Journey to a Centralized Hub:
Customer Cases Studies

MIT CDO IQ Symposium 2016
July 13, 2016
Agenda

› Case Study 1: City Government MDM implementation

› Case Study 2: Passenger Airline RDM implementation

› Q&A
Case Study
CITY GOVERNMENT
Primary drivers:
› Data Sharing hub to serve all of the City’s systems and departments *(Transactional MDM shared entities – Party and Location – ensuring consistency and completeness)*
› *Tax / Revenue collection* and *Business register* are the main beneficiaries

Resulting in:
› Single view of *legal entities* (both companies and entrepreneurs)
› SOA architecture via *standard set of online services* providing master data

Solution live since 2013, currently being upgraded to make use of the *new Matching algorithms* and *stewardship interface* for *visual hierarchy browsing* editing the Master data entities.

Customer MDM and DQ
Operational / Consolidation style
Manual Editing
Visual Hierarchy browsing
Online Integration / SOA
Identity Management Access Control
CITY | Project Challenges

Data
- Data duplication
- Lack of formal data governance
- Ineffective Data Sharing
- Application/function/business logic duplication

Organizational
- Complicated service structure
- Complex organization
- Corporate applications
- Distributed IT governance
CITY | High-Level Architecture

- Tax / Revenue System
- City Business Register
- Federal Business Register
- Data Sharing Hub [MDC]
- Integration Layer (ESB)
- External Systems
- Manual Remediation Interface
- MDM Interface
MDM Stewardship Interface

[Image of MDM Stewardship Interface with a search bar for Master Party and Product, and a detailed view of personal information and contract details]
Manual Resolution Interface

- Manage and resolve DQ exceptions
  - Cleansing
  - Match & Merge
  - Drill-down to source level
  - Complete workflow for data stewards
  - DQ Firewall to prevent new errors
  - Progress reports for managers
CITY | Solution Benefits

- Central data model
- Easy management of MDM repository
- Application integrations
- Manual issue resolution
- Automatic cleansing and consolidation
- Compatibility with legacy systems
- Service-oriented architecture
- Scalability
Case Study

PASSENGER

AIRLINE
AIRLINE | Project Highlights

Primary drivers:

› The EDW’s mission is to provide integrated business information
› Reference Data Management is identified as critical factor to the EDW’s success
› Simplify Code Maintenance support to alleviate load on EDW cycle
› Improve Business buy-in by allowing direct interaction with the solution

Resulting in:

› Single consolidated hub for enterprise reference data.
› Reduced IT costs
› Faster response to changes and additions to reference data

Solution live since 2014, currently being upgraded to make use of Online Web-services. In production with over 40 entities.
Challenges of User Managed Reference Data

- Manually maintained reference data drive company analytics
- Lack of standard change management process
- Business rules/validations are not supported, leading to faulty published data
- No audit trail, review or approval
- Sometimes ownership is not clear
Challenges of User Managed Reference Data

› Difficult to automate
  › Difficult for systems to access/consume
  › Difficult to implement a security policy
  › Not all systems are consistently informed of the latest changes, resulting in discrepancies

› Stored in multiple places
  › Leads to duplication
  › Introduces inconsistency
  › Difficult to manage reference data at the enterprise level
  › No process for agreeing on changes to reference data across the enterprise
AIRLINE | High-Level Architecture

RDM Admin

RDM Users

RDM Metadata

RDM Application Server
  RDM Engine + Web Application

RDM Database
  Reference Master Data

Integration Layer (ESB)

Exports
  csv, txt, xls

EXTERNAL SYSTEMS
  Consumers

EXTERNAL SYSTEMS
  Providers

SMTP Server

LDAP / Active Directory

External Sources
  csv, txt, xls

IMPORT

PUBLISH
Flight Range Reference Data Before

- Data Steward manually maintained flight range data via spreadsheet
- Not formally versioned
- Distributed via email
- Everyone ended up with their own copy
- Did not handle merger
Flight Range Reference Data Now

› Easy to see who is maintaining the data
› Unpublished records easily identified
› Invalid records are easy to spot
Flight Range Reference Data Now

› Instant validation

› Pick list support
AIRLINE | Today and Beyond

In Production with over 40 entities
› Flight Range Codes
› Flight Delays Codes
› Seating Charts
› Cargo
› Flight Crew
› Operations Planning
› Operations Research
› Revenue Management
› Sales
› Tech Ops

Current Development
› Customer Planning
› Merchandising

Future Product Feature Adoptions
› Web Services
› Operational Support Automation
AIRLINE | Features & Benefits

Data Governance
› Standard maintenance process and workflow
› Support auditing and data ‘versioning’
› Improved data quality (business rules enforced before the data is published)

UI Designed with Data Steward in Mind
› Allows the business to directly manage their data!
› Role-based UIs for review, approval, and publishing of changes

The Business and IT are Both Happy!
› Reduced IT costs
› Faster response to changes and additions to reference data
Ataccama Integrated Platform
ATACCAMA INTEGRATED PLATFORM

DATA GOVERNANCE PORTAL | Web Applications

- Reference Data Manager (RDM)
- DQ Issue Tracker (DQIT)
- DQ Dashboard (DQD)
- Master Data Admin (MDA)

DATAMANAGEMENT | Engines

- Master Data Center (MDC)
- Data Quality Center (DQC)
- DQ Analyzer (DQA)
- Big Data Engine (BDE)

SHARED PLATFORM COMPONENTS

- Batch Interfaces
- Online Interfaces
- Common Metadata Layer
- Metadata Editor
- Adapters
- Workflow
- High Availability
- Administration Web Console
**CITY GOVERNMENT PRODUCT STACK**

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**Data Governance Portal | Web Applications**

**Data Management | Engines**

**Shared Platform Components**

- Batch Interfaces
- Online Interfaces
- Adapters
- Metadata Editor
- Workflow
- High Availability
Key Differentiators
Key Differentiators

- Business Centric UI
- Truly Integrated Platform
- Data Model Driven
- Reusable Components
Key Differentiators

STRONG TECHNOLOGY

Service Oriented Architecture
Easy Installation and Maintenance
Performance
“White Box” Approach