



# MDM as Service Component

Open Source Activities in Data Management

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**Always a step ahead ...**



## Overview of the Peak Solution GmbH

- Founded 2005
- 15 Employees
- Core competences:
  - Software Engineering (SWE)
  - Identity- und Access-Management (IAM)
- Sectors of the clients of Software Engineering
  - Automotive
  - Logistics



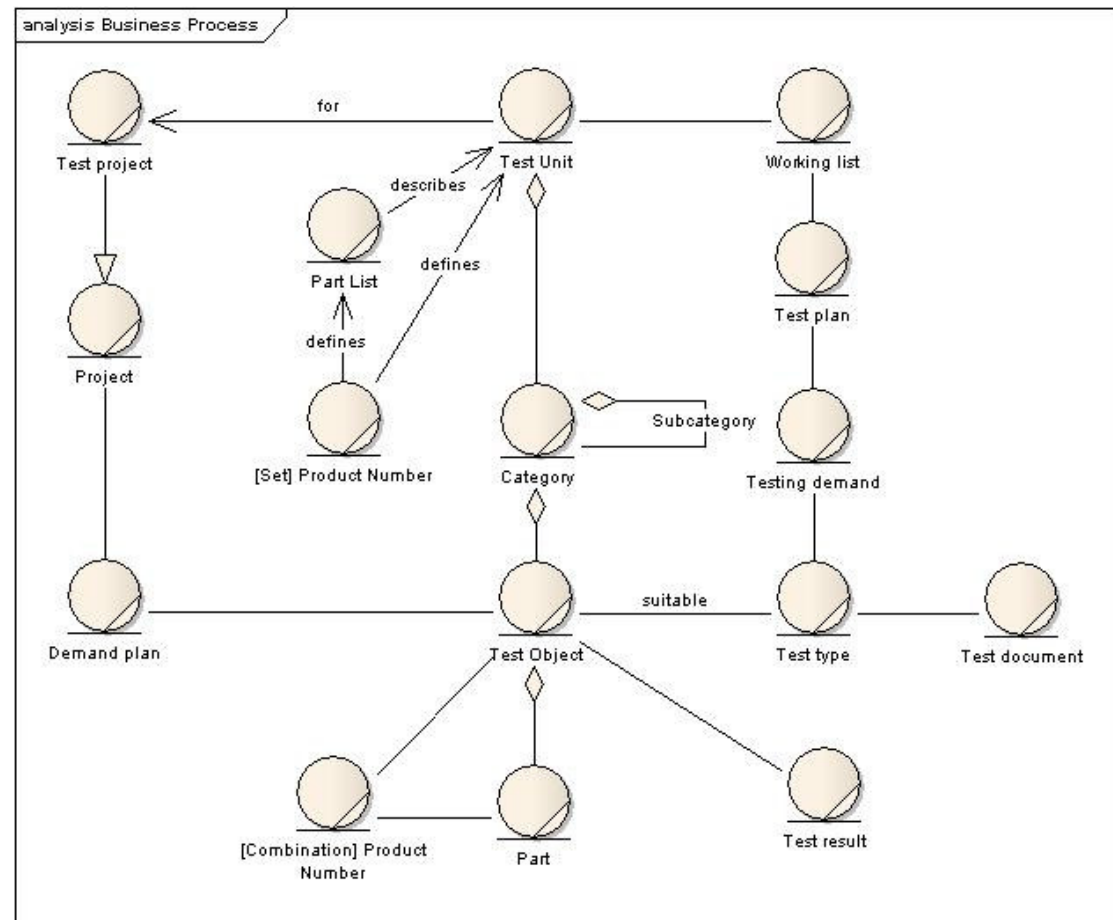
## Overview

- Business process in a R&D test environment
- MDM – Boundary and Usage
- Embedding MDM in your environment
- Usage of MDM as service component in an Audi project
- Proceeding in the project
- System environment



## Business process in an R&D test environment

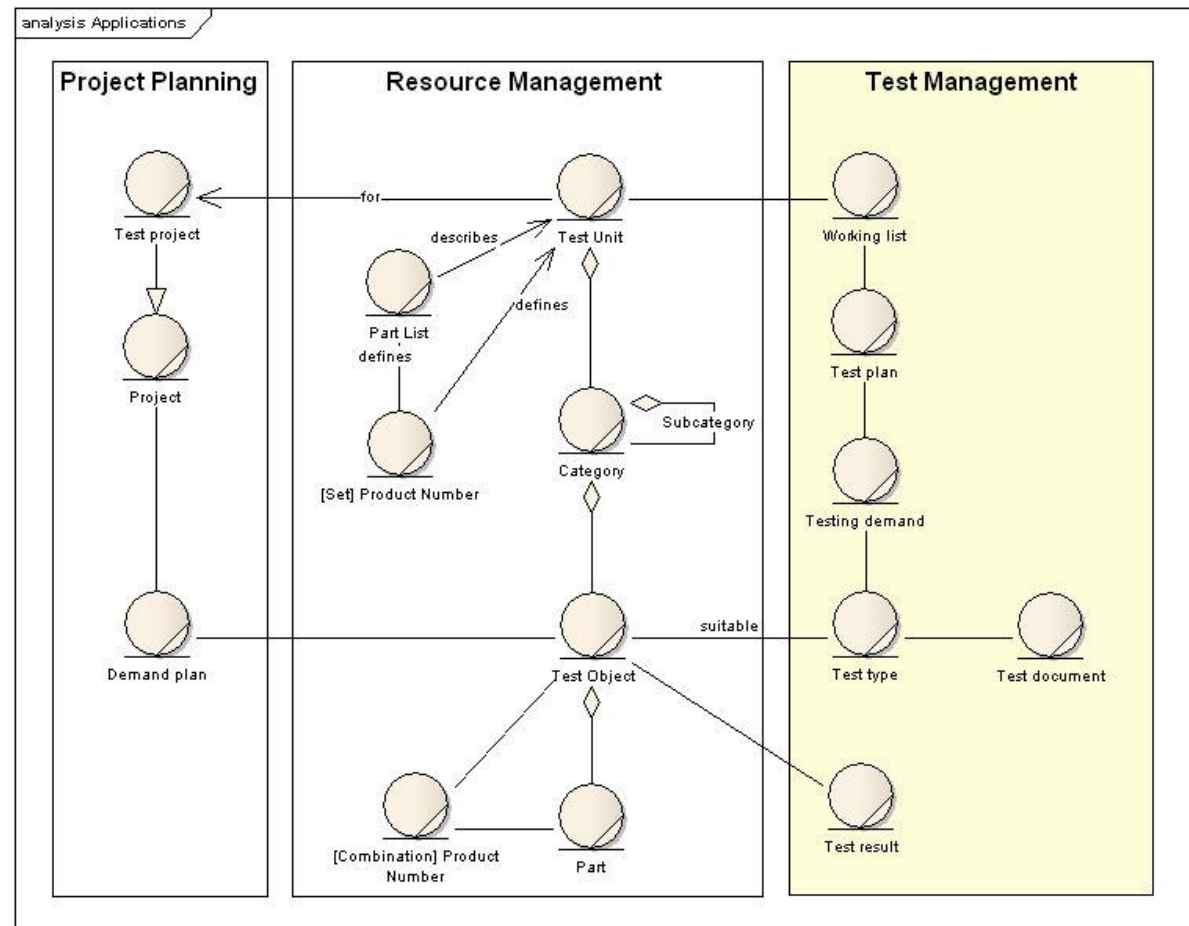
- Analyzing the business process
- Result: Identified business objects
  - Demand plan
  - Test object
  - Test plan
  - Test type
  - Test result
  - ...





## Business process in an R&D test environment

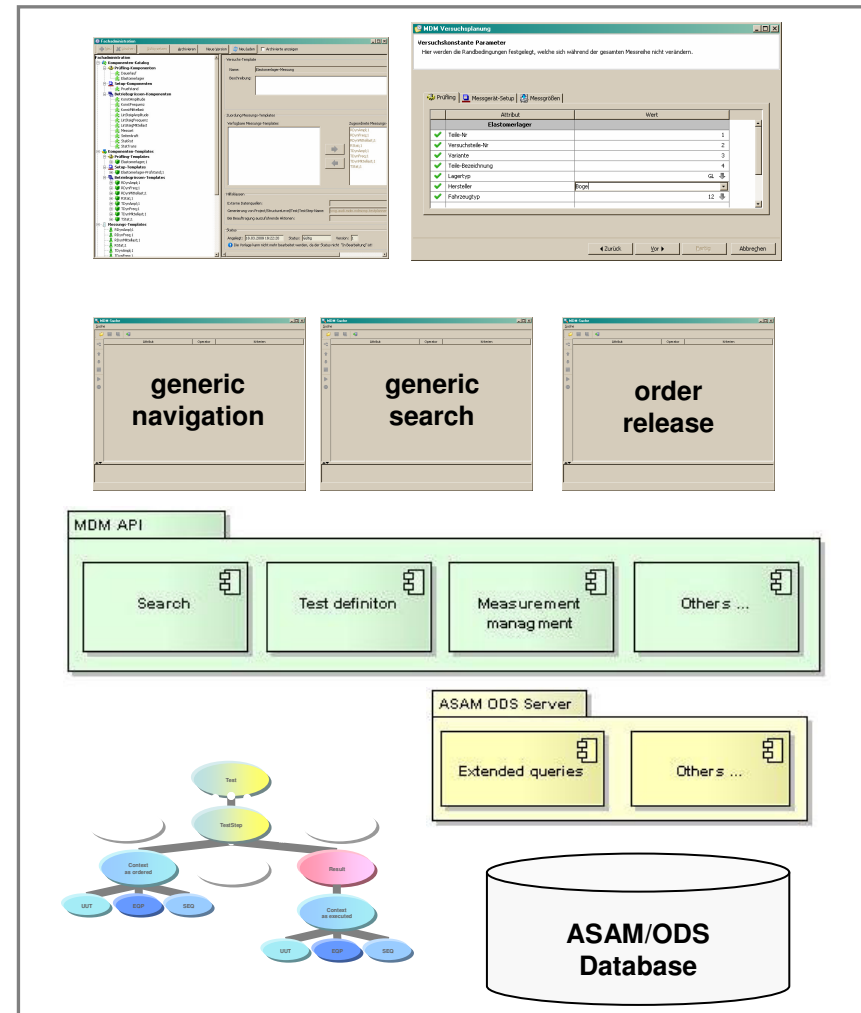
- Mapping the identified business objects to applications and systems
- Possible Result: Poor system support of the business processes in test management
- Possible Decision: Use of MDM





## MDM – Boundary and Usage

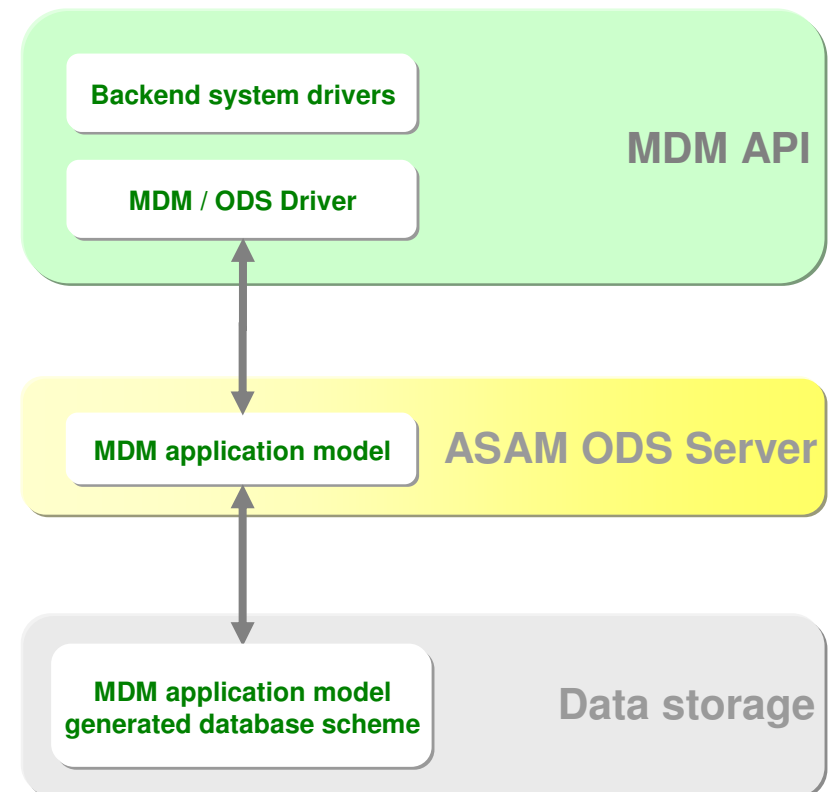
- Plan test
- Plan data processing job
- Release test order
- Execute data processing job
  - Import / Export
- Store test and result data
- Publish and use result data
  - Evaluate result data
  - Comparability of data by using description patterns
  - Create documents for approval of test units and components
- Reproducibility of decisions





## MDM – Boundary and Usage

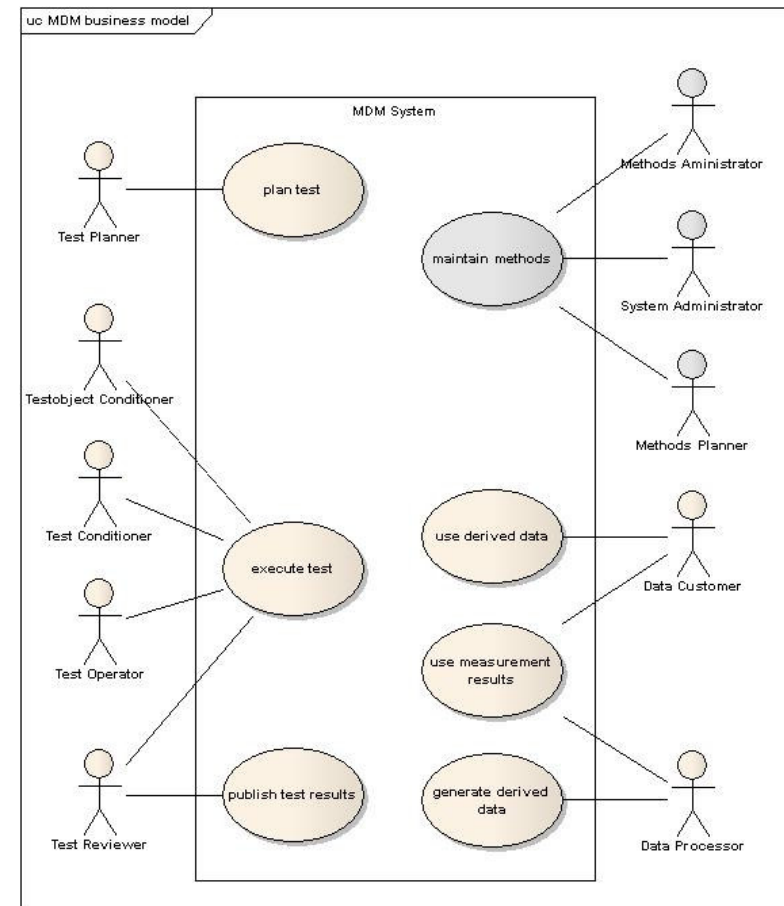
- MDM API
  - Encapsulate ASAM-ODS Methods
  - Independently usable
  - <http://www.mdm-community.org>
- MDM application model
  - Basic model for future MDM development
  - Supports MDM component environment
    - OSGI / CCM
  - Delivered as pure ASAM ODS ATF/XML data
  - Includes runtime generation of application elements





## Embedding MDM in your environment

- Analyze your business process and specify requirements
  - Mapping business objects to applications
  - Identify business objects of R&D test environment
  - Specify requirements on R&D test business process
- Identify the (important) MDM users and roles
  - Test Planner
  - Test Conditioner and Object Conditioner
  - Test Operator and Reviewer
  - Data Processor and Consumer

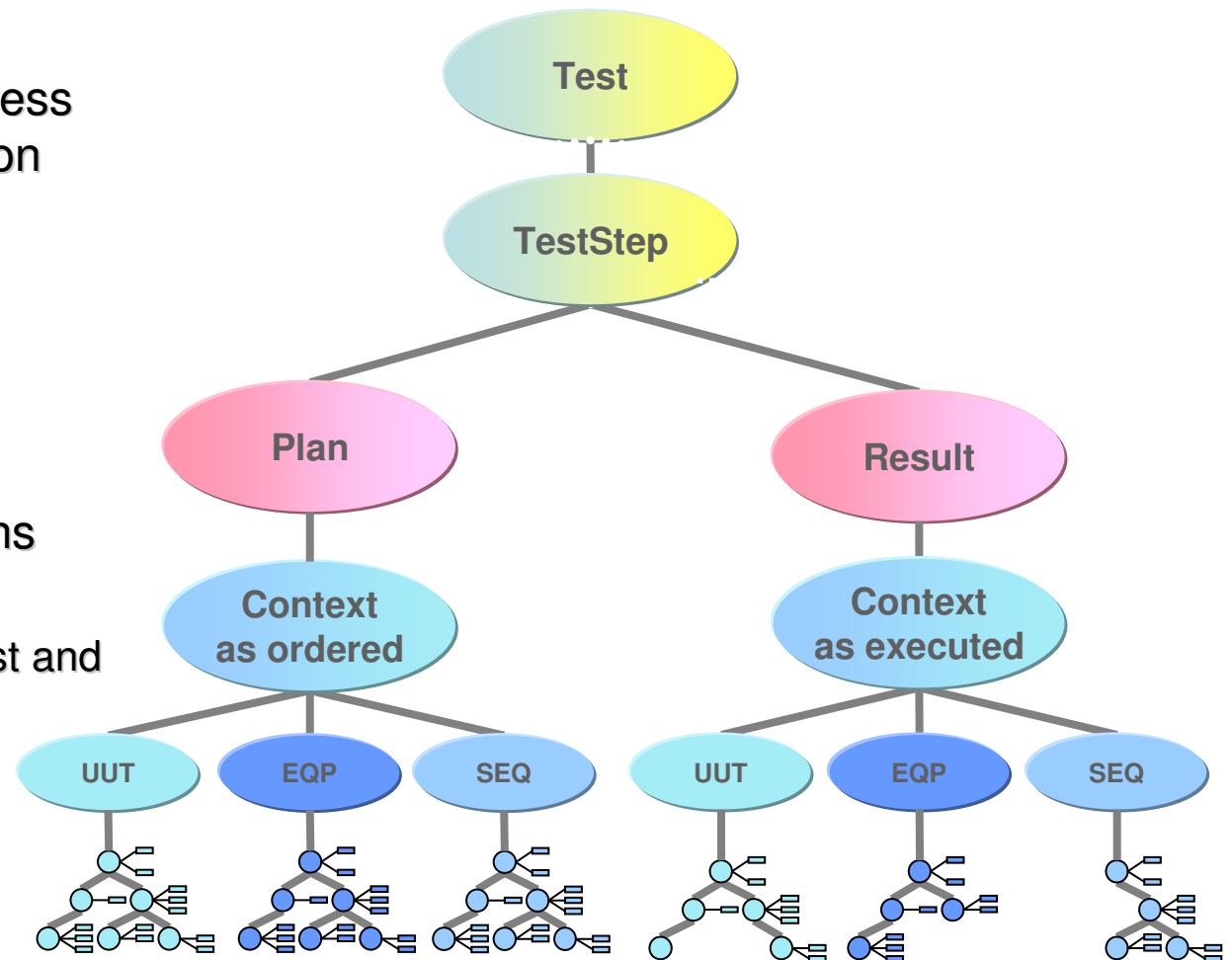






## Embedding MDM in your environment

- Map your R&D test business objects to MDM application model
  - Unit under test
  - Equipment
  - Test sequence
- Define description patterns
  - MDM Catalogue
  - MDM Templates for Test and Measurement





## Embedding MDM in your environment

- Process definition decisions: Business processes to be supported by MDM
  - Possible use of test planning, ordering, publishing, data import / export
  - Example for a “Small range solution”:  
MDM as archive / data store for result data
  - Example for a “Large range solution”:  
MDM supports process from defining tests until publishing of result data
  - Consequences
    - Quality assurance
    - Comparability of data
    - References to business items other components
- System design decisions
- Use of commercial components



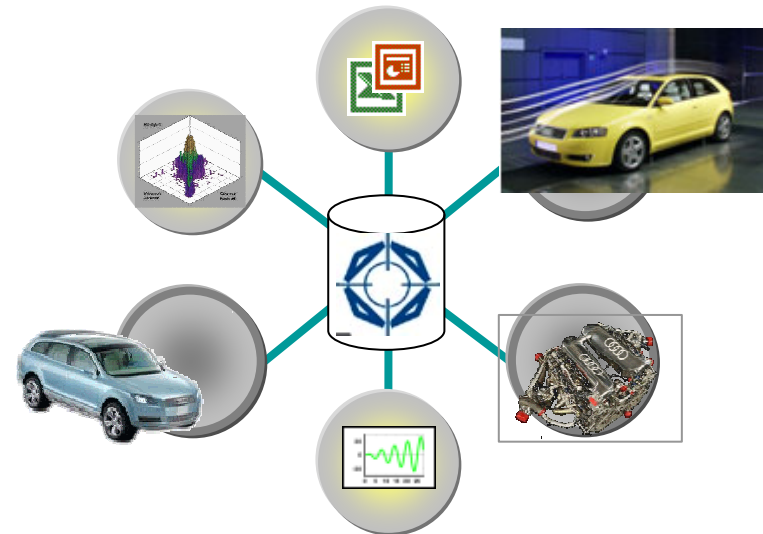
## Example of MDM as a service component

- Project in department of gearbox development
  - Support approval of test components for the series production
  - Main aspects:
    - Standardisation of test definition
    - Integration of test results
- Extension of an existing component based system
  - Part, resource assembly and object management
  - Ordering management
  - Warehouse management
  - Resource accounting management
  - Based on an individual implemented framework
    - n-tier architecture
    - Messaging implemented by SOAP
    - Standard “Look And Feel” for all GUI Components



## Example of MDM as a service component

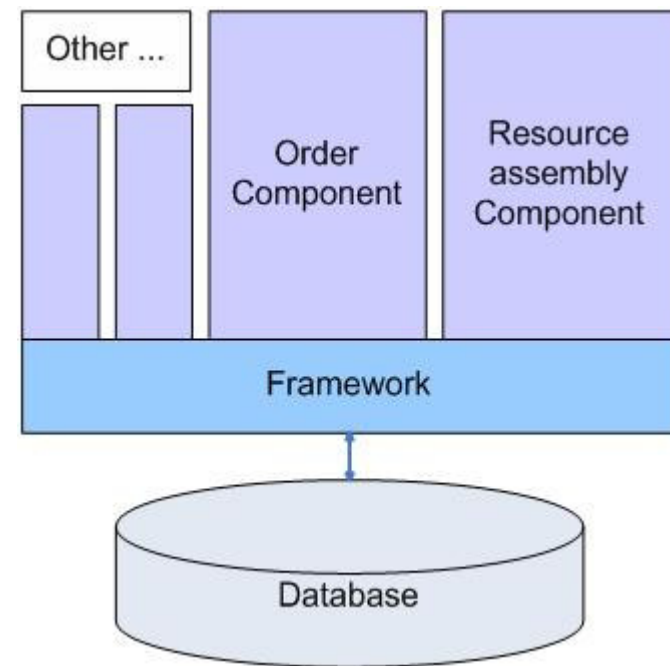
- Use MDM as backend-system
  - Use of MDM application model
  - Use ASAM ODS by MDM API
- Benefits of using MDM
  - Approved in other Audi projects
  - Presence of commercial components
  - ASAM ODS compliant data storage
    - Experience of ASAM ODS
    - Using the benefits of ASAM ODS
  - Easy Start - Low start up costs
  - Scalable in future





## Example of MDM as a service component

- Technical conditions
  - Involved business items are available
  - Components can communicate on enterprise level
- Demands of the system towards MDM
  - Use of the framework
    - Messaging
    - Implementation of GUIs
  - Reuse of business items of other components
  - Use of the ordering management component





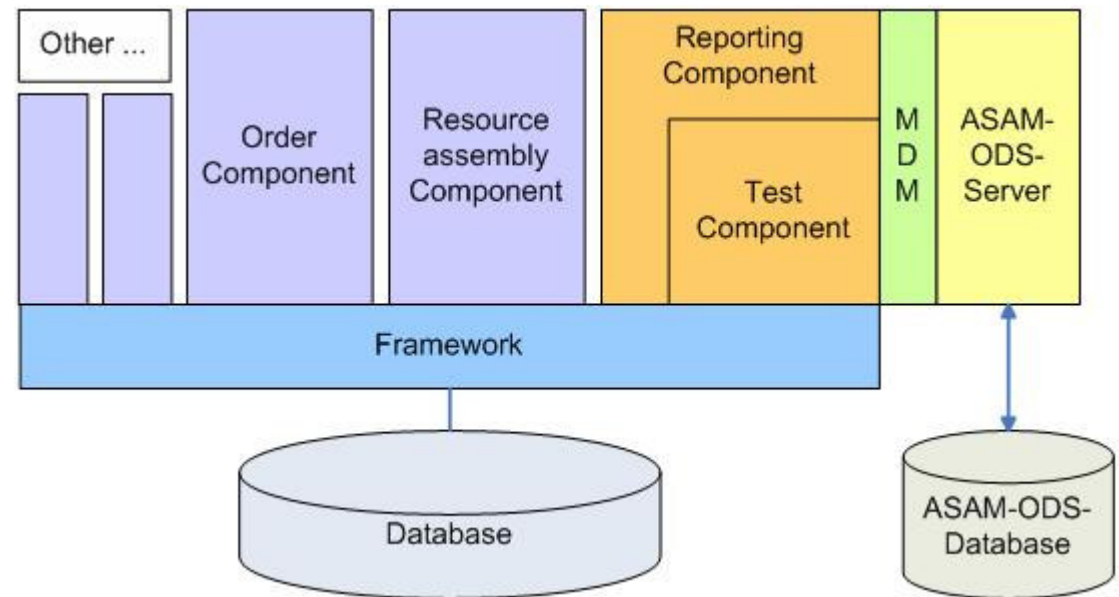
## Proceeding in the project

- Embedding MDM in the environment
  - Analyze the business process
  - Specify requirements
  - Identify the roles in the MDM process
  - Mapping the defined business objects to MDM objects
  - Define granularity of objects stored redundant in MDM
    - Example: Document modification of UUT
  - Design description patterns
- Business processes supported by MDM (in Step 1)
  - Test management
  - Import / export test definitions
  - Import standardised and extracted data



## System environment

- MDM as backend system
- Implementation of business components
  - Using Framework-Interface and MDM-API
  - Framework access by SOAP
  - MDM access by CORBA
  - Merge data in business components
- Storing data in different data stores





**Thank you for your attention**

**Any questions?**

**Please visit us at booth 1865  
for more information**



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