Metadata Web Services for Performance

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Agenda

- Master Data Management
- SOA Architecture and Metadata
- Performance Implication of Metadata
- Metadata management as a web service

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Why Master Data Management?

- **The application silos we have created over the last 30 years are inhibiting new strategic initiatives and business transformation**
- **Master data management represents a dramatic paradigm shift –moving master information and process from applications to infrastructure**
- **Many clients have experienced significant ROI and competitive advantage from deploying SOA Web services.**

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Drivers for Metadata Management

Governance
Internal Standards
Change Management
Data Stewardship
Business Processes
Privacy and Compliance
Local vs. Global Issues
Methodologies

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Tasks and phases of Metadata Management

- **Capabilities assessment**
  - **Confirm Requirements**
  - **Current Footprint**
  - **Assess Capabilities**
  - **Perform GAP Analysis**
  - **Develop Alternatives**
  - **Benefit Statements**
- **Data Assessment**
  - **Discover Validate Sources**
  - **Establish Technical Assessment**
  - **Business Rule Validation**

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Tasks and phases of Metadata Management

- **Data Alignment**
  - **Initial Alignment**
  - **Cleanse Sources**
  - **Confirm Tech Specs**
  - **Test Specifications**
  - **Validation Routines**
  - **Lookup Tables**
  - **Consolidate**
  - **Integrate**
- **Data Harmonization**
  - **Consolidate**
  - **Integrate**
  - **Cleanse**
  - **Normalize**
  - **Harmonize**
  - **Prepare**
  - **Transform**
  - **Load**

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Tasks and phases of Metadata Management

- **Data Integrity**
  - **Hierarchy & Object Management**
  - **Synchronize and Access**
  - **Manage Events & Transactions**
  - **Manage Repository**
  - **Manage Entitlements**
  - **Reporting**
- **Ongoing Evaluation**
  - **Monitor Quality**
  - **Update Technology**
  - **Evaluate Benefits**
  - **Prioritize Data**
  - **Establish Initiatives**

- **Methodology builds process steps, skills and software to produce MDI deliverables**

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SOA Principles

- A set of architectural principles and patterns which address characteristics such as *modularity, encapsulation, loose coupling, separation of concerns, reuse, composable and single implementation*.
- Discovery of enterprise elements
  - ❖ Inventory elements via snapshot services
    - Engaged in change management system and release management
- Categorization and Consolidation of subject area elements
  - ❖ Grouping of common master data elements

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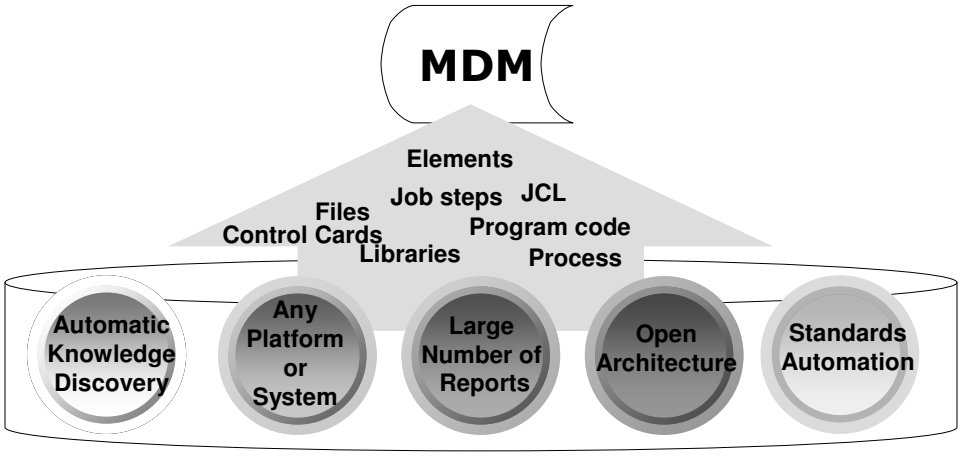
SOA Web Services Centralizes data management

- SOA services to help with MDM



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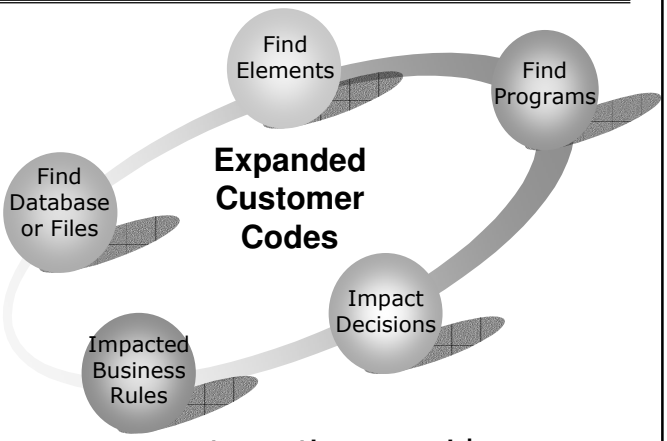
SOA Functions for performance

- Find
- Analyze
- Transform
- Integrate
- Publish



- Master Metadata management practices provide you the ability to quickly realize and understand data resources within your company

Temporal issues determine associations

- When is someone a customer?
  - Marketing list
  - Respond to a inquiry
  - Buy something
  - Three months after they buy something
  - One year after buying something
- Not only is Master Data management a problem
  - It needs to reflect the nuances of the data
- Time or age of the data is key
  - When does your data go stale?

Metadata in SOA environment

- Challenges for a metadata and data management
  - ❖ Standards continue to need to be developed for the corporation that encapsulate the proper domain, range and values
- Realize common standards
  - ❖ Assessment and alignment of data
    - Need to understand data related business rules and logic
    - Module data dependencies are vital for understanding
- Web service to extract existing metadata
  - ❖ Understand data validation, edit routines and edit types
  - ❖ Analyze modules, JCL, scripts – element level analysis

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SOA Transformation Steps

1) Creating services from tasks contained in new or existing applications
2) Integrating services across multiple applications inside and outside the enterprise for a business objective
3) An architected implementation enabling integration across business functions throughout an enterprise
4) Broad transformation of existing business models or the deployment of new business models

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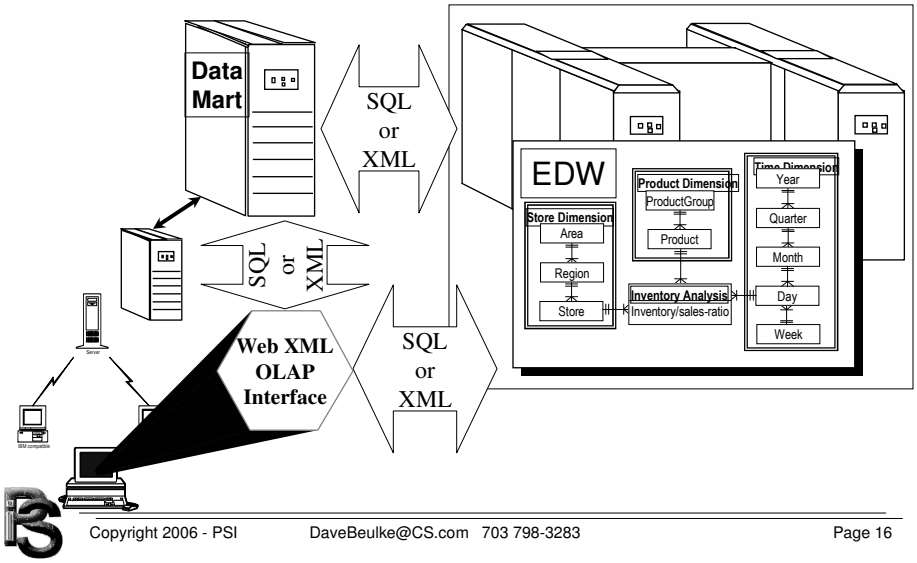
Methodology to develop MDM Web Services

- What or where should I start my MDM initiative?
  - ❖ What applications run your business?
  - ❖ What MDM element should I target and transform first?
- Inventory the various systems
  - ❖ How many platforms?
  - ❖ Lines of business applications
  - ❖ Analyze the number of programs
  - ❖ Disaster recovery
- Files critical to those applications
  - ❖ Master data – where is it accessed, updated, and deleted
    - Customer number
    - Product SKU number

Performance Implication of Metadata

- MDM Services for all platforms



Performance Implication of Metadata

- Where are MDM services appropriate?
  - ❖ Across the enterprise applications
  - ❖ What standard is common or an exception?
- Where are MDM elements managed?
  - ❖ How many instances does MDM need to support?
  - ❖ What data affiliations are necessary to maintain application integrity?
- How many places would the MDM service be accessed?
  - ❖ SQL, XML and other file access driven through MDM
  - ❖ Implications for standard adoption

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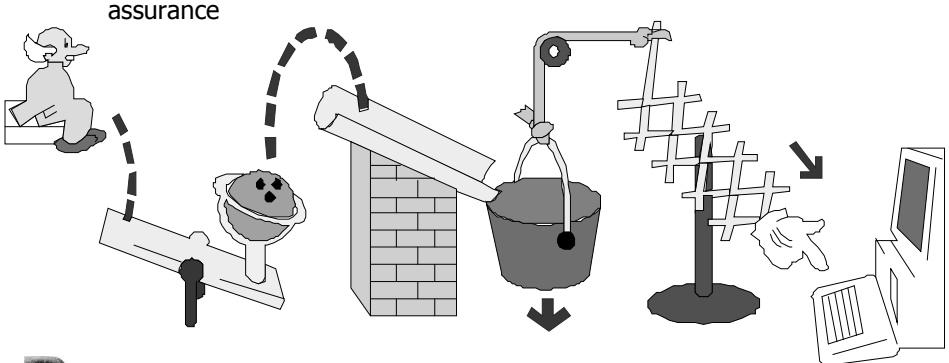
Performance Implication of Metadata

- Step for MDM services
  - ❖ Inventory
  - ❖ Analysis and alignment
  - ❖ Harmonization
  - ❖ Integrity and Quality assurance
- What are the MDM critical paths?
  - ❖ Where does response time matter?
  - ❖ Critical projects
  - ❖ Main sources



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Metadata management as a web service

- Service to identify elements across your enterprise
  - ❖ Inventory and reference repository
    - Easy query and impact analysis
    - Data lineage query and reports
- Standards inquiry and resolution
  - ❖ Understand the domain, range and defaults
  - ❖ Realize the naming standards for master data and others
- Harmonization procedures
  - ❖ Data standards realization and resolution
  - ❖ Default and Code Table value documentation

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Metadata management as a web service

- Change management web service extraction to inventory repository
  - ❖ Get all the new implication immediately
- Service for inquire and analysis to encapsulate data, standards or metadata reporting
  - ❖ Methods see what MDM is up used for
- Data lineage research service to discover data dependencies and interactions
  - ❖ Gets associated MDM elements dependencies

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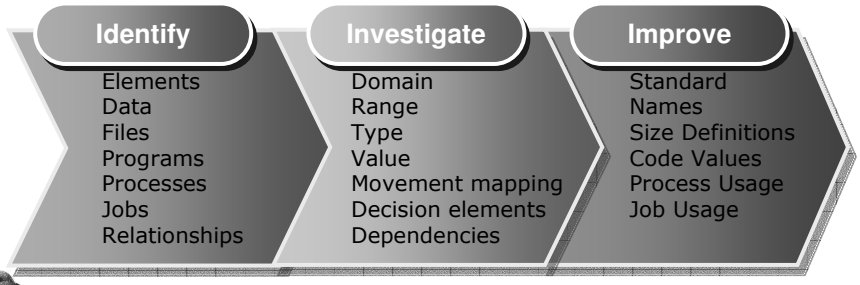
Web services to identify, investigate and improve

- MDM relationships to processes and jobs
  - ❖ Service to extract process, data relationships
- Service to do process dependency analysis
  - ❖ Master data dependencies and usage flow
  - ❖ Business rule via master data usage



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Metadata management as a web service

- Performance in terms of centralizing data used
  - ❖ Does your MDM initiative make business easier?
  - ❖ Does your MDM process fit into release and change management?
- Performance in terms of improved access
  - ❖ MDM referenced the most efficient way possible
  - ❖ Centralized MDM reduces I/O and CPU application requirements
- Performance in terms of associated resource
  - ❖ MDM associated data integrity and governance intact
- Using the right MDM for the right processes

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MDM Analysis ROI

- Improve compliance & risk management
- Support for portfolio rationalization
- Focus existing resources on servicing and delivering to the critical business priorities
- Leverage core IT assets and rationalize your software portfolio

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