



## Master Data Management (MDM) enables IQ at Tetra Pak

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**Executive Summary/Abstract:** Supply Chain efficiency and financial reporting are significantly dependent on adequate Information Quality. Treating Master Data as a corporate asset has been identified as a critical success factor. Implementing and following a corporate Master Data Strategy enables the organization to identify and prioritize key issues relating to Master Data Management. Following an organizational and process related integration builds the architectural foundation for a holistic MDM framework approach on this increasing and challenging topic.



## Objectives of this presentation

- Explore an evolutionary journey of a Master Data Management (MDM) integration approach following an Information Quality Strategy
- Provide best practices and an overview on key success factors how MDM could enable a TDQM approach
- Demonstrate the concept and implementation of an MDM framework architecture



## Tetra Pak Core Business

**Tetra Pak can offer packaging machines for a wide range of packaging alternatives. The company produces packaging machines as well as packaging material.**

**Tetra Pak supplies complete processing and packaging lines, and takes total responsibility for the equipment supplied. Processing equipment includes separators, heat exchangers, homogenizers and evaporators, as well as equipment for aseptic processing and flow.**

**A large number of different types of distribution equipment, such as conveyors, tray packers, film wrappers, crates and roll containers are developed, produced and marketed by Tetra Pak.**



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## Tetra Pak Figures 2004

• Packaging machines in operation 2005:	9,014
• Packaging machines delivered in 2004:	630
• Processing units in operation 2005:	22,546
• Processing units delivered in 2004:	1,816
• Distribution equipment in operation 2005:	12,355
• Distribution equipment delivered in 2004:	1,373
• Number of countries covered:	> 165
• Market companies:	58
• Number of employees:	20,905
• Number of liters of products delivered in Tetra Pak packages in 2004 (million):	60,700
• Number of Tetra Pak packages delivered in 2004 (million):	110,800
• Net sales in 2004 in MEUR:	7,525

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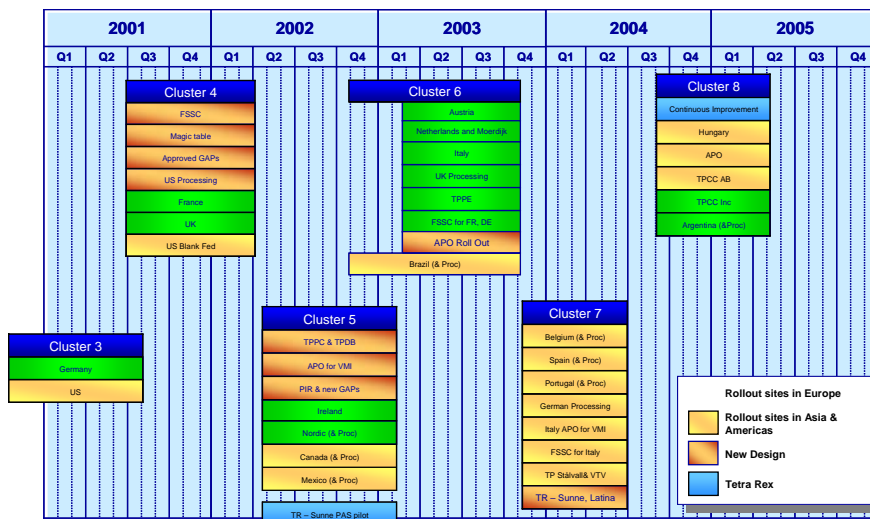


## Background / Drivers for a MDM implementation

- **Intense & challenging ERP Project and roll-out plan**
  - Global solution approach
  - Started in 1998, ends in 2008 (13 clusters)
  - Target coverage of 80 % of the overall business transactions
  - Challenging technical architecture (MDRS)
  - Multilanguage approach (UNICODE)
- **Supply Chain automation impact (Global Trading)**
  - Sales order and related transactions could not be executed due to missing or wrong attributes in Master Data Objects
  - E-Biz processes (in general B2B processed) highly exposed to correct DQ
  - In general the higher the automation the higher the dependence on DQ
- **Reporting impact**
  - Different interpretation and understanding of meta data and semantics
  - Compliance follow-up impossible or only via enormous resource effort
  - Sell & buy trends difficult to identify (BW cubes highly dependent)

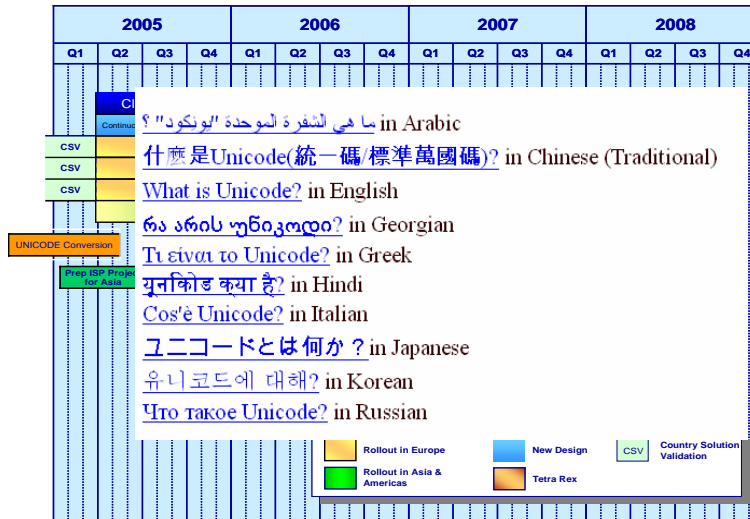


## ERP ROLL-OUT Plan





## ERP ROLL-OUT Plan cont.



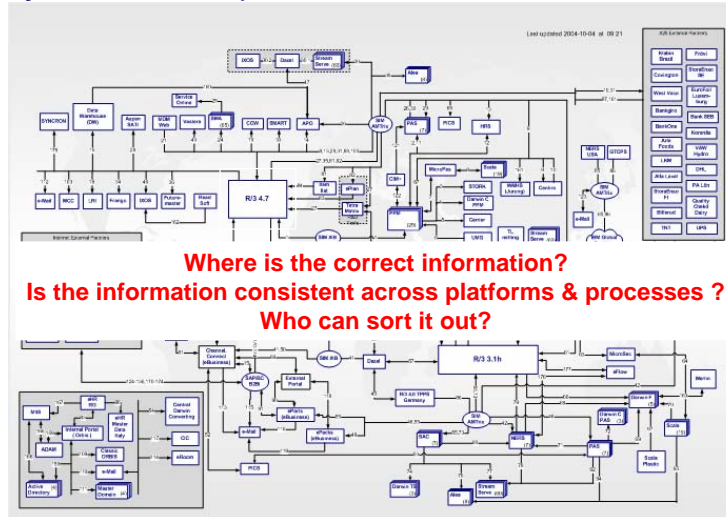
## First indications of lacking Information Quality

- **Inaccurate legacy conversion due to:**
  - Insufficient preparation of legacy sites
  - Master data ownership not addressed
  - Missing method, processes, definitions
  - Lack of business knowledge
  - Legacy systems -> ERP mapping not properly done
- **Results in:**
  - Customer/employee dissatisfaction
  - Supply chain interruptions short after go live and hyper care
  - Huge effort to fix wrongly populated data
  - Setting the focus on conversion activities

**Set-up of a conversion method**



## System Landscape



## First steps on Information Quality process implementation

### • Focus on conversion processes and Master Data documentation

- Workshops addressing definition and criteria's for Master Data
- Identification of Master Data objects and related framework, analysis of the "grey zone"
- Setting up a method for the conversion process
- Defining a common repository for meta data
- Initialization of the documentation

### • Results in:

- All Master Data processes documented
- Data object repository implemented and operational
- Significant change management efforts
- First iteration of a conversion method live

**Initialization of a Master Data Strategy**



### Information Quality Issues

**Inconsistent and redundant information; related components created *without* correct naming conventions:**

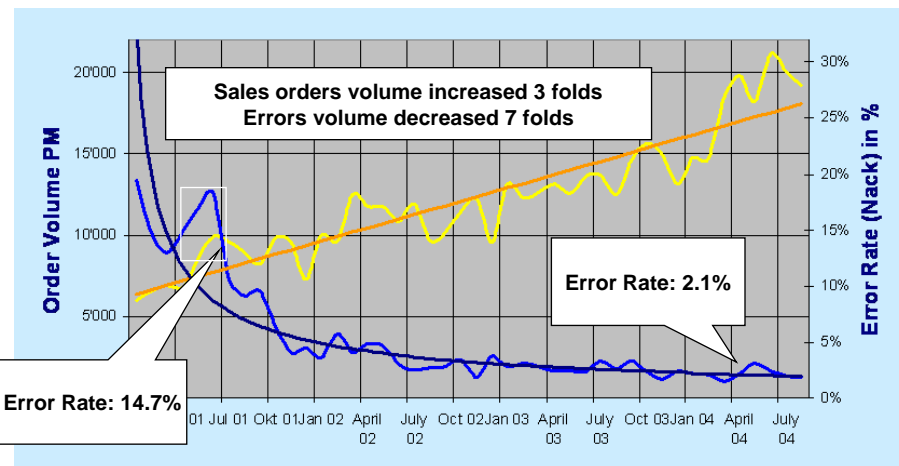
MATNR	Makt	LBTXT
00000069612260162	VALVE KOLTEK	Canada TechSales Processing
00000069613100774	UNIQUE 3" VALVE	Canada TechSales Processing
00000069612111601	VALVE PLUG	Canada TechSales Processing
00000069613601714	ARC-W-#3-2 -7-20 NO TOP , VALVE	Canada TechSales Processing
00000069613601713	ARC-W-#3-2-9-10 , VALVE	Canada TechSales Processing
00000069613601712	ARC-W-#3-2 -77-20 NO TOP , VALVE	Canada TechSales Processing
00000069613100935	UNIQUE VALVE ISO51/51 22-90(gr.3/3) EPDM	Canada TechSales Processing
00000069612614999	SRC valve 25mm with options	
00000000905011712	VALVE CPM1-2-GC-POL-2/15	
00000000905011346	33169A, SOLENOID VALVE	

MATNR	Makt	LBTXT
00000069612584883	Valve SRC-RC-W-80-211-100 EPDM NC	Valves
00000069612584882	Valve SRC-RC-W-65-211-100 EPDM NC	Valves
00000069612584881	Valve SRC-RC-W-50-211-100 EPDM NC	Valves
00000069612584872	Valve SRC-RC-W-100-121-200 EPDM NO	Valves
00000069612584871	Valve SRC-RC-W-80-121-200 EPDM NO	Valves
00000069612584870	Valve SRC-RC-W-65-121-200 EPDM NO	Valves
00000069612584840	Valve SRC-RC-W-101.6-211-200 EPDM NO	Valves
00000069612584868	Valve SRC-RC-W-100-121-100 EPDM NC	Valves
00000069612584849	Valve SRC-RC-W-50-111-100 EPDM NC	Valves

**Correctly maintained components *with* global naming conventions:**



### Information Quality Issues cont.





## Master Data Strategy elements with focus on MD Standards

### 1. Methods

- Methods are often available but seldom formalized nor ready for corporate usage, hence identification, harmonization and visualization of methods are key

### 2. Processes

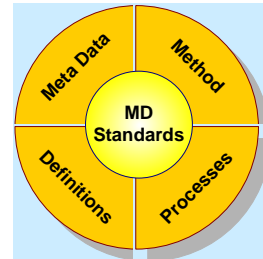
- Master data processes are critical and prerequisite for transactional activities
- Often impacting cross-platforms and cross-processes, therefore requires high attention and awareness

### 3. Definitions

- Definitions have normally a short lifecycle due to a rapidly changing business environment
- Ownership and communication needs to be formalized in order to set adequate measurements

### 4. Meta Data

- Semantics on Master Data objects requires documentation and communication
- Representing a virtual view on data integrity



## Master Data Strategy elements orbited by activities

### 1. Conversion

- Periodic activity, appears with each roll-out of a new cluster (normally twice a year)

### 2. Maintenance

- Distinguish between data owners and data maintainers
- Challenging to harmonize with overall business processes
- Good opportunity for formalization

### 3. Quality Control

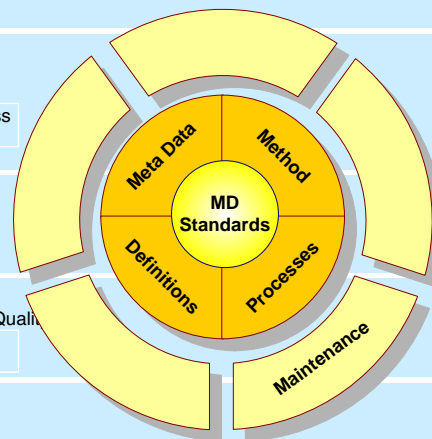
- Without a fundament of ownership and adequate KPI's not applicable
- Top management support crucial

### 4. Reporting

- Dedicated reports for monitoring Information Quality
- Understand the top priority processes and objects to monitor

### 5. Cleansing

- "Negative entropy" effect works!
- Periodic activity, often perceived as a one off event
- Might reach easily project character in terms of dimensions and complexity





## Conversion (legacy)

- **Objectives**

- Formalization of the process, roles and documentation
- Applying a data preparation phase, application of a cleansing strategy, involvement of data owners
- Initialize Master Data documentation
- Sharing meta data / semantics / business rules of data objects amongst the business & technical audience

- **Results in:**

- Method covering conversion and related processes & tools
- Implementation of global Master Data process documentation (ISP online Help)
- Implementation of a global DOR (Data Object Repository)

**Focus on the conversion process and Master Data process documentation**

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## Data Conversion Method & High Level Plan

- **Allow early start**

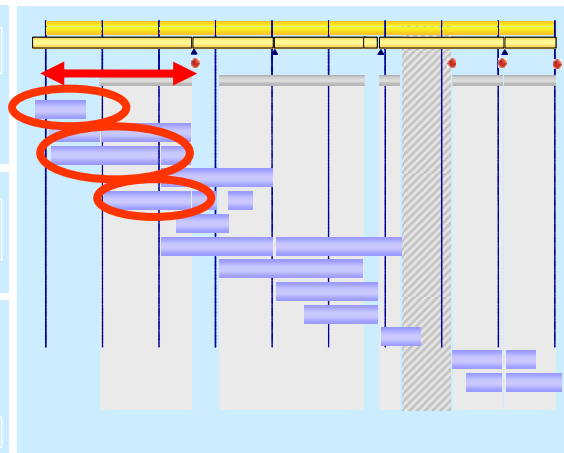
- Get organizational alignment initialized
- Mitigated risk of exploring "time bomb's"
- Change Management addressed (incl. Top Mgmt.)

- **Focus on data preparation**

- Allow time for analyzing data and setting the DC strategy
- Understand the workload

- **Followed by cleansing**

- What, How and When clean
- Ramping up data ownership
- Supported by business and project
- Sites get familiar with data



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## DOR III Data Object Repository

- **Containing**
  - Meta Data of all ERP Master Data objects
  - Business roles, ownership, approved objects

- **Conversion usage**
  - Enables conversion process control
  - Allows snapshots from previous versions
  - Generates file mappings (ETL)

- **Designer (Maintenance) community usage**
  - Enables MD object control
  - Maintenance of documentation formal part of designer audience
  - Used to build the on line help for Master Data Maintenance Processes

	MDM roles	Objects	Views	Fields
Global	22			
Local	46			
Maintenance		132	637	3'498
Conversion		159	523	11'482
<b>Total</b>	<b>68</b>	<b>291</b>	<b>1'160</b>	<b>14'980</b>

- **Business usage**
  - Access information via the web
  - Using approved objects for local MDM web workflow
  - Base for own built local Quick Reference Guides



## Example Data Object Repository (DOR)

The screenshot displays the DOR III software interface. On the left, a 'SAP Object Structure' tree lists various SAP objects like '511 Activity', '536 Activity', etc. The central pane shows a list of 'MDM Roles' with columns for 'Role ID', 'Role Name', and 'Role Description'. The right pane shows a detailed view of a '150 - BOM : Parts - Market' object, including an 'Initial Screen' section with a description and a table of 'Business Rules'. The interface also features a 'Tetra Pak' logo and a status bar at the bottom.



## Master Data Maintenance

- **Objectives**

- Data ownership / accountability 100% defined
- Limited MDM accesses/escalation points (concentration of maintenance)
- Local MDM processes defined in compliance with global MDM processes
- Adequate local MDM documentation

- **Results in:**

- Central MDM teams vs. local MDM teams (SLA's & KPI's)
- Standard MDM implementation for planned roll-out sites
- Post Implementation package
- Specific MDM business roles & documentation
- Workflow tool's for global and local owned MDM objects & processes
- Reporting instance dedicated to Master Data objects

**Focus switched to the maintenance aspect of Master Data  
(daily business operations)**

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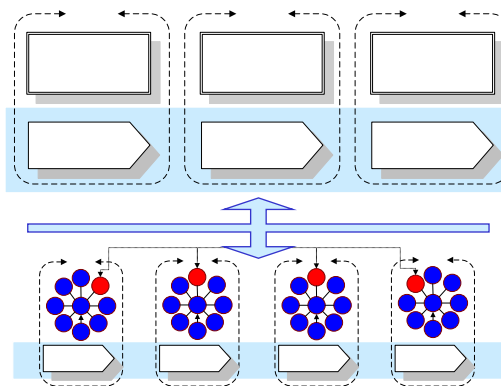
## MDM organizational integration overview

- **Local MDM teams**

- Red dots representing concentrated Master Data team at local sites
- Interacting with global teams
- Local workflow

- **MDMc Community**

- Builds the framework for local / global teams
- Represents the network for MDM

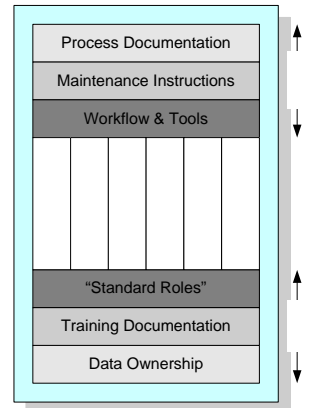


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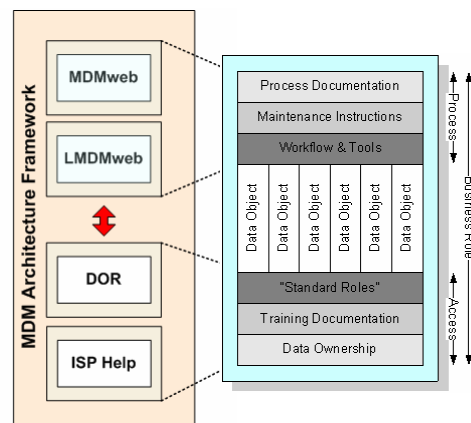
## MDM Business Roles

- **In practice;**
  - "Building Blocks"
  - Actually a specific "super user" role with dedication to Master Data
  - Covering global and local roles
  - Can't be "split-up"
  - also account for segregation of duty rules
  - Focussed training of MDM staff
  - Balanced score card relevant



## MDM Architecture Framework

- **MDMweb (Central MDM teams)**
  - Global Workflow for global MD objects
  - Information Quality Reports
- **LMDMweb (Local MDM teams)**
  - Local Workflow for local MD objects
  - Local Process Documentation
- **DOR**
  - Meta Data, Business Rules
  - MDM roles
- **Online Help (ISP Help)**
  - Global Process Documentation





## Central MDM Teams

### • Objectives

- Execute ownership on global owned Data Objects or execute maintenance on behalf of global Data Owners
- Focus on customer, material and vendor codes
- Set the relevant standards and guidelines
- Enable "follow the sun" support in order to allow transactional execution
- Monitor Service Level Agreements and Key Performance Indicators
- Acting as a competence centre for local sites
- Coordinate activities with local MDM teams

### • Results in:

- Central MDM Team's in Lausanne, Lund, Modena, Panama & Singapore
- Harmonization of global Data Standards and global maintenance processes

**Central MDM teams taking ownership of data and maintenance**



## MDMWeb global workflow (maintain customer information)

The screenshot shows a web application interface. On the left is a vertical navigation menu with categories like 'Home', 'Customer Data', 'Product Data', 'Supplier Data', and 'Master Data'. The main content area displays a document titled '8 Service deliverables' from Tetra Pak. The document content is as follows:

**Tetra Pak**  
TPI Business Operations

**8 Service deliverables**

**8.1 Service Level**

The turnaround time should not exceed

- 2 hours for Creation or Modification of an Urgent Customer
- 4 hours for Creation or Modification of a Normal Customer

With turnaround time we mean the time elapsed between a request placed in MDM Web inbox and the confirmation of its creation/maintenance.

This is only valid for CMC and ADAC Customer account groups.

This service excludes Weekends and worldwide holidays.

**8.2 Service Hours**

The service hours are as follows:

- TPI MDM Lausanne 8 am – 5 pm CET
- TPI MDM Panama 2 pm – 11 pm CET



## Local MDM teams

### Objectives

- Execute ownership on local owned Data Objects or execute maintenance on behalf of local Data Owners
- Allow target concentration of approx. 10 %
- Apply the relevant standards and guidelines
- Monitor Service Level Agreements and Key Performance Indicators
- Acting as a competence centre within the local sites
- Coordinate activities with global MDM teams

### Results in:

- Local MDM Team's in Switzerland, Sweden, Italy, Hungary, Portugal, Spain, Germany, Austria, US, Canada, Brazil, Argentina, Russia, Ukraine, Turkey
- Local MDM workflow processes
- Local Documentation QRG's (Quick Reference Guides)
- Master Data Information Quality Reporting

Central MDM teams & local MDM teams building the MDMc Community



## MDMWeb local workflow (maintain vendor information)

The screenshot displays the MDMWeb local workflow interface. On the left is a navigation menu with categories: Local MDM, Local MDM, Local MDM, and Local MDM Portal. The main content area shows a 'Quick Reference Guide for Local MDM Process' for the 'Create external vendor (Requestor)' process. The guide includes the following details:

- Process description:** Create external vendor
- General Information (Local Fields):**

Field description	Mandatory	False	Min. length	Default value
SAP issue	Opt			
- Number (Number):**

Field description	Mandatory	False	Min. length	10	Default value
SAP issue	Opt				
- Name (Name):**

Field description	Mandatory	False	Min. length	10	Default value
SAP issue	Opt				



## Local MDM set-up's

### • Networked

- LMDM Manager (dark blue)
- Set-up as a network reflecting dept. structures
- Concentration level ca. 10%
- Normally no full-time assignments
- Maintaining critical objects / processes



### • Concentrated

- Maintainers (light blue)
- Fully concentrated
- Concentration level ca. 10%
- Entering Master Data for the whole site
- Normally full-time assignments



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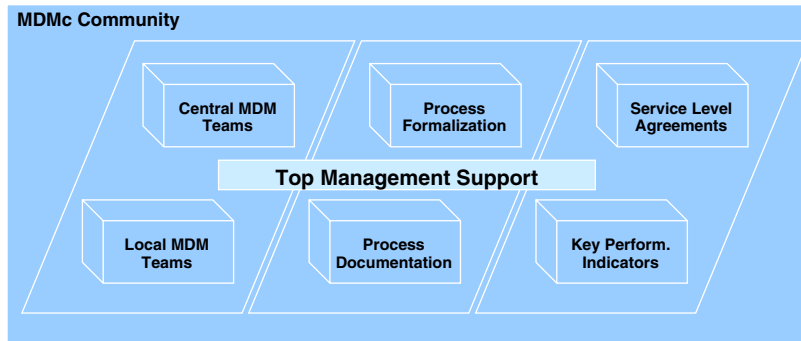
## MDMc Community Objectives

- **Get the "voice of the business" and highlight MDM issues with clear business impact (local AND global)**
- **Prioritize the MDM topics/issues and understand/address them via focused workgroup**
- **Formalize business input in MDM methodology**
- **Escalate the MDM issues and get feedback**
- **Stimulate Knowledge sharing with adequate structure and acceptable workload**

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## MDM Key Elements



## Summary & Status

ELEMENTS	Status
MD Standards	●
Method	●
Processes	●
Definitions	●
Meta Data	●

ACTIVITIES	Status
Conversion	●
Maintenance	●
Quality Control	●
Reporting	●
Cleansing	●





## Questions