Master Data Management Components

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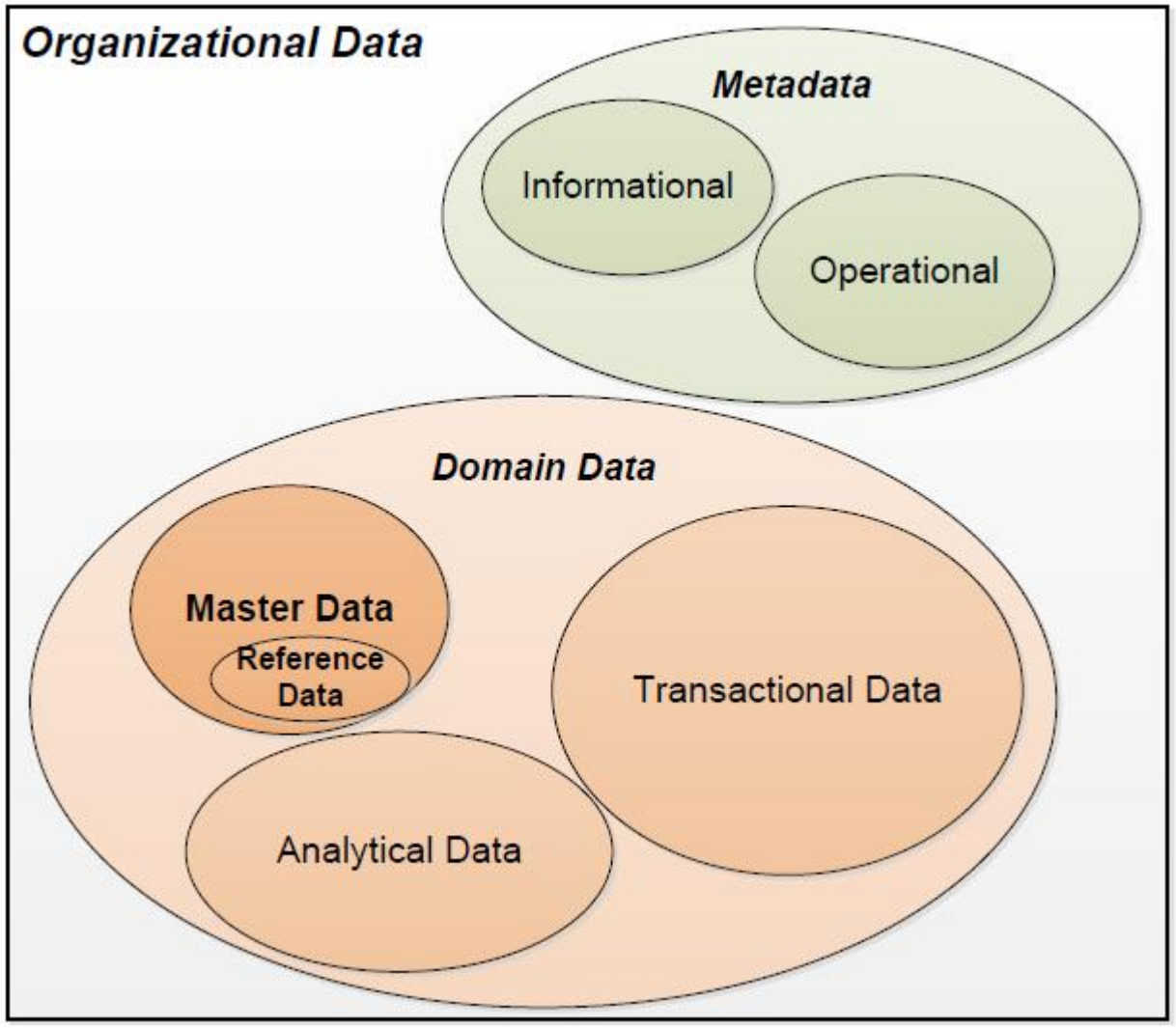
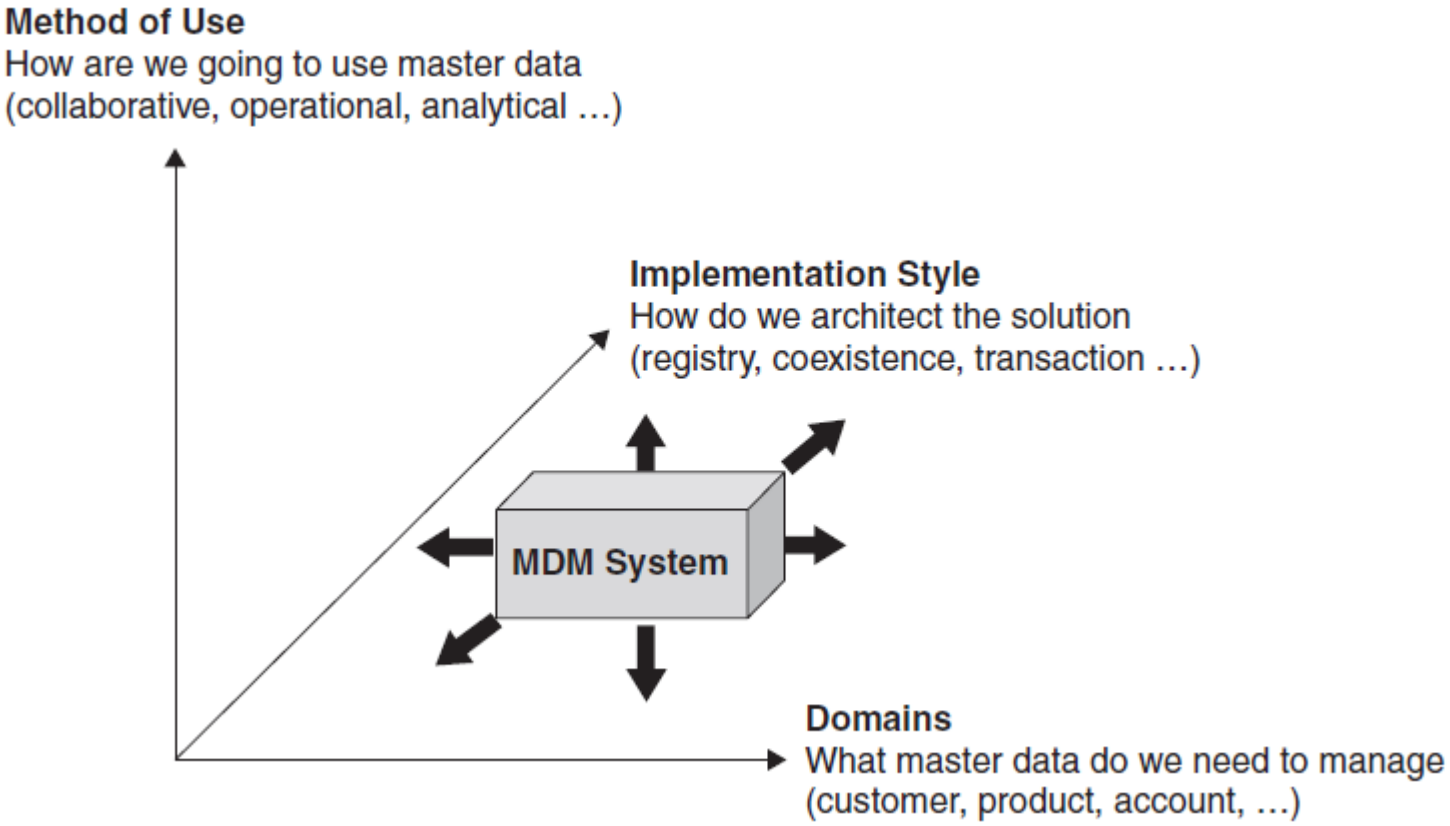
Master Data

- Abbreviation: MD
- Referring to core business entities an organization uses repeatedly across many business processes and systems
- Captures the key things that all parts of an organization must agree on, both in meaning and in usage
- the single source of truth
- system of record



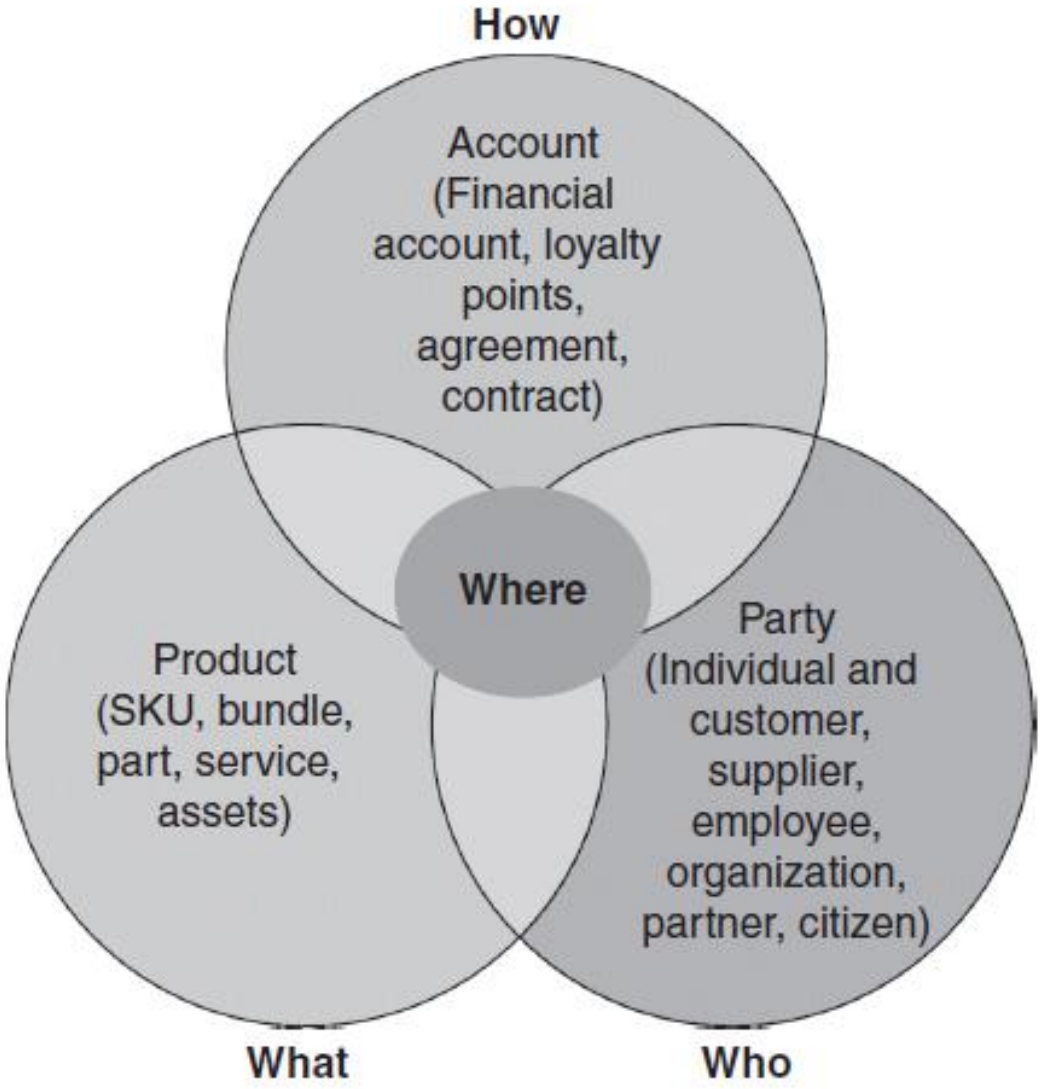
MD among other kinds of Data



Different dimensions of MD

MD Domains

- Customer Data Integration (CDI)
  - Focuses on managing people and organizations – parties
  - Manage the use of the party data
  - Distribute the information out to downstream systems
- Product Information Management (PIM)
  - Manage the definition and lifecycle of a finished good or service - Things
  - Collecting product information from multiple sources
  - Getting agreement on the definition of products



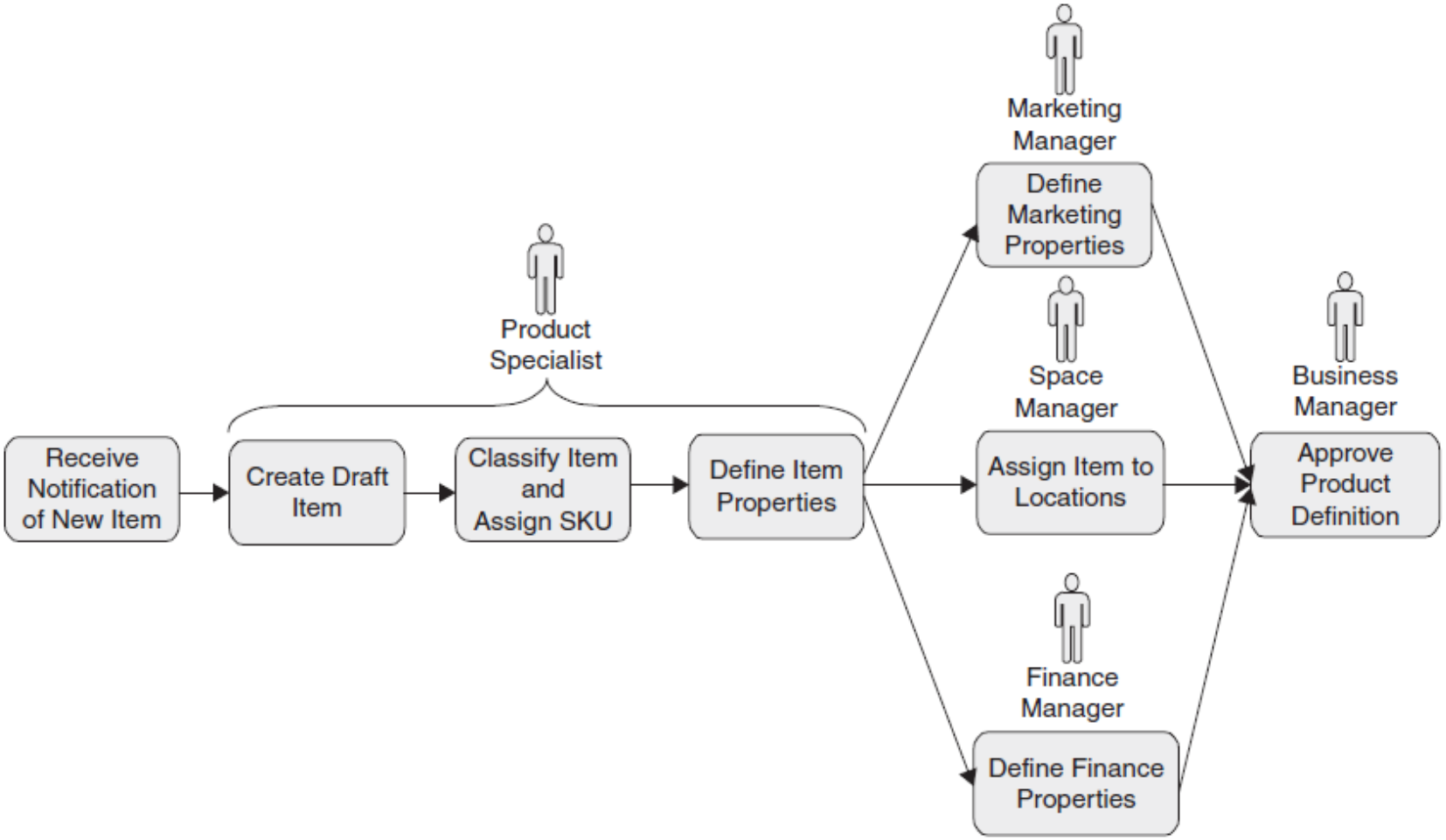
Master Data Domains

Methods of use of MD

- Collaborative MDM
- Operational MDM
- Analytical MDM

Collaborative MDM

- Achieving agreement on a complex topic among a group of people
- Information about the master data being processed is passed from task to task within the workflow and is governed throughout its lifecycle
- PIM systems commonly support a collaborative style of usage - **process for introducing a new product to the market**



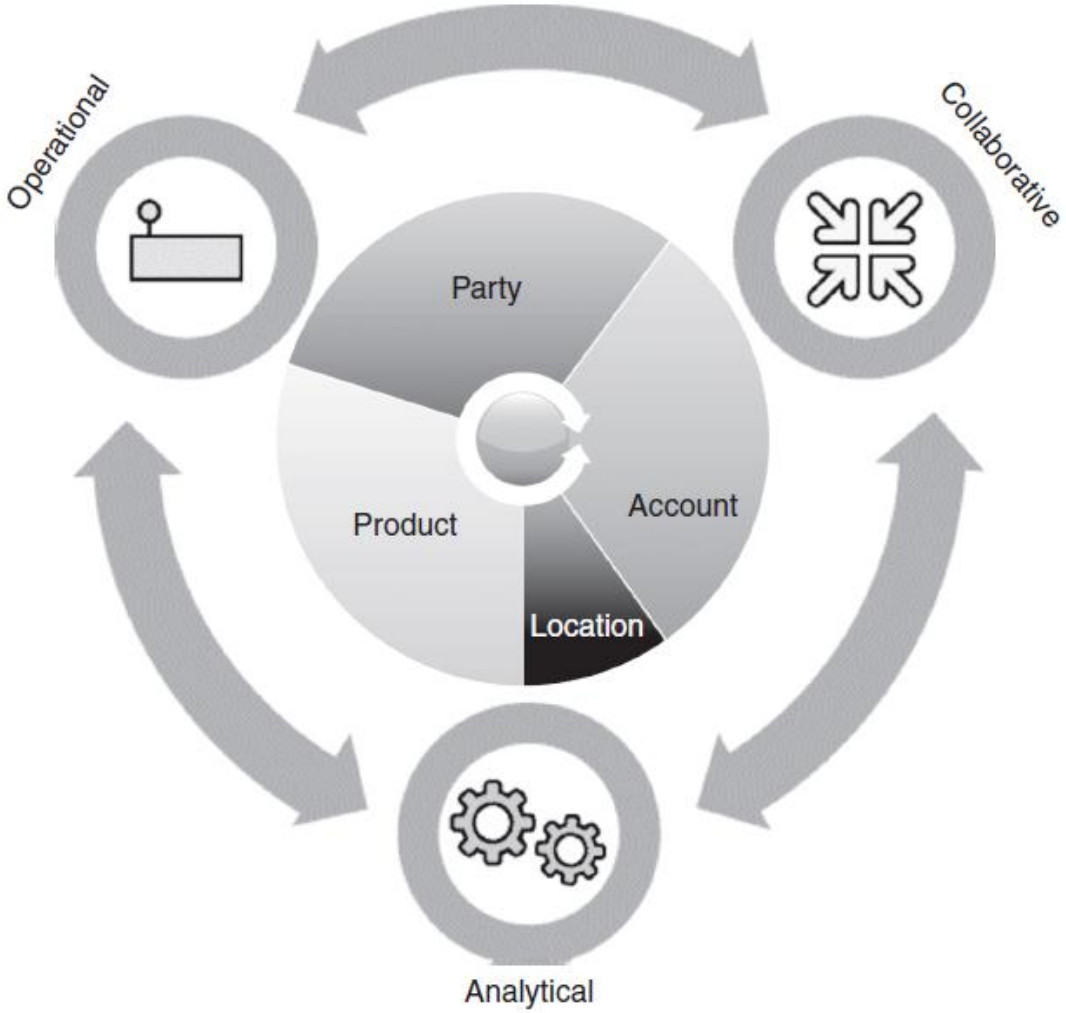
Simplified New Product Introduction process

Operational MDM

- Acts as an Online-Transaction Processing (OLTP) system
- Responds to requests from multiple applications and users
- CDI, PIM & other domains

Analytical MDM

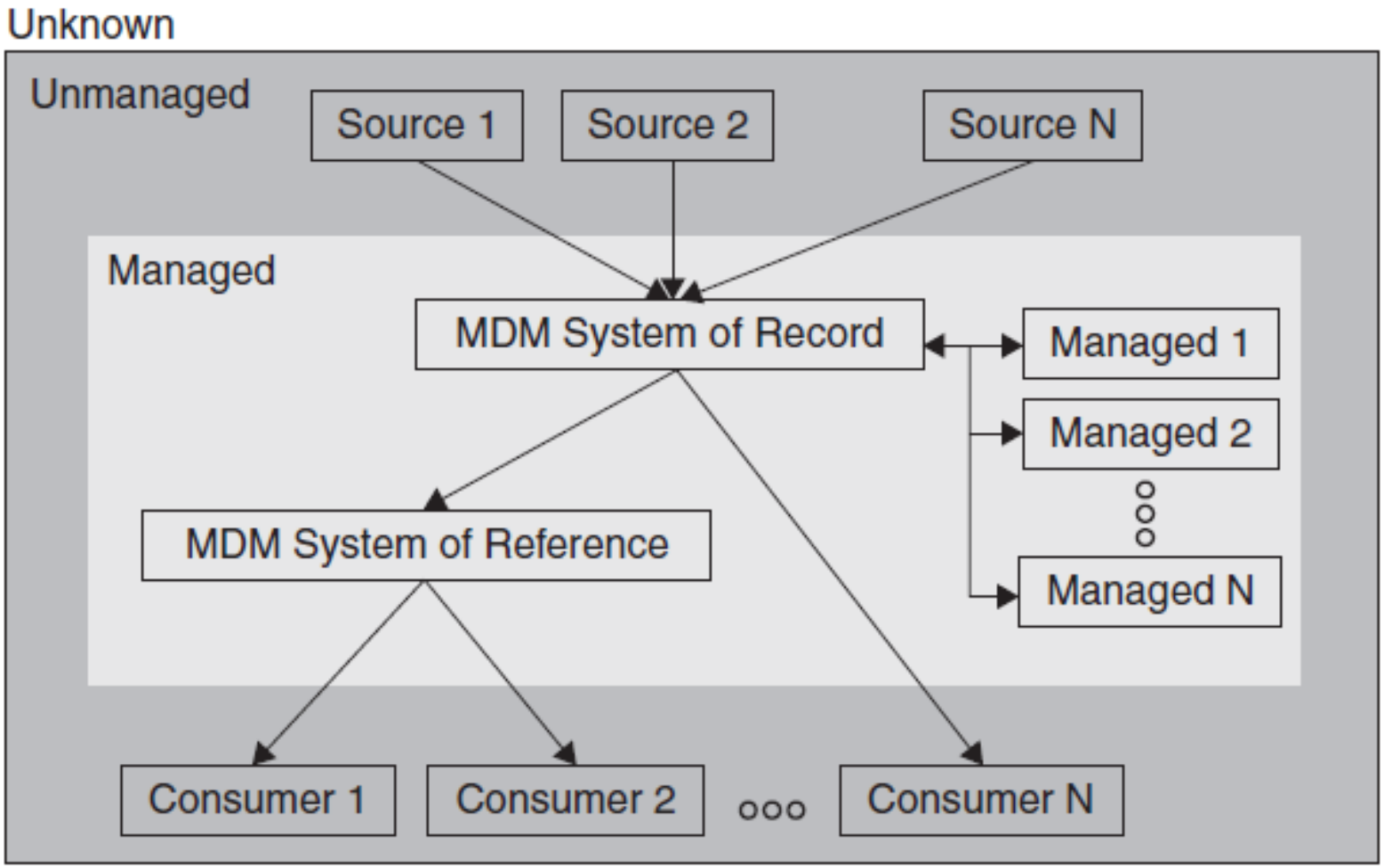
- **MDM as a trusted data source**
  - A key role of an MDM System is to be a provider of clean and consistent data to BI systems
- **Analytics on MDM data**
  - MDM Systems themselves may integrate reporting and analytics in support of providing insight over the data managed within the MDM System
- **Analytics as a key function of an MDM System**
  - Specialized kinds of analytics, such as **identity resolution,** may be a key feature of some MDM Systems



Multiple MDM domains and multiple methods of use

System of Record vs. System of Reference

- The master data in the ideal MDM implementation can be considered a **system of record**
- When the replica of the master data is known to be synchronized with the system of record we can call this copy a **system of reference**



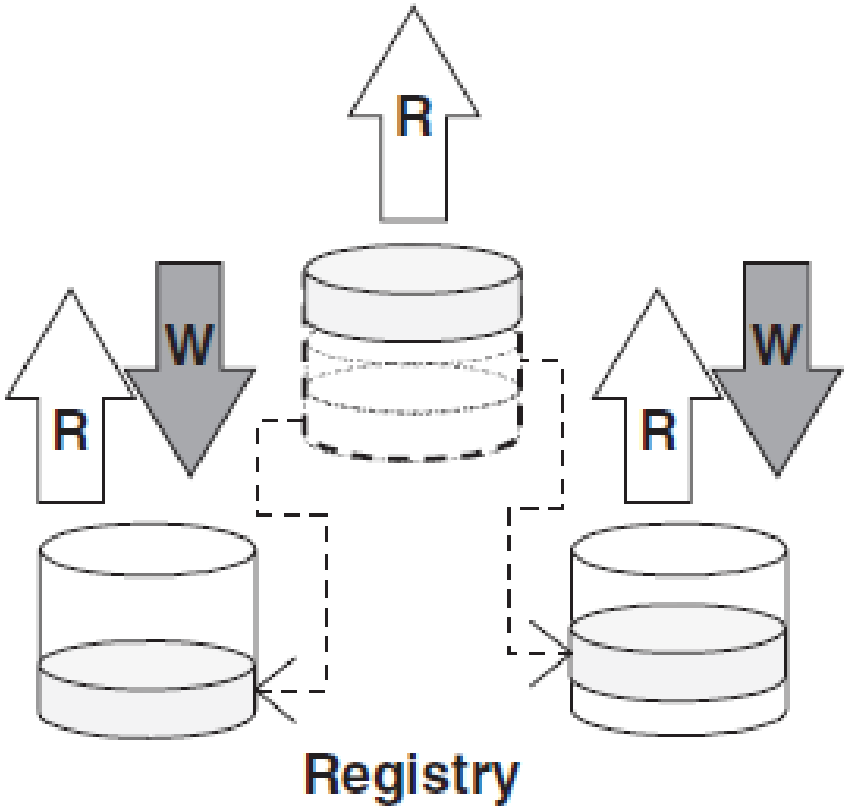
System of Record vs. System of Reference

MDM Implementation Styles

- **Registry**
- **Consolidation**
- **Transactional Hub**
- **Coexistence**

Registry Implementation Style

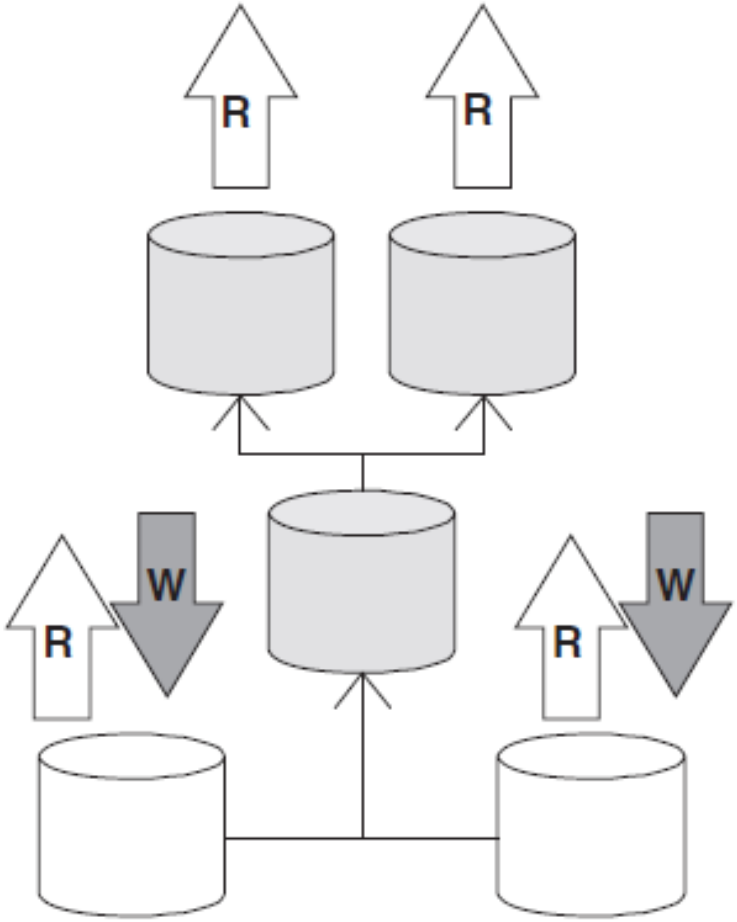
- When read-only view of master data is required and sufficient for subscribing systems
- holds only a thin slice of master data
- Outside of the MDM-managed slice, other data attributes remain in application systems without harmonization



Registry Implementation Style

Consolidation Implementation Style

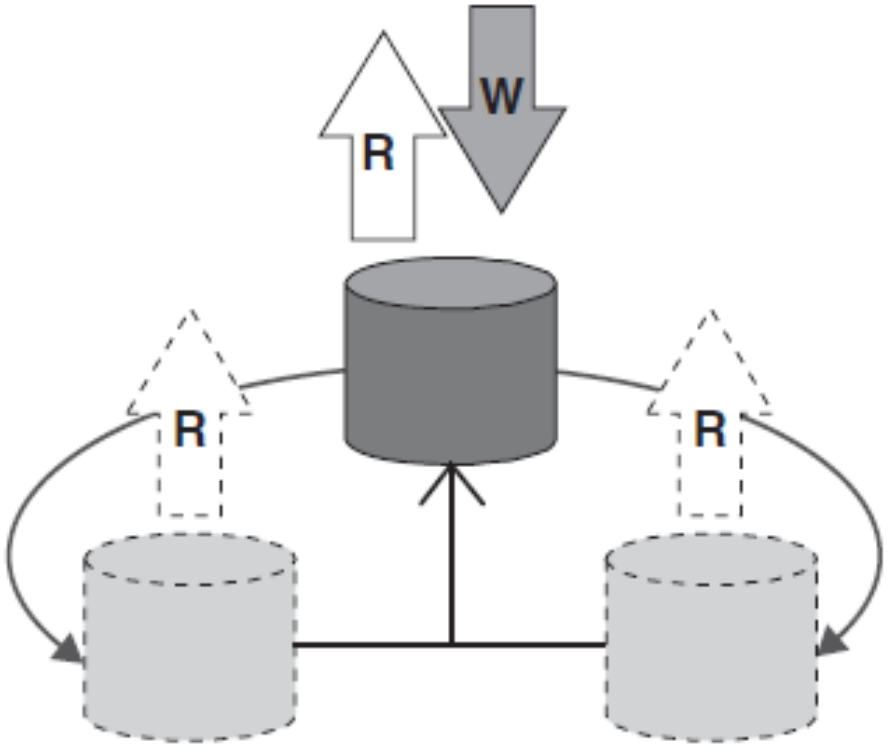
- fully materializes all master data attributes in the MDM system
- higher deployment costs
- support reporting and analytical MDM: as all attributes of Master Data are in one place and are harmonized, reporting gets simplified



Consolidation Implementation Style

Transactional Hub Implementation Style

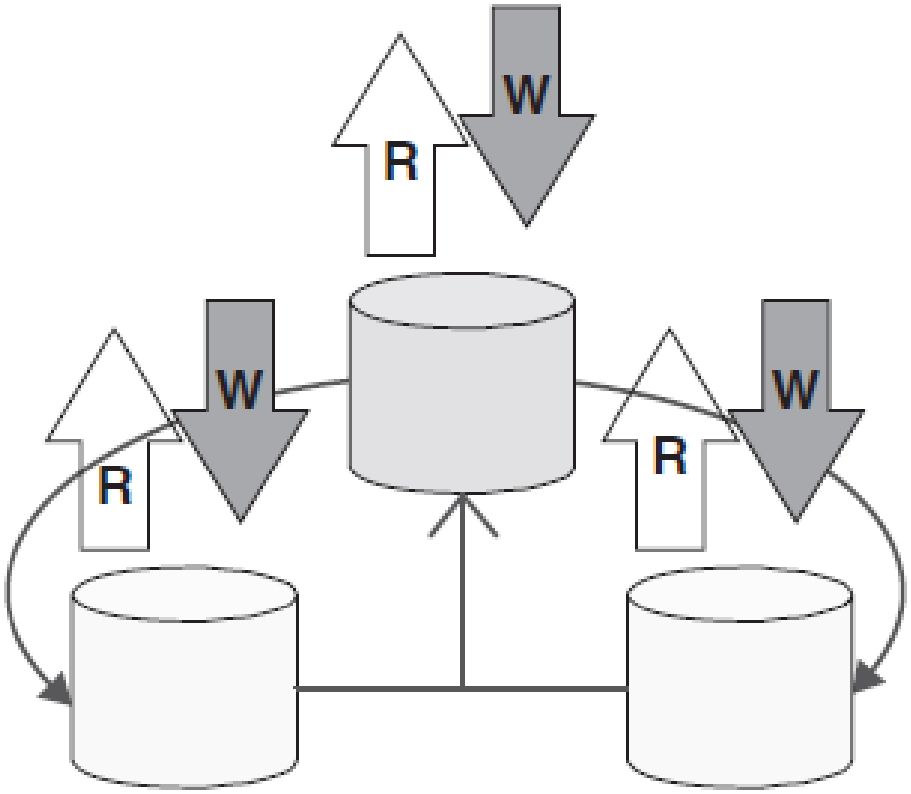
- a system of record, serving as the single version of truth
- Updates to master data happen directly to this system using the services provided by the hub
- As update transactions take place, the master data is cleansed, matched, and augmented in order to maintain the quality of the master data



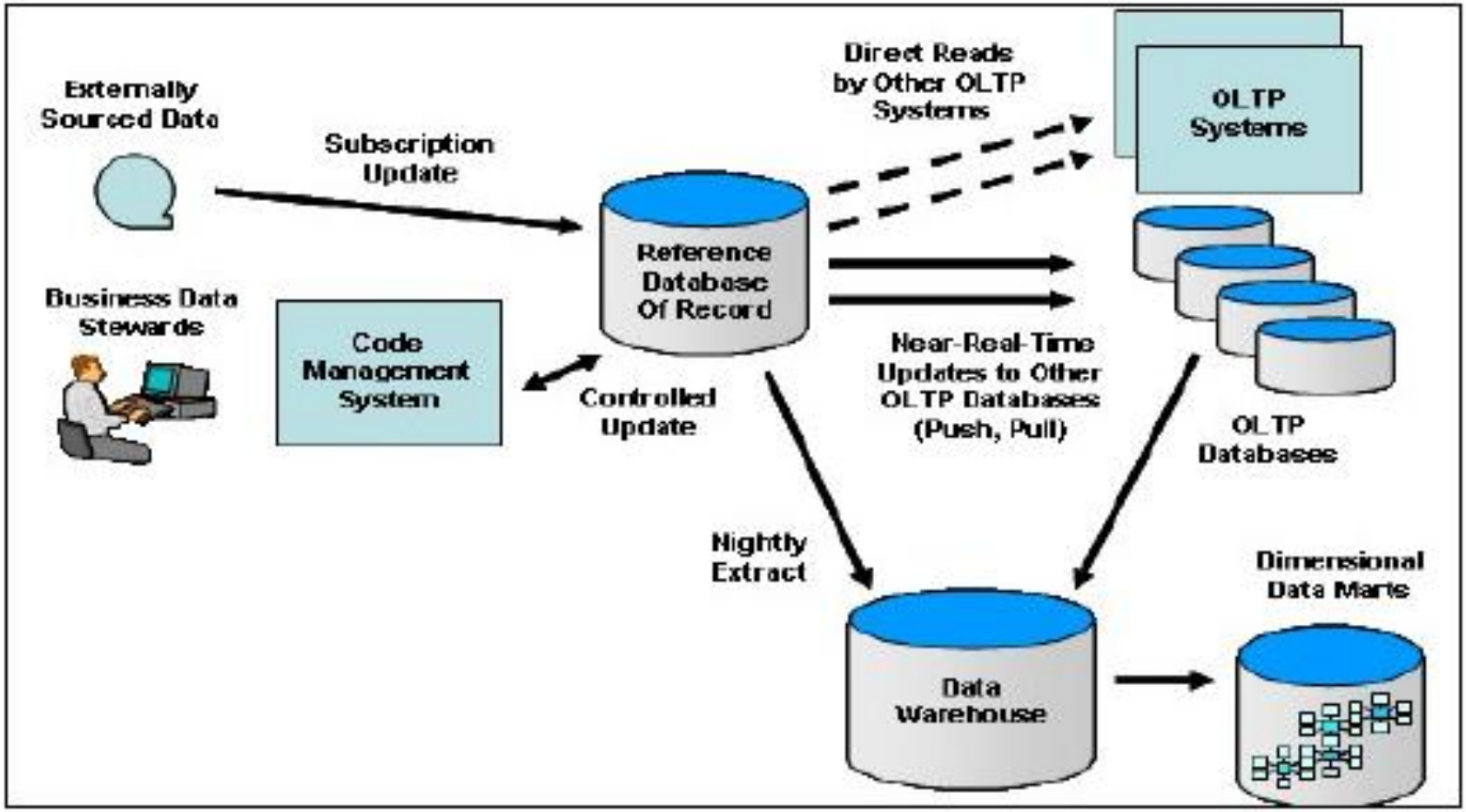
Transactional Hub Implementation Style

Coexistence Implementation Style

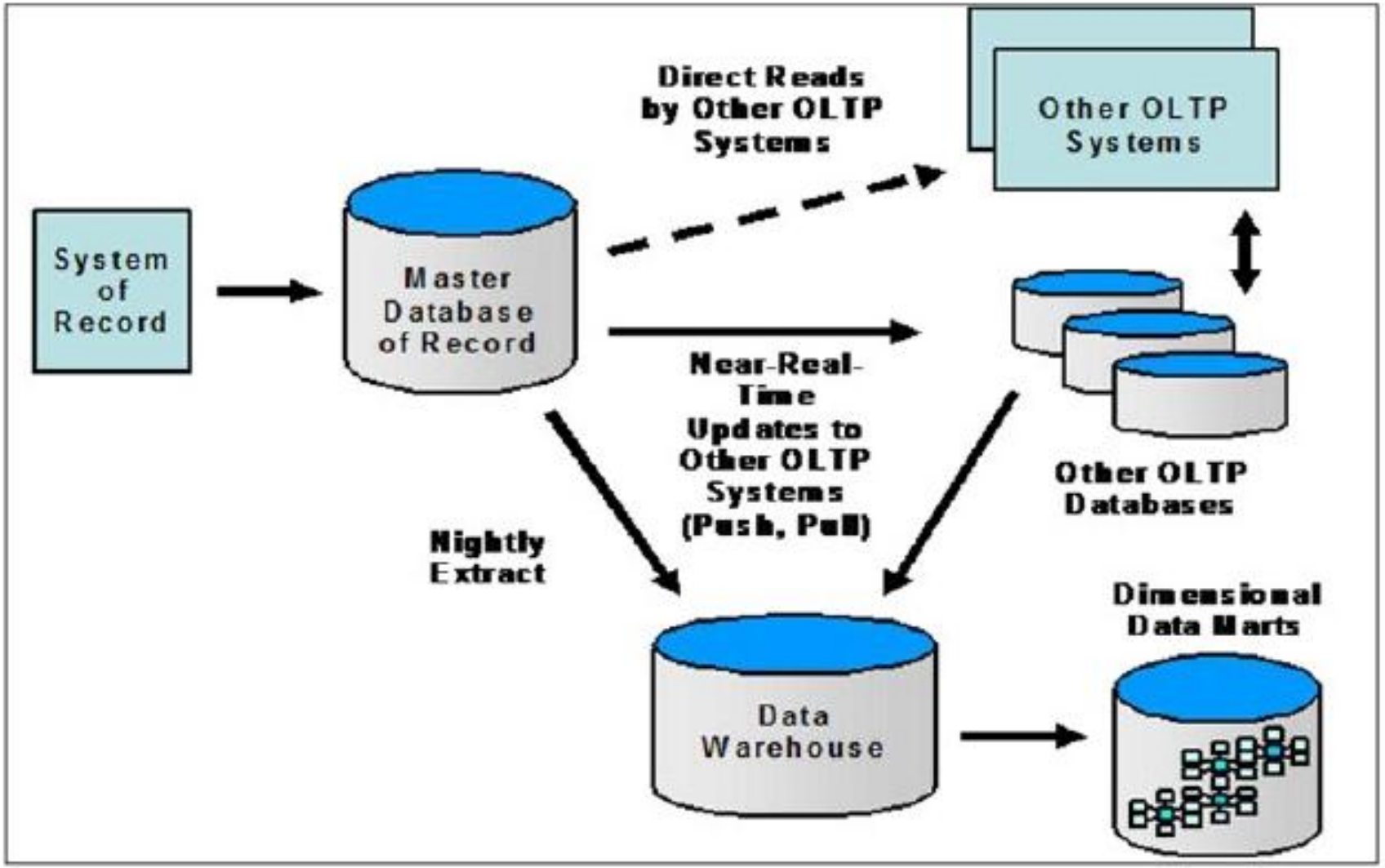
- master data that may be authored and stored in numerous locations
- includes a physically instantiated golden record in the MDM System that is synchronized with source systems



Coexistence Implementation Style

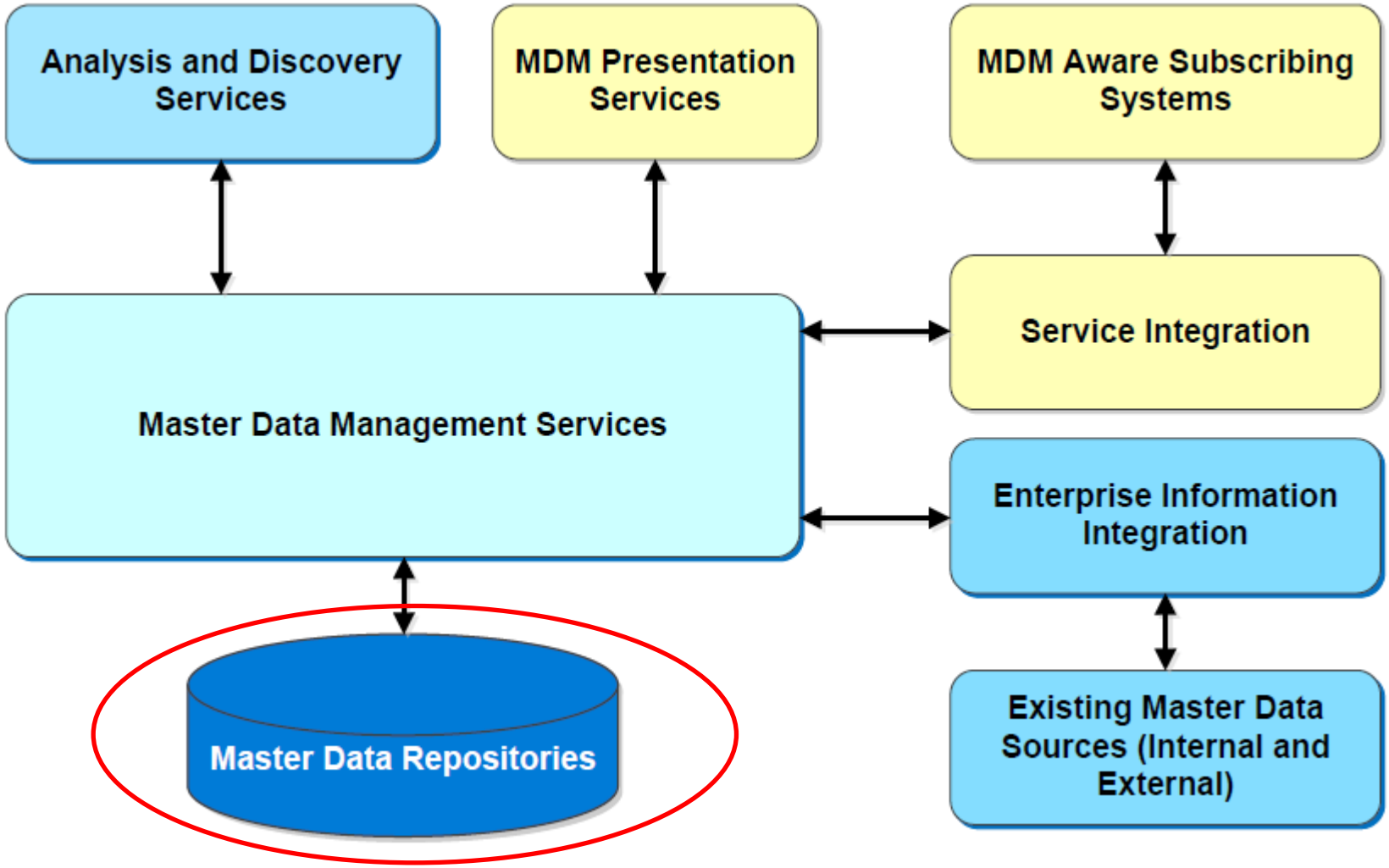


Reference Data Management Architecture

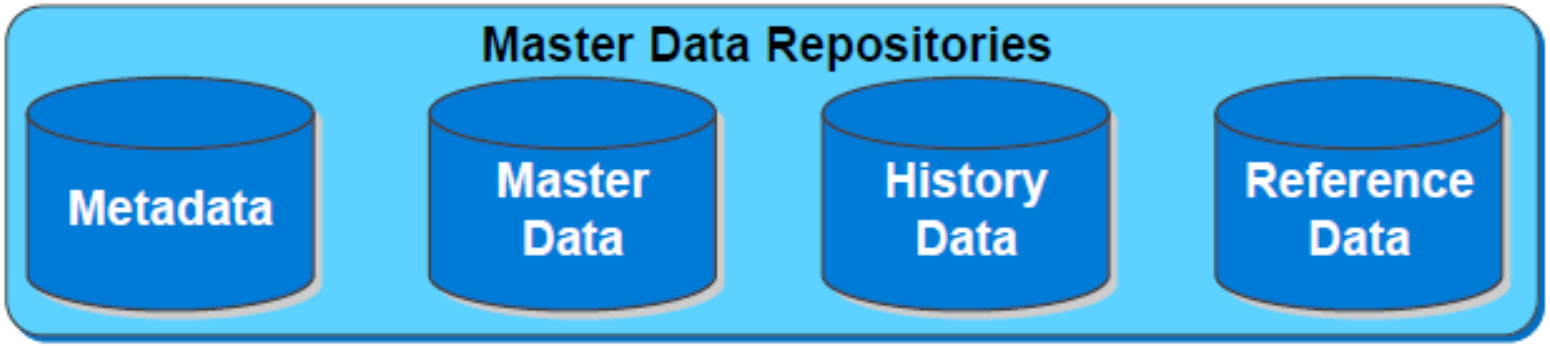


Master Data Management Architecture

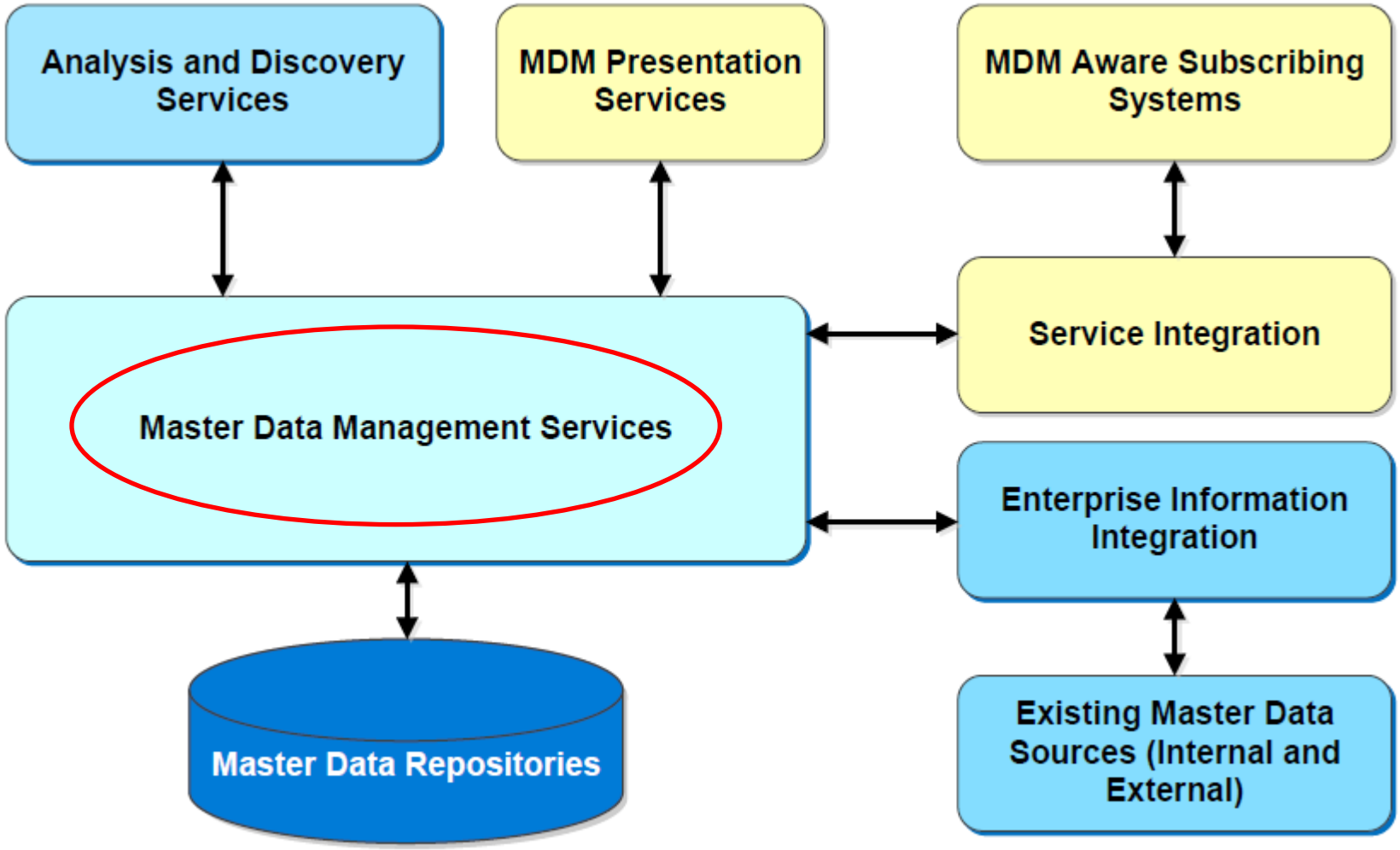
Components of Master Data



MDM Components Overview



Master Data Repositories



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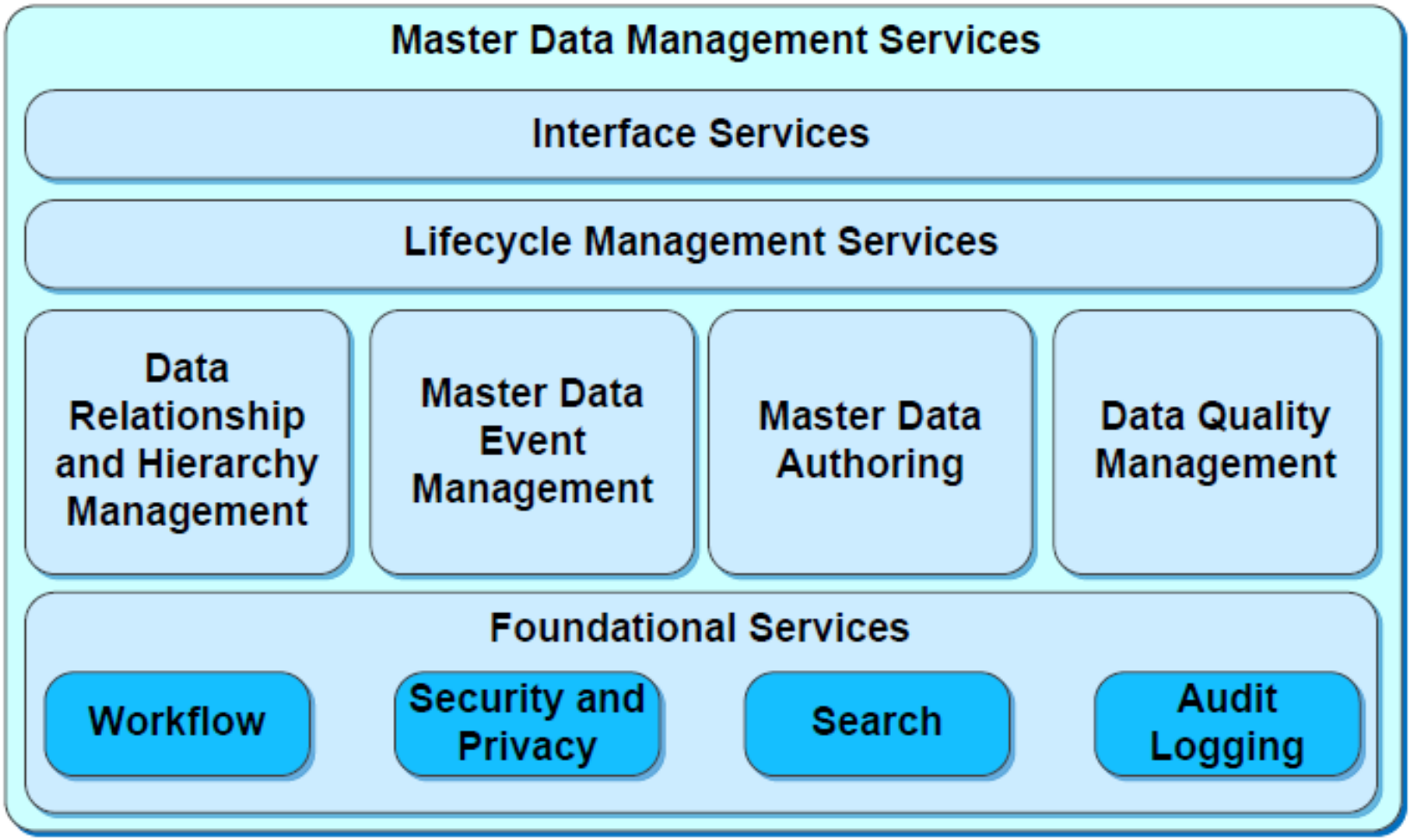
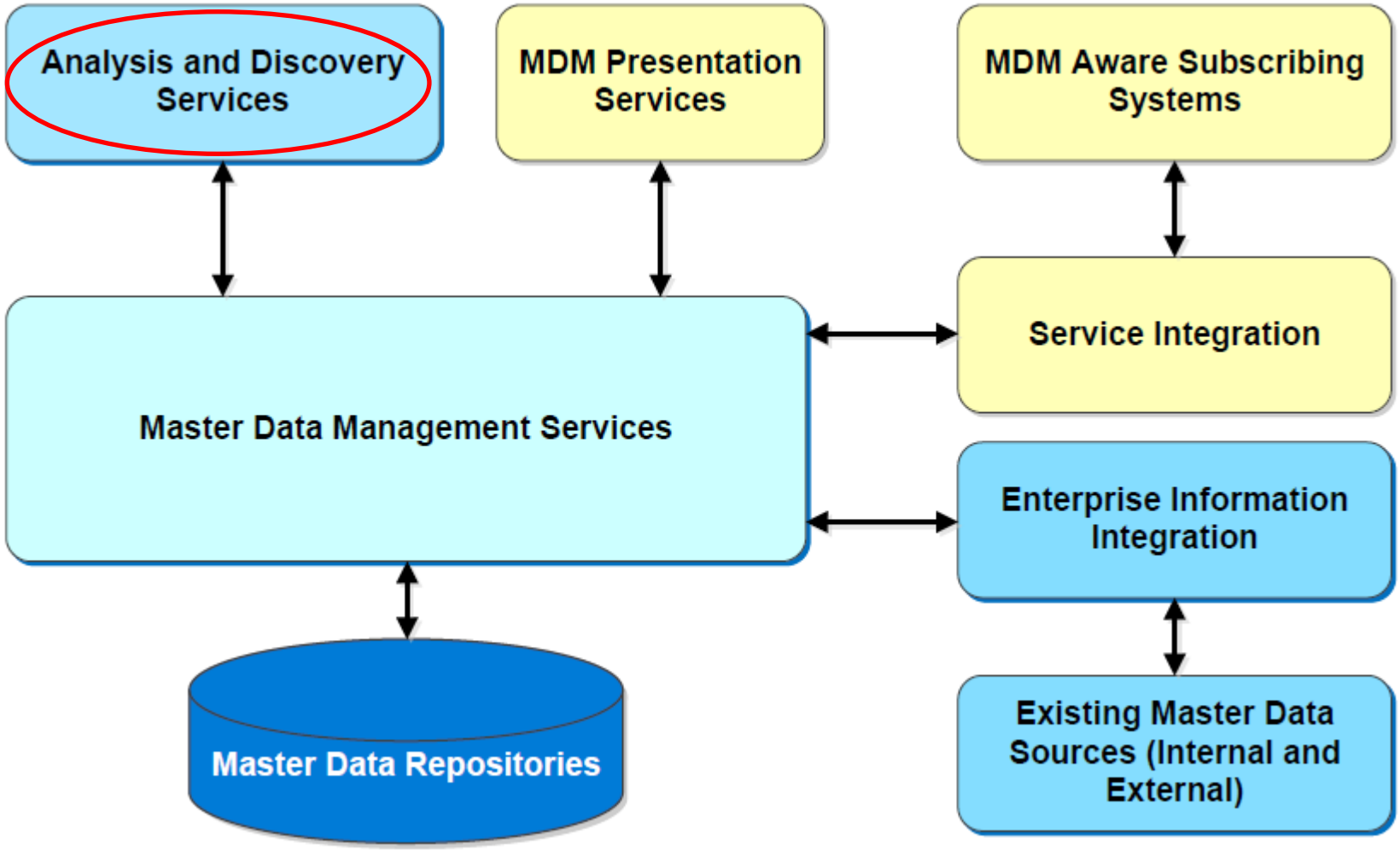


Master Data Management Services



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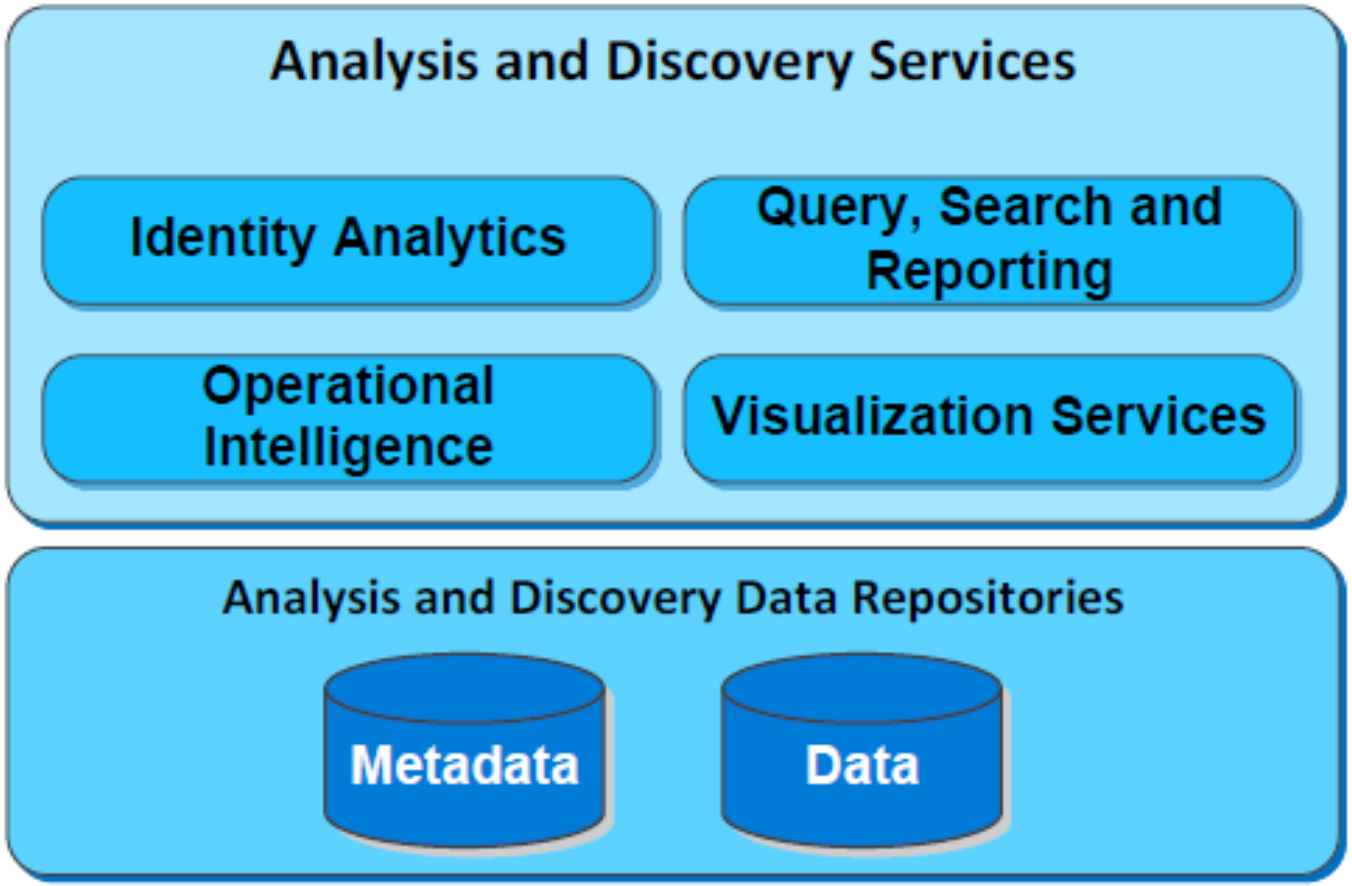
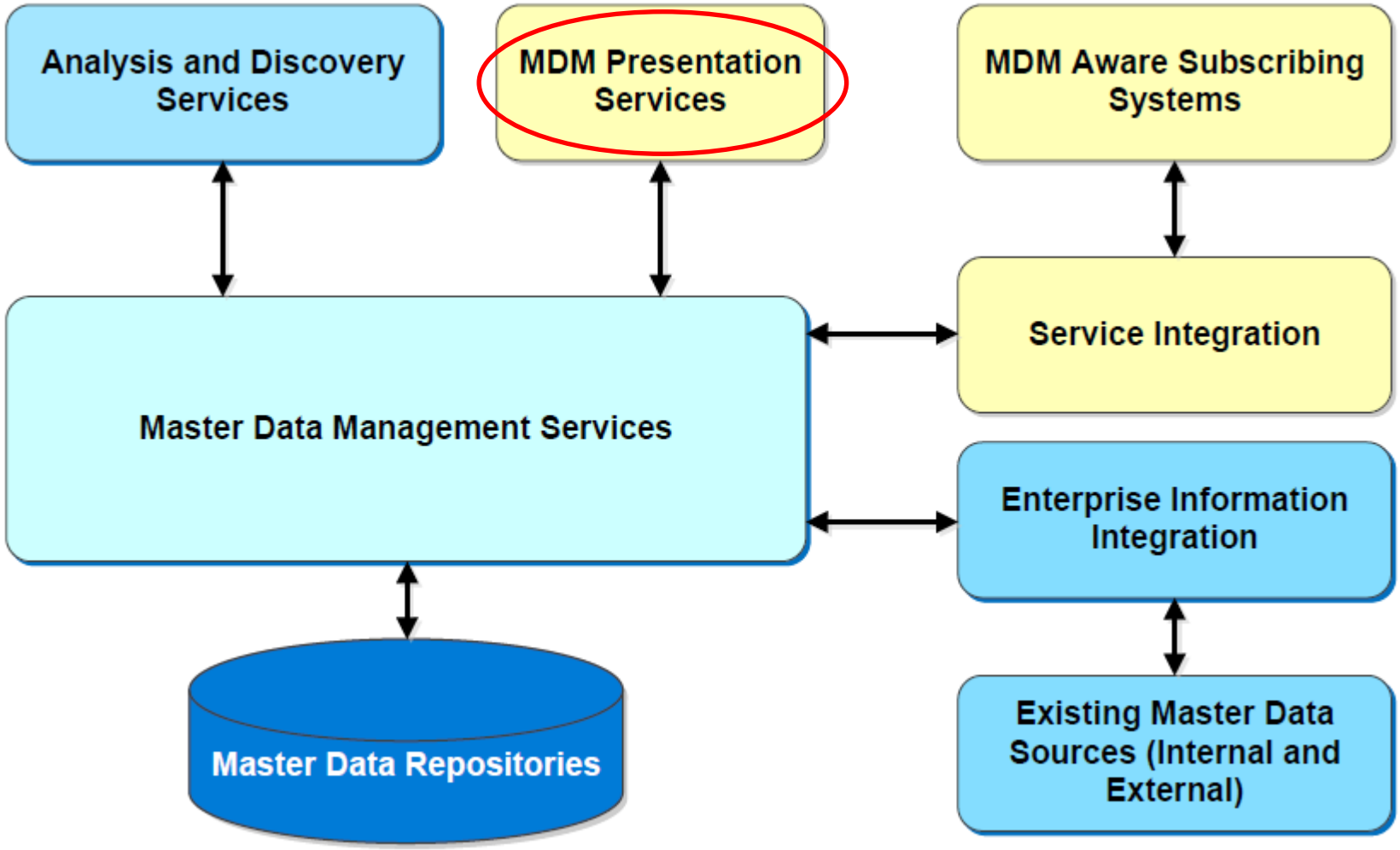


Analysis and Discovery Services



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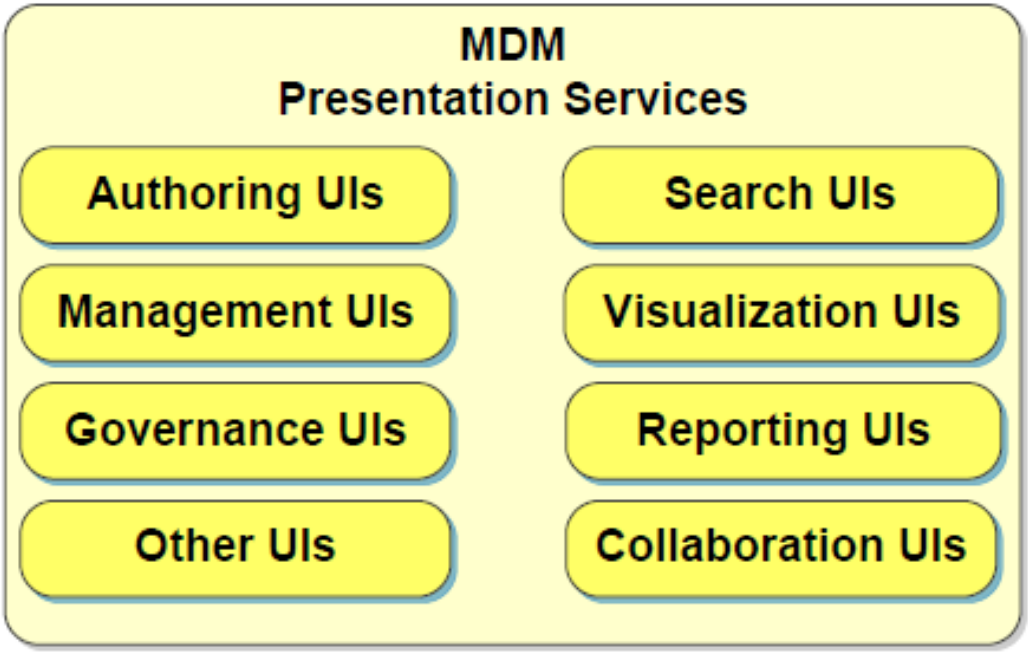
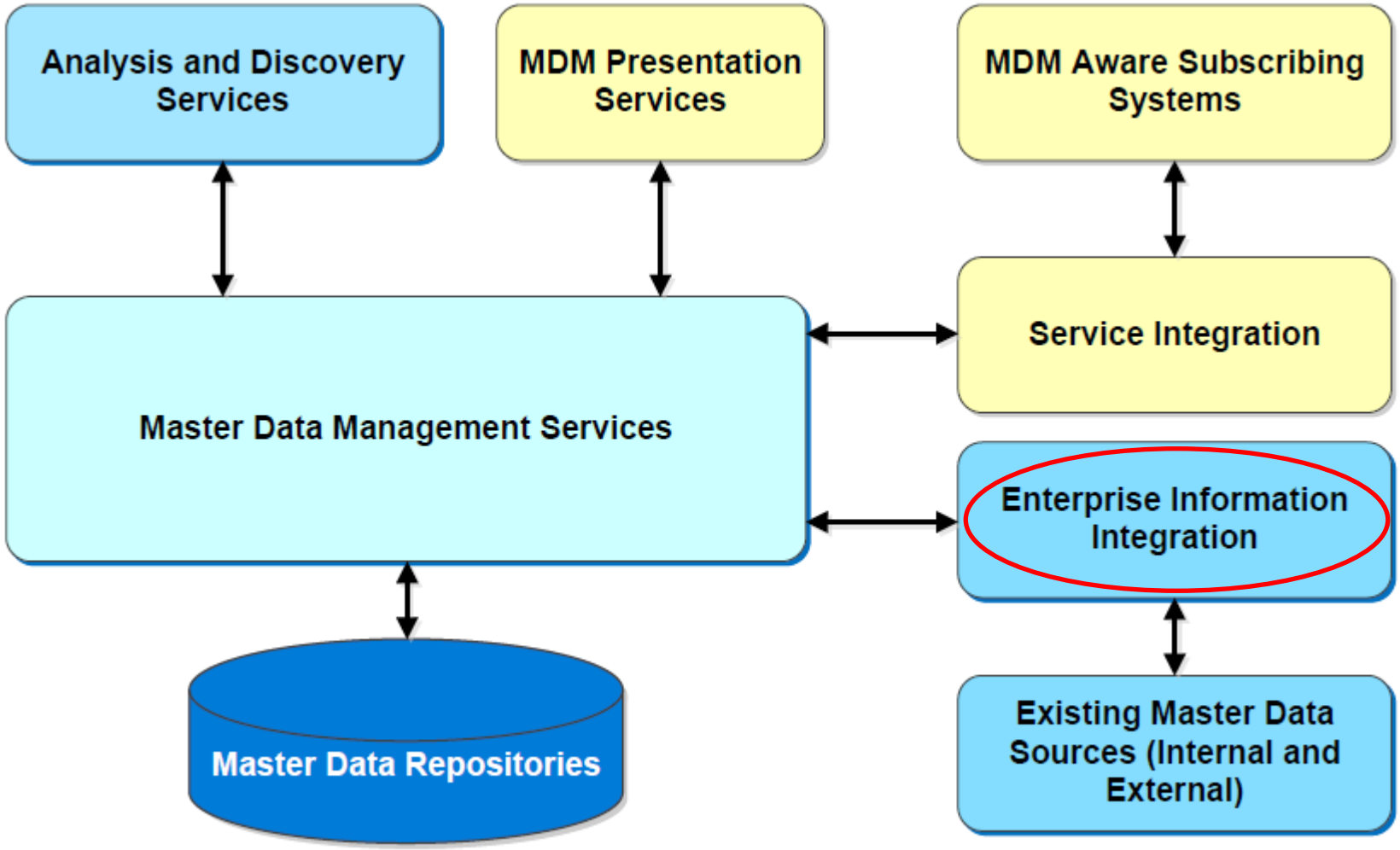


Presentation in MDM



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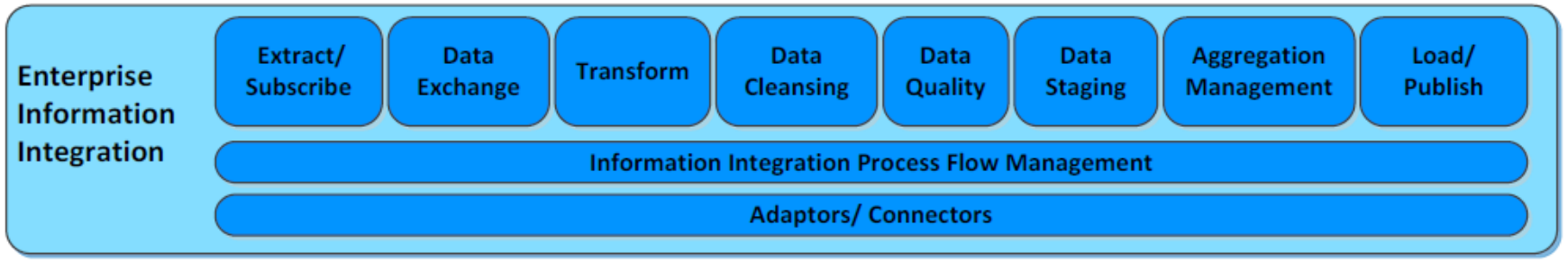
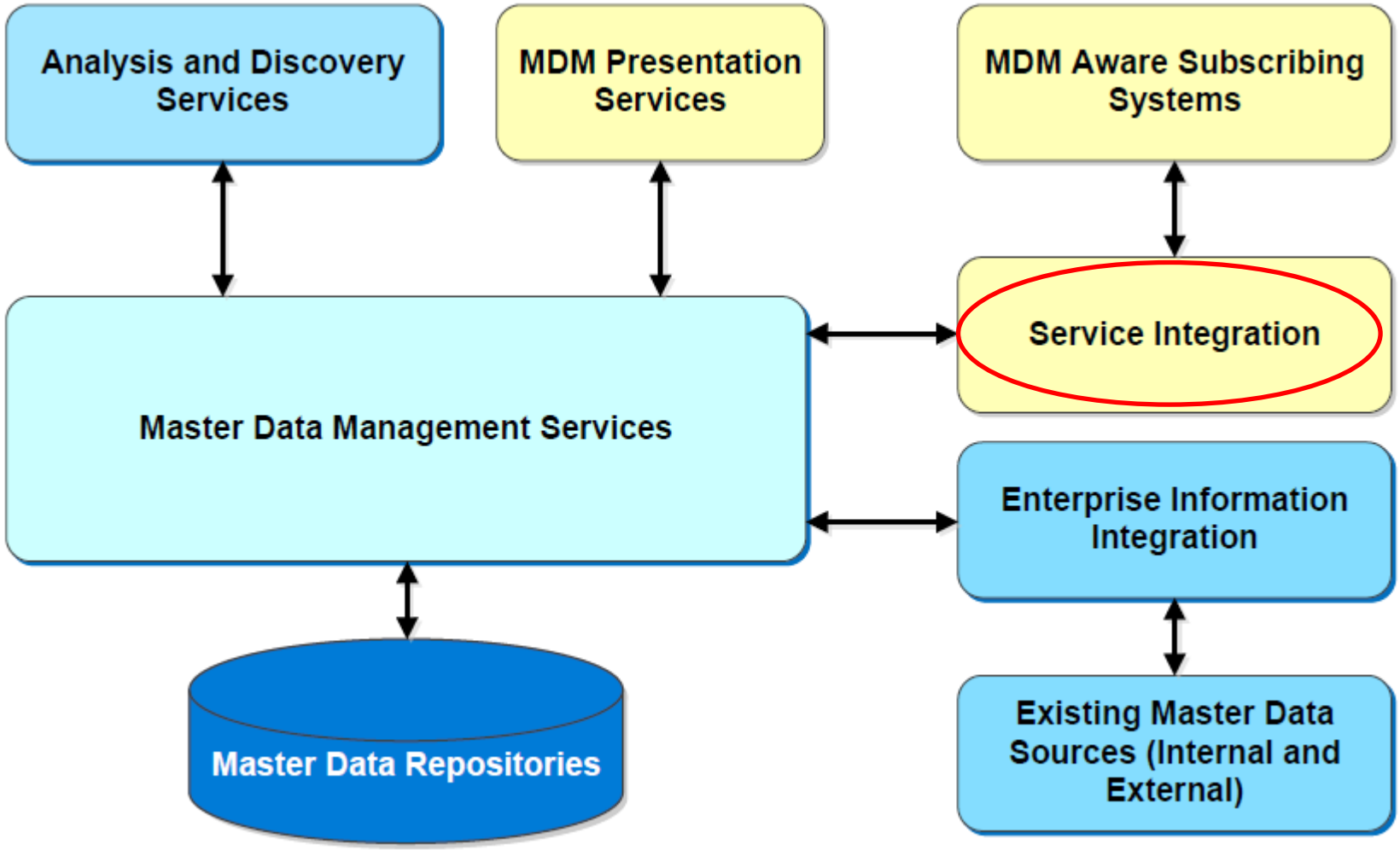


Enterprise Information Integration



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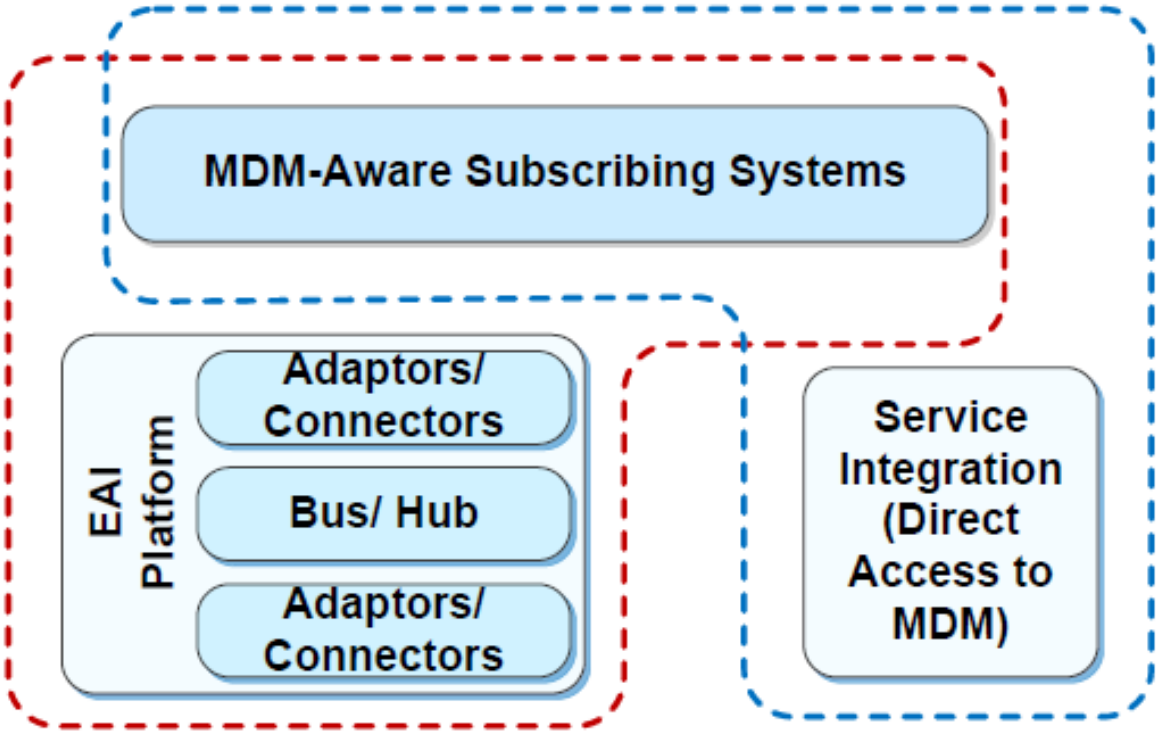
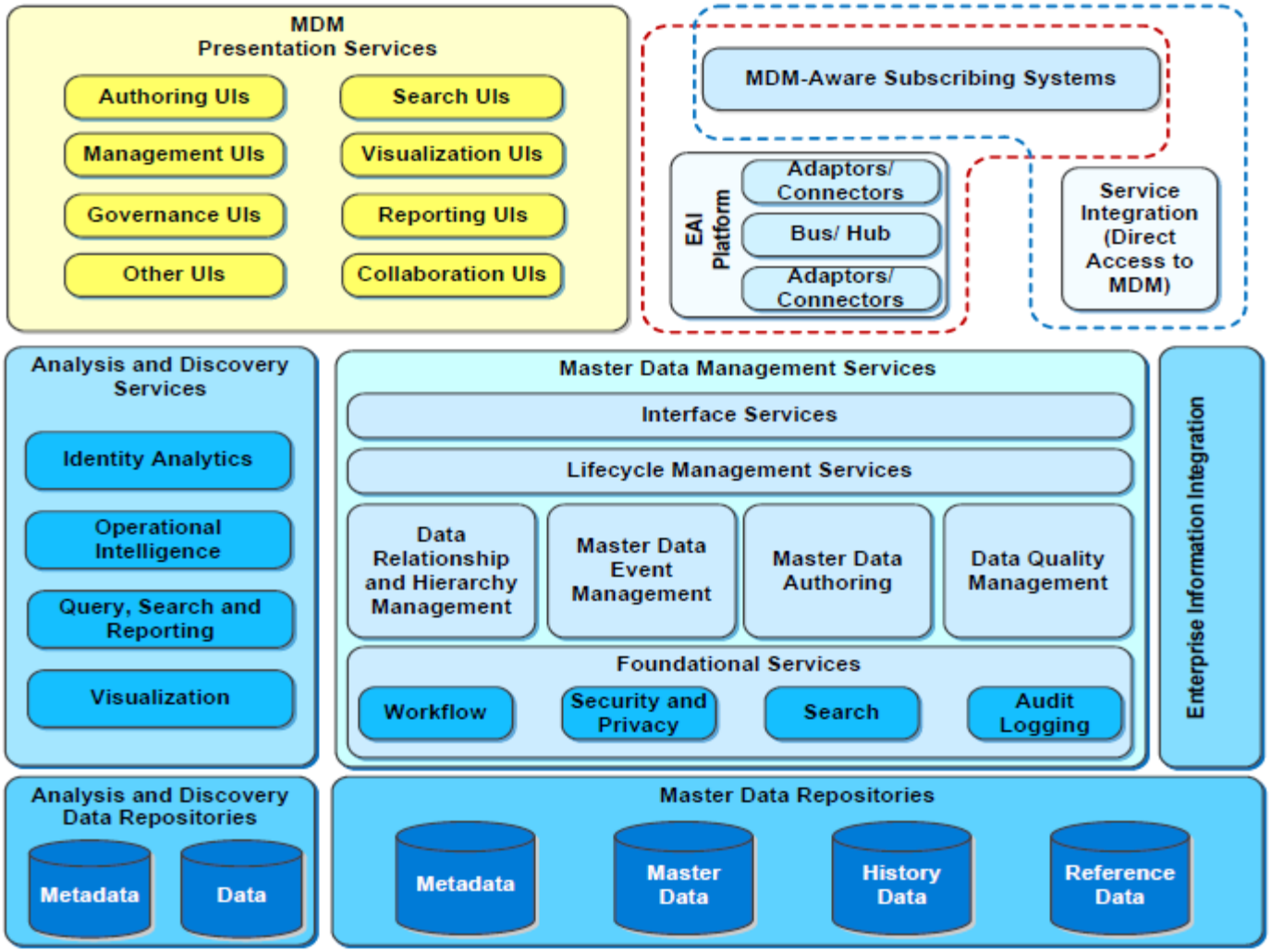
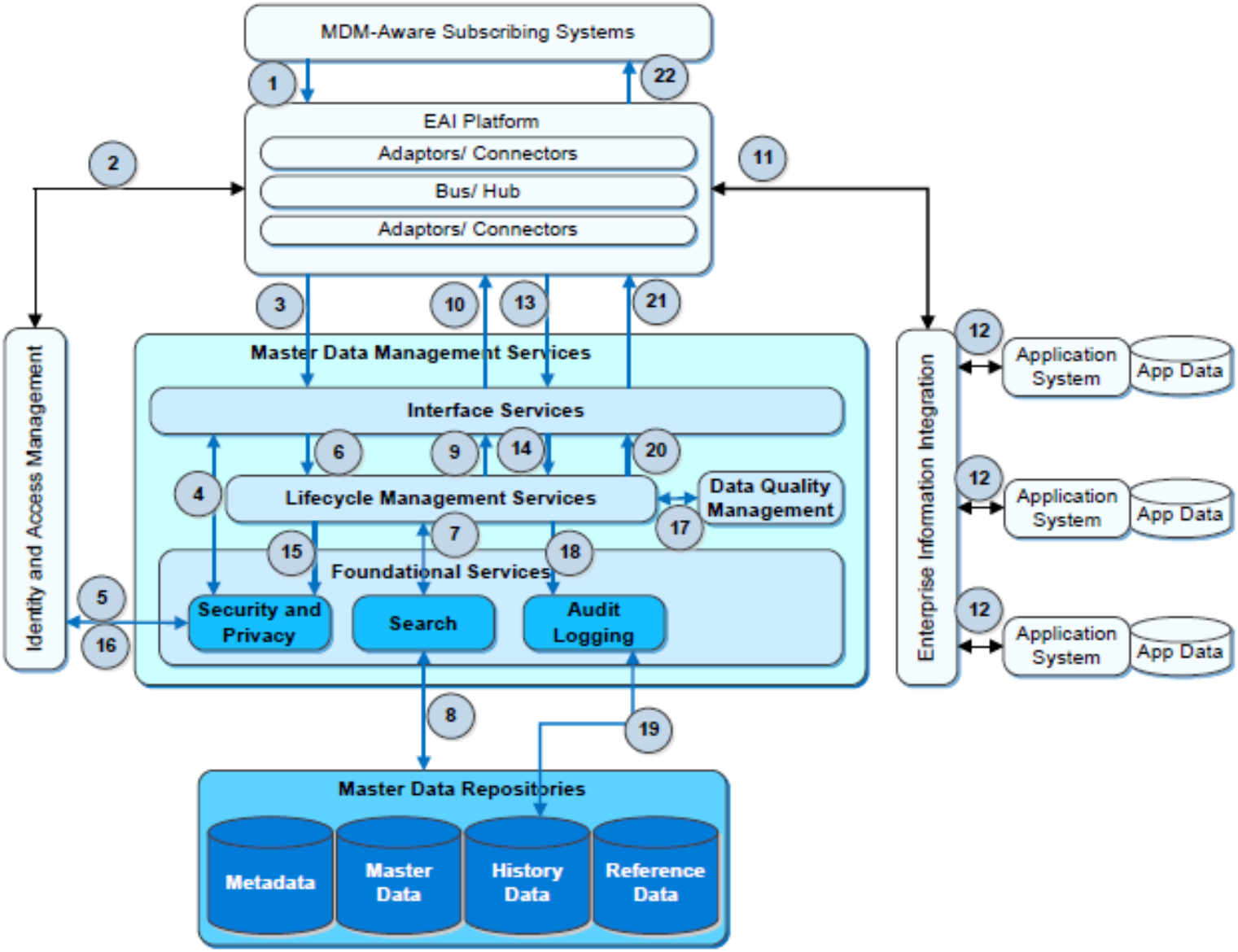


Integration Services in MDM



MDM Reference Architecture – Conceptual View



Service and Component Interactions when Accessing Master Data

References

1. Master Data Management (MDM) Reference Architecture (RA), Department of Technology, Jan 2014
2. Data Management Body of Knowledge (DAMA DMBOK), DAMA International, 2009
3. Enterprise Master Data Management, Allen Dreibelbis, IBM Press, 2008