SQL Server 2012
Master Data Services

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January 2011

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SQL Server 2012 Master Data Services

• What is Master Data?
• Why Master Data is important
• Overview of SQL 2012 MDS
  • Capabilities
  • Underlying Architecture
• Demo
  • creating a model, ii) using the new Excel interface, iii) creating a hierarchy, iv) exposing MDS data to the DW, v) using business rules
• Case Study
• Tips on successful implementation
Mark Gschwind

• VP, Business Intelligence at DesignMind in San Francisco
• BI Consultant since 1995
• Specializes in Enterprise Data, Data Warehousing, OLAP, Data Mining, Data Quality, and Master Data Management
• Four Datawarehouses, too many Analysis Services databases to count
• Focus on delivering BI using agile methodologies
• Used MDS since 2008 (EDM by Stratature)

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What is Master Data?

- Master Data is the set of data objects that are at the center of business activities (Customers, Products, Cost Centers, Locations, Assets, Tasks...) requiring
  - Central curation
  - Continuous quality management
  - Ease of access for business users (not just IT)
  - Effective sharing (producing and consuming)
- Master Data contains different attributes for distinct usage (marketing, finance, operations, business groups...)

**MDS enables users to curate Sets of Objects. This capability can be powerful in a number of scenarios across an organization.**
Main Scenarios

Data Management Solutions

* Provides storage and management of the objects and metadata used as the application knowledge
  * Object mappings
  * Reference Data / managed object lists
  * Metadata management / data dictionary

Table containing information on mapping objects between different systems. ETL processes are referencing the table making transformation decisions.

MDS enables business users to manage the objects mapping

Data Warehouse/Data Marts Management

* Enables business users to manage the dimensions and hierarchies of Datawarehouse/Data Marts
  * BI scenarios

The IT department has built a data warehouse and reporting platform, but business users complain about the correctness of the dimensions and lack of agility in making updates.

MDS empowers the business users to manage dimensions themselves while IT can govern the changes
Why Master Data Is Important

Barriers to Enterprisewide BI/Analytics Adoption

What are the barriers to adopting BI/analytics products enterprisewide?

- **Data quality problems**
  - 2012: 46%
  - 2011: 55%

Note: Multiple responses allowed

Base: 414 respondents in October 2011 and 410 respondents in September 2010 using or planning to deploy BI, data analytics or statistical analysis software.

Data: InformationWeek Business Intelligence, Analytics and Information Management Survey of business technology professionals.
Why Master Data Is Important

Factors Driving Interest in Master Data Management Systems

- Data quality problems marked by overlaps and inconsistencies: 45%
- Data complexity due to mergers and acquisitions: 26%
- Operational costs are high due to data-related errors: 24%
- Regulatory pressures demand better/more reliable reporting: 24%
- Customer service/satisfaction is suffering due to poor data quality: 22%
- Other: 2%
- Master data management systems are not a priority for my organization: 38%

Note: Multiple responses allowed
Base: 431 respondents involved with information management technologies
Data: InformationWeek 2012 Business Intelligence, Analytics and Information Management Survey of 542 business technology professionals, October 2011
Why Master Data Is Important

MDM, Data Governance Among Top EA Trends To Watch

Rob Karel
Forrester Research
for Information Management
Blogs, December 13, 2011

In October, my colleague Brian Hopkins published Forrester’s extremely popular enterprise architecture (EA) trends research, the “Top 10 Business Technology Trends EA Should Watch: 2012 to 2014.” As in past iterations of this research, master data management (MDM), along with the data governance capabilities required to support it, remain among the top technology strategies that EAs expect to deliver the most business value to their firms, as well as require the most change to their firm’s technology landscape over the next 3 years.
MDS Capabilities

- Validation: Authoring business rules to ensure data correctness
- Modeling: Entities, Attributes, Hierarchies
- Role-based Security and Transaction Annotation
- Master Data Stewardship
  - Excel Add-In
  - Web UI

Enabling Integration & Sharing
- Loading batched data through Staging Tables
- Registering to changes through APIs
- Consuming data through Views
- Workflow / Notifications

Data Sources:
- Excel
- DWH
- External (CRM, ..)
Business Rules

• Business Rules are expressions and actions that can govern the conduct of business processes

• Enable data governance by:
  -- Alerting users to data quality issues
  -- Creating simple workflows

• Have limitations
Security

- Functional area permissions
- Model/Entity level permissions provide column-level security
- Hierarchy permissions allow row-level security
- Use AD groups, not individual users
- Only use Hierarchy permissions if row-level security is required
Managing MDS Environments

- Use MDS Configuration Manager to create a Dev website and dB.
- Use web UI to deploy model structure only
- Use MDSModelDeploy.exe to deploy model+data:
  - **To package an existing model**
    - `MDSModelDeploy createpackage -package “customer_en.pkg” -model "Customer" -service "MDS4“ -includedata`
  - **To deploy an existing package**
    - `MDSModelDeploy deploynew -package “customer_en.pkg” -model "Customer" -service "MDS5“`
  - **To deploy an update**
    - `MDSModelDeploy deployupdate –package “customer_en.pkg"–version “VERSION_1” -service "MDS4“`
MDS Tips

- Start small and build incrementally
- Create and use a development environment
- Model the data “the way it is”
- Engage the business users and get them to own the process
To learn more or inquire about speaking opportunities, please contact:

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