The Synergy of Metadata and Data Governance
Data Governance is a broad subject area

For this discussion the focus is on a subset of activities:

- Defines controls on data assets
- Defines and monitors how data management functions are performed
- Develop and approve data standards, procedures and guidelines
- Review and approve the data architecture
- Manage and resolve data related issues
- Monitor and ensure regulatory compliance
IT Metadata

1. Common Reference for Analysts
2. Traceability/Impact Assessment
3. Lineage/Root Cause Analysis
Architectural Layers and How They are Tied Together

- **Enterprise Business Glossary**
  - Business Name to Business Name

- **Local Business Glossary**
  - Business Name to Attribute Name

- **Application LDM**
  - Attribute Name to Column Name

- **Application PDM**
  - Column Name to Column Name

- **DB Schema**
  - Column Name to Column Name

- **BI Layer/Reports**
  - Column Name to Column Name

- **Data Dictionary**
  - Attribute Name to Attribute Name

- **Enterprise LDM**
  - Business Name to Attribute Name
1. Provides policies and standards that create common and consistent ways of doing things
   - Data Naming Standards
   - Data Modeling Standards
   - Interface Control Standards
   - Data Mapping Standards

2. Compliance Monitoring and Reporting
   - Different levels of compliance
   - Different levels of reporting
   - Dashboard metrics

3. Enforcement of the standard
   - Just because a standard exists does not mean it is enforced
Standards Enabling Metadata Quality

Enterprise Business Glossary

Local Business Glossary

Application LDM

Application PDM

DB Schema

BI Layer/Reports

Enterprise LDM

Business Name to Attribute Name

Data Naming Standards

Data Model Standards
How Metadata Enables Data Governance

1. Enables control of the business vocabulary
2. Serves as a reference for data related mandates
3. Enables a different perspective of existing metadata
4. Exposes inconsistent ways of doing similar things across the enterprise:
   - Glossary vs Data Dictionary
   - Enumerated lists with different values
   - New use cases and relationships require common language
   - Different default values
   - Different datatypes
   - Different nullability
   - Different definitions
   - Identifying different ways of housing a Glossary
   - Identifying different ways of housing Data Dictionary
   - Different ways of mapping source to target
Red lines show relationships for metadata use cases
Something that was not necessarily there when the artifacts stand alone

Are enough attributes supplied to define the traceability relationship?

Is there a standard way to define lineage relationship?
Red lines show relationships for metadata use cases
Something that was not necessarily there when the artifacts stand alone

- **Enterprise Business Glossary**
- **Enterprise LDM**
- **Local Business Glossary**
  - **Application LDM**
  - **Application PDM**
  - **DB Schema**
  - **BI Layer/Reports**

**Questions:****

- Business Name and Logical Name are different. Is use consistent? Is bridge enabled?
- Where are the data models stored and are they named in a way to automate refreshing?
- Is there agreement on system of record for attributes within Glossary and Data Dictionary?
- Is the dictionary separately maintained or generated from data models? What is system of record for term definition?
- Are schema names uniquely identifiable?
Metadata Growth Identifies Patterns

**Metadata growth occurs in at least two dimensions:**
1. More metadata of a type that is already in the repository
2. Different types of metadata than what is currently in the repository

**Most metadata harvesting cycles go through a similar process:**
1. Define use case new metadata will enable
2. Identify metadata you want to capture
3. Scan it from a trusted source
4. Store it
5. Define relationships with other metadata
6. Make it accessible for viewing
7. Enable it to be exported

**Which result in patterns for each dimension:**
1. Increasing the inventory of existing metadata
   - Show inconsistent use of existing tools and constructs
   - May uncover new capability from existing metadata
2. New types of metadata result in new use cases
   - New relationships require metadata on both ends
   - This metadata not typically defined in a consistent manner
Metadata Growth Pattern

1. Harvest new metadata

2. Identify patterns of similarity
   - Bring in the metadata, connect it, make it available

3. Identify patterns of difference
   - If generic pattern already established then coach source system contacts
   - If new pattern then consult with all teams that influence, create, or use the associated data to determine common way to express
     - Add difference to metadata base
     - Determine if patterns and guidelines need updating
     - Determine if any standards need updating
     - Educate user base on enhancements
Disparate Alignment

Data Governance Maturity Timeline

No Data Model
No Glossary

- Data model exists and is updated on each release cycle
- Naming Standards defined and used
- Local models aligned with Enterprise Logical
- Data model defined in common modeling tool
- Lineage captured in a consistent manner

Scan DB Schema, nothing to link it to
Scan DB Schema, Link to Data Model <> Production
Attempt to link Glossary to Logical Model – poor alignment
Data classifications differ based on architectural layer
Lineage captured manually

Metadata Maturity Timeline
Maturity Levels Must Grow Together

Getting ahead of the curve means one team is trying to accomplish something without support:

- Some effort is manual
- Poor metadata quality
- Effort needs to be redone

Coordinating efforts:

- Collaboration leads to new discoveries
- Do the work once
- More consistent user experience

Collaboration helps both programs grow:

- Business Glossary vs Data Dictionary
- Business terms, Logical names, Physical names
- Business rules vs Data Quality rules
- Lineage recorded in data models, spreadsheets, control documents
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