SCE Implementation of Metadata Management

Current state and future opportunities
SCE Current Vision of Relationships to Metadata Management

Data Modeling Process and Tool Overview

- Physical Data Model (e.g. ERWIN)
- Semantic Model
- Data Modeling
- Metadata Mgmt
- Semantic Modeling (e.g. Enterprise Architect)
- WSDL
- WSDL
- WSDL

References / Sources
- GIS Ref
- SAP Ref

Services
- GIS Services
- Web Services
- SAP Services

SOA Repository / Registry

Classes / Attributes

Reference Models
- ED Ref
- OGC Ref

Slide 2

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What is Metadata and Semantics?

- Metadata is data about data.
  - Business Metadata
    - Data models
    - Interface/message models
    - Semantic models
    - Business terms and definitions
    - Data classification
  - Technical Metadata
    - Process attributes
    - Application attributes
    - Database attributes
    - Interface/Service attributes
    - Reporting attributes
  - Semantics is the meaning of Data, which can be expressed using models which itself is one kind of metadata
Xtensible View of Enterprise Semantics and Metadata Management

- Aggregated Enterprise Semantics
  - Federated Metadata Repository

Enterprise Semantics for Analytics
  - Enterprise data models
    - Data Modeling
    - Mapping and Transformation

Enterprise Semantics for Processes and Services
  - Enterprise service models
    - Process & Service Modeling
    - Mapping and Transformation

Enterprise Semantics for Messages
  - Enterprise message models
    - Message Modeling
    - Mapping and Transformation

Application Metadata & Semantics
Xtensible View of Enterprise Semantics and Metadata Management

- Metadata management is extending from the business intelligence space to the operational space.
- Federated metadata can become the BI for IT management.
- Semantics creates continuity and linkage between the data models, the service models, and the message structures.
- Application metadata needs to be included and mapped to support a fully integrated and linked metadata view of the enterprise.
- Planned translations and transformations need to be managed to ensure that the data attributes are used consistently throughout the enterprise.
- The enterprise semantics includes all of the transactional and analytical data with defined technical metadata defined to support its usage throughout the enterprise.
Xtensible’s Expansion of Relationships to Metadata Management

Data Modeling Process and Tool Revised Overview

References / Sources
- GIS Ref
- SAP Ref

Semantic Modeling
- Physical Data Model (e.g. ERWIN)

Process and Service Modeling
- Process and Service Model (e.g. RAMWSRR)

Data Modeling

Semantic and Canonical Models (e.g. Enterprise Architect)

Metadata Mgmt

Transformation
- Mappings (FME, ETL, Adapters, DXS, MapForce, Excel etc.)

Service Mgmt

Business Terms

Design Time

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Metadata Management – Design Time

- Data consistency is gained as metadata management extends beyond BI into infrastructure, process, integration and data development.
- More data clarity is gained as more relationships are mediated through enterprise metadata management.
- More data is reused as more relationships are mediated through enterprise metadata management.
- Enterprise metadata management adds a level of governance to the design of message and service models.

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SCE Logical Implementation View

ESB

Users / Clients

BQBJ
GEE
JackBe Presto

SAP PI

InfoSphere Information Server (IIS)

Data Power (DP)
(SOA Security Gateway)

FME Server

Web Service

Oracle

ACAD
MapGuide
GeoSpatial Server (GSS)

GENS

ESRI (WFS/WMS)

Services, metadata, Policies; service lifecycle management; messages/model metadata

Rational Asset Manager (RAM)

WSRR

SOA Repository/Registry
(WSRR ALE)

Identity Management (IdM)

Run-Time
Metadata Impacts on SCE Logical Implementation View

- Enterprise metadata management primarily impacts design activities.
- Enterprise metadata management can reduce implementation risk around service creation.
- Enterprise metadata can reduce pressure on infrastructure components by creating larger data or message groupings which are easier to manage.
- Enterprise metadata management reduces the number of services that have to be created to support data exchanges.
SCE Metadata Management Roadmap Considerations

• Establish requirements and value proposition to the enterprise
• Establish architecture framework and vision for enterprise metadata management
• Select key technology components, and build a set of Proof-Of-Concepts, ideally leverage an on-going project needs.
• Select a technology vendor product
• Apply it to a selected and controlled set of projects and business areas to show initial success and value.
• Capture lessons learned and refine architecture/technology/tools where necessary.
• Ready for enterprise wide roll out.