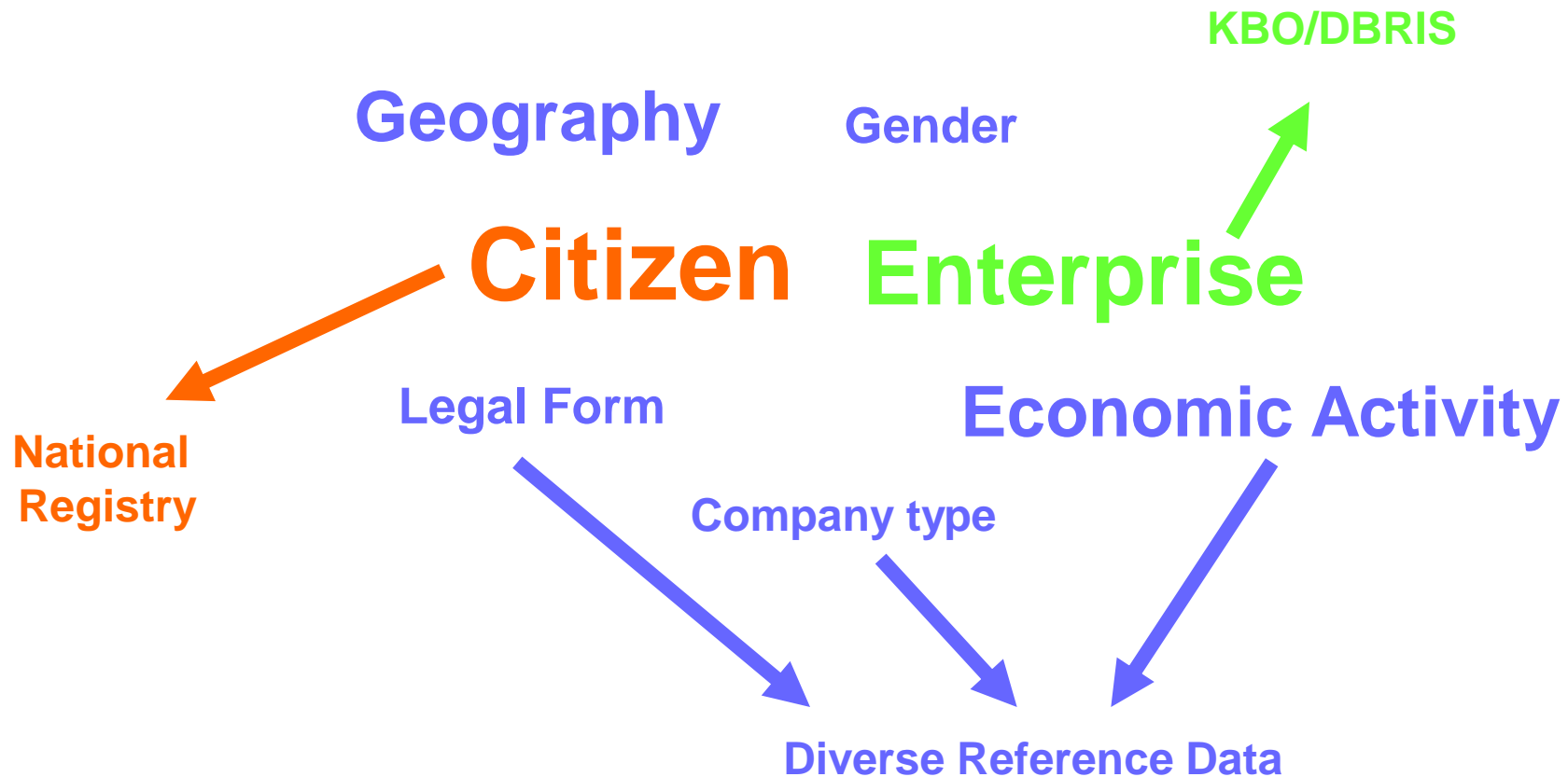
Goods and services market

Innovation

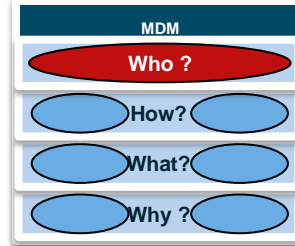
Market surveillance

# Case Study of FOD/SPF Economie

MDM		
Who ?		
How?		
What?		
Why ?		

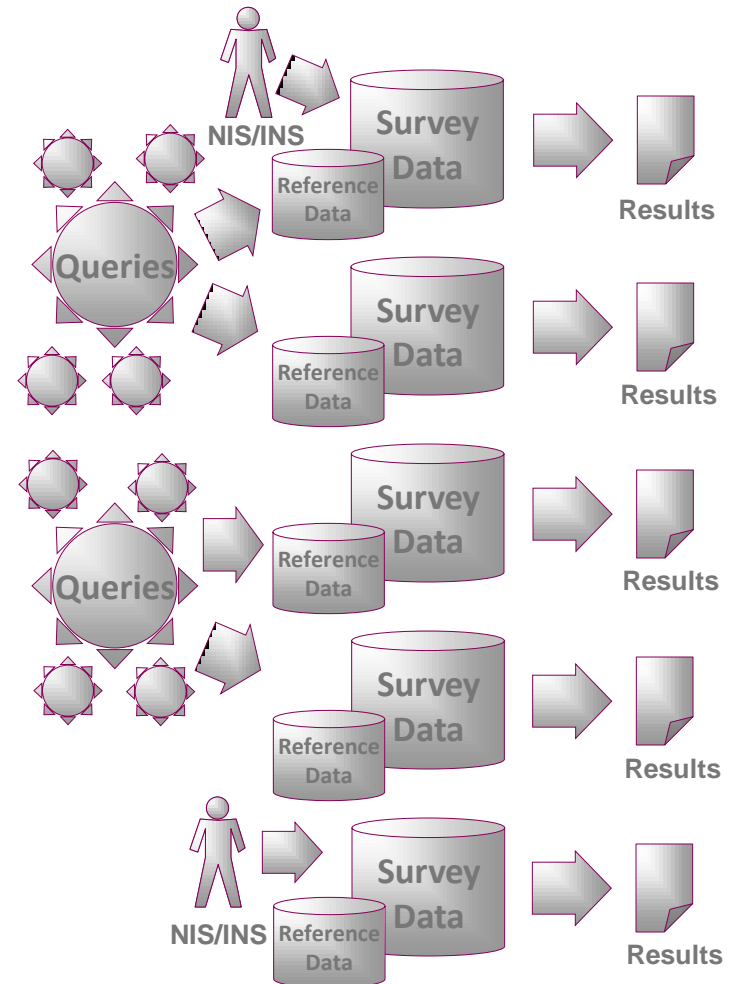


# Case Study of FOD/SPF Economie: initial state



Operational

Analytical



# Case Study of FOD/SPF Economie: final situation

MDM		
Who ?		
How?		
What?		
Why ?		

