February, 2010

Legacy System Archiving with Mig4DL

Samples for archiving of QDIS LIMS Systems

Orianda Solutions AG
your competent consulting company

Introducing Mig4DL

Mig4DL (Migration for Data and Logic) …

… means **centrally archiving legacy data** from multiple and heterogeneous sources on a SAP BI system

… enables retaining **accessibility to legacy data**

… is a **purely informational** and non-transactional system

… **eliminates the risks** of unsupported legacy hardware or software and of losing the expertise for legacy systems

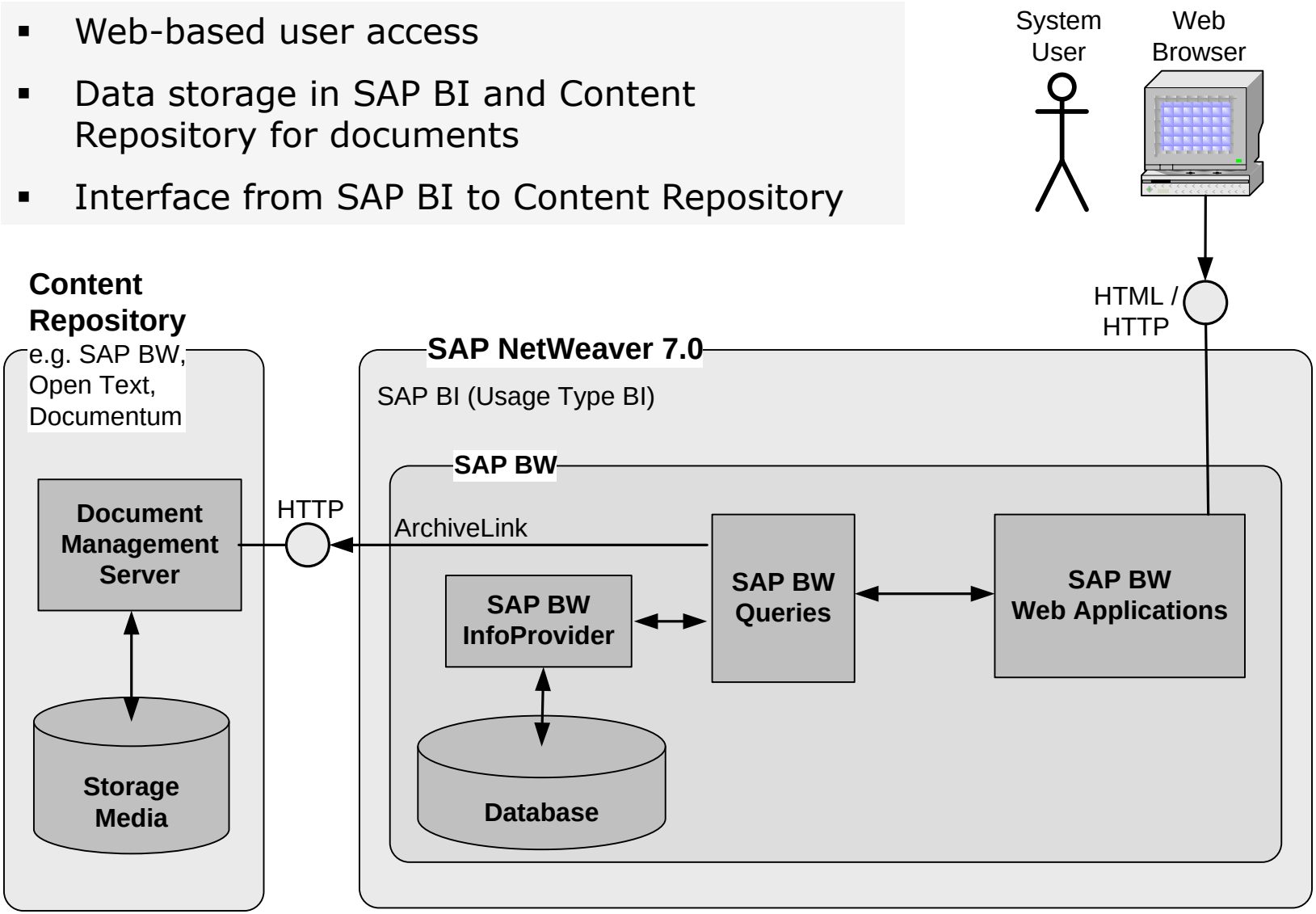
… **eliminates the costs** of operating legacy systems

… enables the **decommissioning of legacy systems**

… leads to an increased **enterprise data integration** and reduced **system landscape complexity**

Mig4DL Architecture

- Web-based user access
- Data storage in SAP BI and Content Repository for documents
- Interface from SAP BI to Content Repository



Handling the legacy data

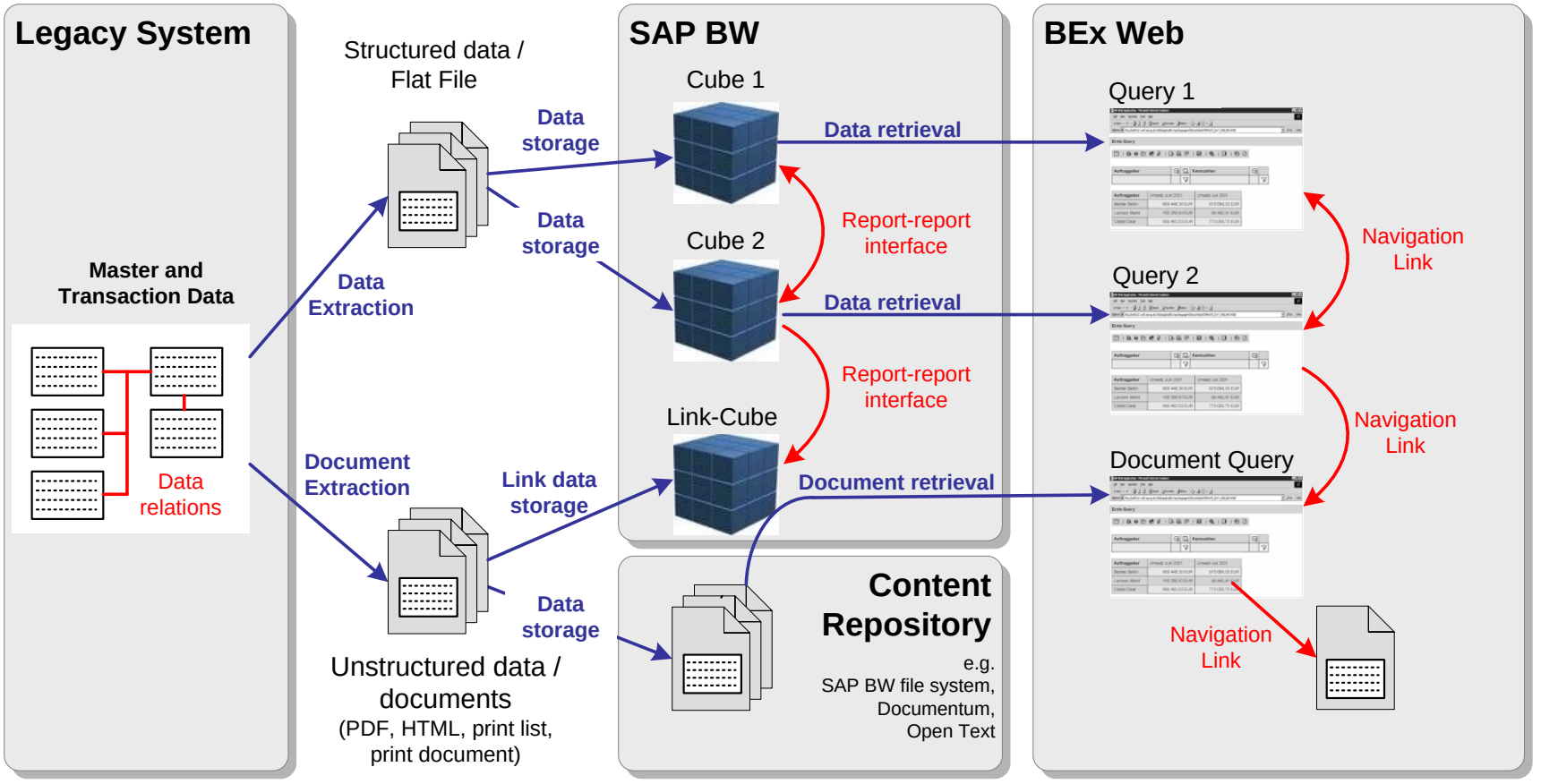
- Data extracts from legacy systems are transferred to SAP BI and Content Repository
  - Structured, table-like data is stored in SAP BI InfoCubes
  - Unstructured, document-like data is stored in Content Repository and link entries are stored in SAP BI InfoCubes for search purposes
    - Non-Structured data can have any format - PDF, ASCII, MS Office, pictures, scanned documents, SAP Print Lists, binary files, etc.

- Interface from SAP BI to Content Repository
  - Interface allows the retrieval of documents (1) stored before the archiving project and (2) stored in the course of the archiving project
  - Content Repository can be the file system of the SAP BI server or can be an external ArchiveLink Content Repository like Open Text, Documentum Doclink, etc.

System usage and functional characteristics

- Interfacing with the user
  - Worldwide access to the archived data via an intranet web application
  - Highly user-friendly interface
  - Low training effort needed for end-users / auditors
- Querying the data
  - Data is queried using filter values
  - Filter values can be search for and combined freely
  - Layout of displayed data can be adapted flexibly
  - Query result can be exported in multiple formats (MS Excel, csv, etc.)
- Navigating through the archived data
  - Archive data is categorized according to business criteria / functional areas and structured hierarchically
  - Parameterized navigation between data objects
    - Retains relations between data objects (e.g. header – item; transactional data – master data)
    - Allows the execution of complex query chains simulating processes (e.g. Lot Trace)
- Authorization concept secures system and archive object access

Mig4DL Archiving Methods



SAP BI object creation in batch and based on metadata sheets

Sample reference implementations (1/2)

Swiss pharma company

Number of systems:	23 BPCS legacy systems
Num. of archive objects:	approx. 300 archive objects
Project timeline:	2003-2006
Effort:	approx. 50 person days per system

Major Achievements

- SAP BI archiving concept proven
- Parameterized navigation simulates process

Generics branch of Swiss pharma company

Number of systems:	52 ERP systems at 28 sites
Num. of archive objects:	approx. 4000-5000 archive objects
Project timeline:	2007-2011 (3-4 sites in parallel)
Effort:	approx. 50-200 person days p. site

Major Enhancements

- Interface to Content Repository (Open Text)
- Handling of heterogeneous types of source systems
- Increased efficiency

Swiss pharma company

Number of systems:	2 SAP legacy system
Num. of archive objects:	approx. 160 archive objects
Project timeline:	2008
Effort:	approx. 70 person days p. system

Major Enhancements

- Massive Print List archiving on Content Repository (i.e. Open Text) and linking them to SAP BI

All Pharma implementations were fully validated (are in compliance with relevant GxP variant, 21 CFR from FDA and or EMEA regulations)

Sample reference implementations (2/2)

Swiss pharma company

Number of systems:	20 productive Chromatography Data Systems (Chromeleon)
Num. of archive objects:	2 archive objects
Project timeline:	2009-2011
Effort:	approx. 20 person days per system

Major Enhancements

- Archiving from productive system
- Archiving Agent automatically archives Chromeleon extract files

Swiss pharma company

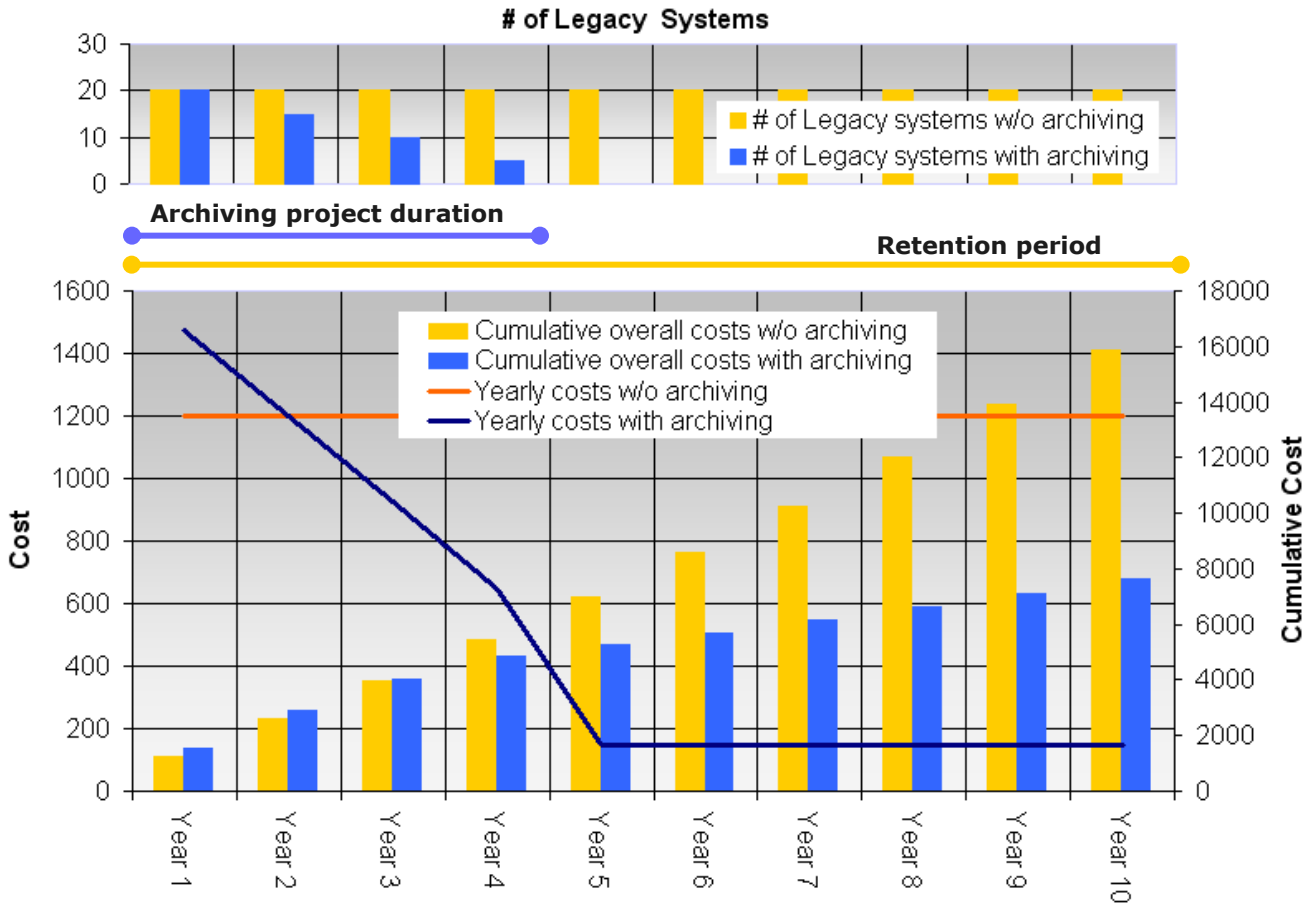
Number of systems:	10 QDIS LIMS systems 3 Lotus Notes applications
Num. of archive objects:	approx. 4000-5000 archive objects
Project timeline:	2009-2011
Effort:	approx. 60 person days p. site

Major Enhancements

- Extension of archiving know-how to LIMS systems
- Extraction view templates

All Pharma implementations were fully validated (are in compliance with relevant GxP variant, 21 CFR from FDA and or EMEA regulations)

Sample ROI calculation



ROI in %*	-100%	-50%	-3%	40%	107%	161%	205%	242%	273%	300%

* Total cost savings (total return) as percentage of costs for the archiving project and archival system (total investment) including imputed interest.

Assumptions for sample:

# of legacy systems	20
# of legacy system archived per year	5
Retention period in years	10
Direct costs of a legacy system per year	60
Fixed costs for SAP BI archival system per year	60
Variable costs for SAP BI archival system per year	5
Imputed interest / Cost of money	5,00%
Project costs for a legacy system archive	40

The benefits of Mig4DL

- Concept is a proven and mature solution
- High degree of flexibility
  - Solution for structured data and non-structured, document-like data
  - Solution for all types of source systems
- Solution based on a standard SAP product
  - No need for major software development as SAP BI provides the application server, web applications, data loading functionality, user & authorization management, etc.
  - SAP CC could take over support
- Experienced and well-rehearsed team is already existing
  - Experience in the validated Pharma environment
  - Experience with global parallel roll-outs and legal & regulatory requirements
- High degree of efficiency due to automatic BI object creation based on metadata
- Solution with low technical complexity
  - Not a BI approach but using rudimental SAP BI functionality
- Central data storage and worldwide web access
- Opportunity to consolidate system landscape and the enterprise data inventory

How you can reach us

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Appendix:

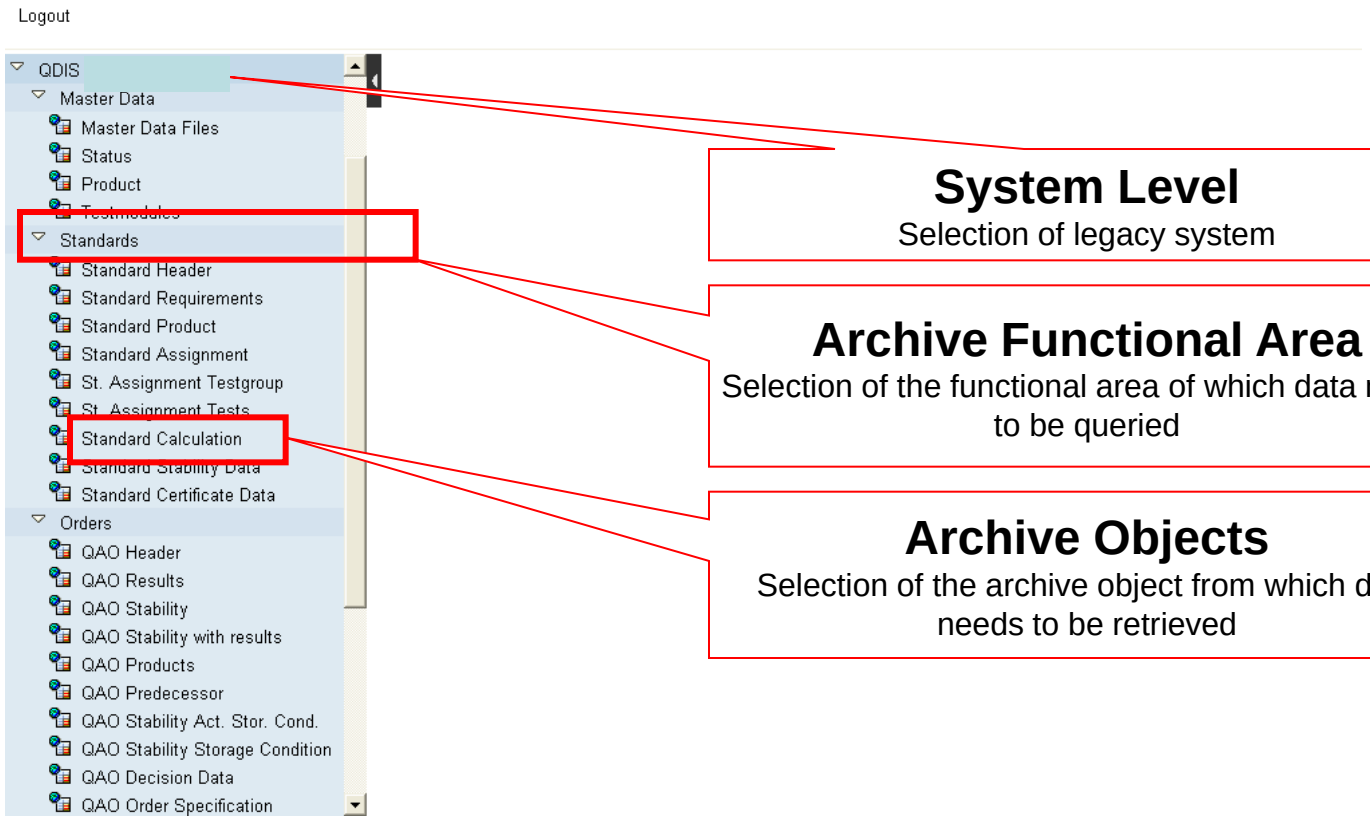
QDIS LIMS screenshots

Sample QDIS Archive Object inventory

Category	Archive Sub-Object
Standards	Standard Header
Standards	Standard Requirements
Standards	Standard Product
Standards	Standard Assignment
Standards	St. Assignment Testgroup
Standards	St. Assignment Tests
Standards	Standard Calculation
Standards	Standard Stability Data
Standards	Standard Certificate Data
Orders	QAO Header
Orders	QAO Results
Orders	QAO Stability Results
Orders	QAO Products
Orders	QAO Predecessor
Orders	QAO Stor. Cond. In Standard
Orders	QAO Stability Storage Condition
Orders	QAO Decision Data
Orders	QAO Order Specification
Orders	QAO Competence Area

Category	Archive Sub-Object
Orders Audit Trail	QAO Header Audit Trail
Orders Audit Trail	QAO Predecessor Audit Trail
Orders Audit Trail	QAO AO Audit Trail
Orders Audit Trail	QAO LO Audit Trail
Orders Audit Trail	QAO LOTEST Audit Trail
Orders Audit Trail	QAO Result Audit Trail
Orders Audit Trail	QAO Result Valuation Audit Trail
Orders Audit Trail	QAO LOTEST Group Run
Certificates	Certificates
Certificates	Certificate Template Results
Certificates	Certificate Products
Certificates	Certificate Decision
Certificates	Certificate Raw Data
Certificates	Certificate Template
Certificates	Certificate Template Predecessor
Master Data	Status
Master Data	Product
Master Data	Testmodules
Master Data	Master Data Files

Mig4DL – Hierarchical navigation



System Level
Selection of legacy system

Archive Functional Area
Selection of the functional area of which data needs to be queried

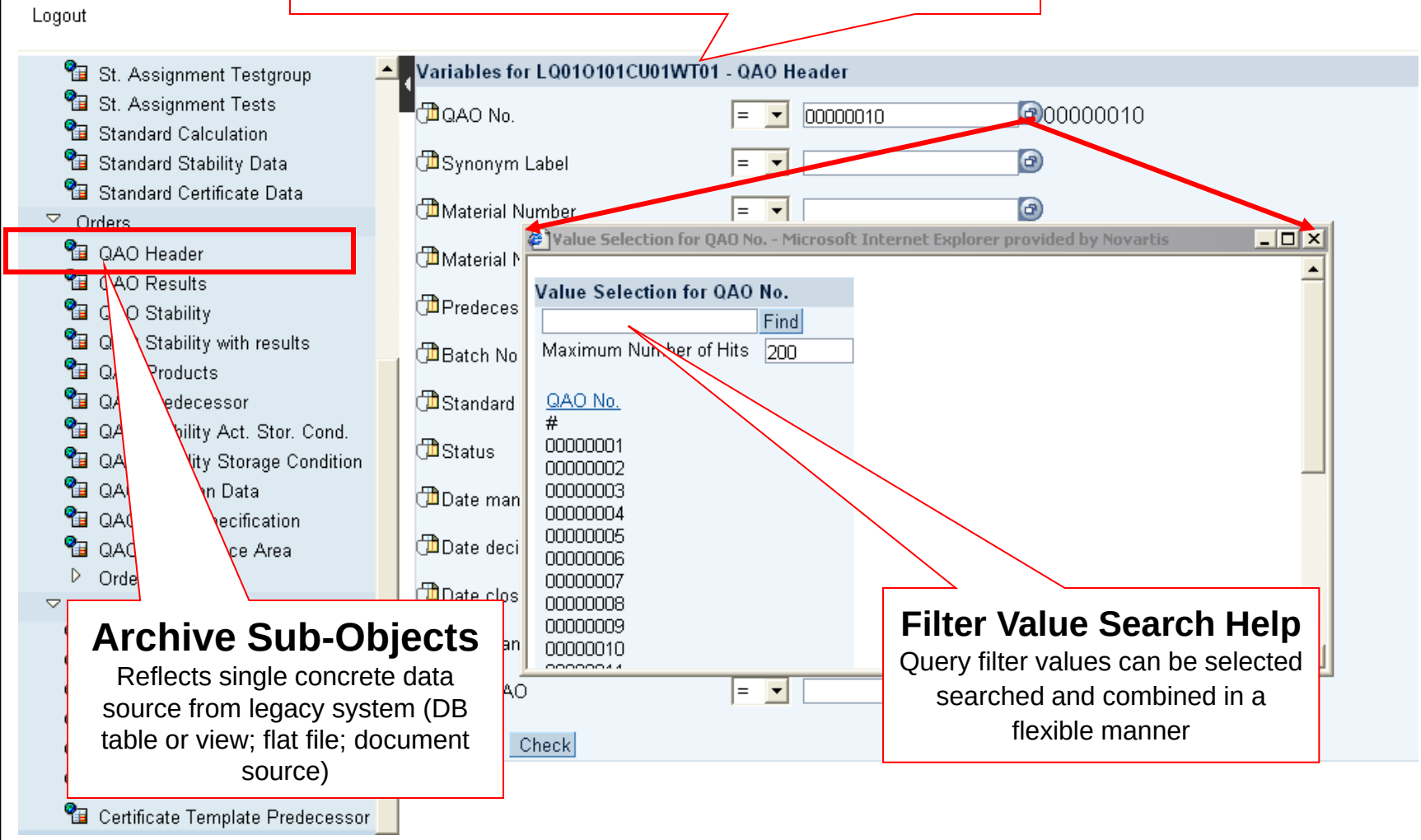
Archive Objects
Selection of the archive object from which data needs to be retrieved

- Archive information is structured hierarchically
- Authorization concept restricts access and visibility to Archive Objects

Mig4DL – Structured data sample (1)

Variable Screen

Query filter values can be defined for any table field



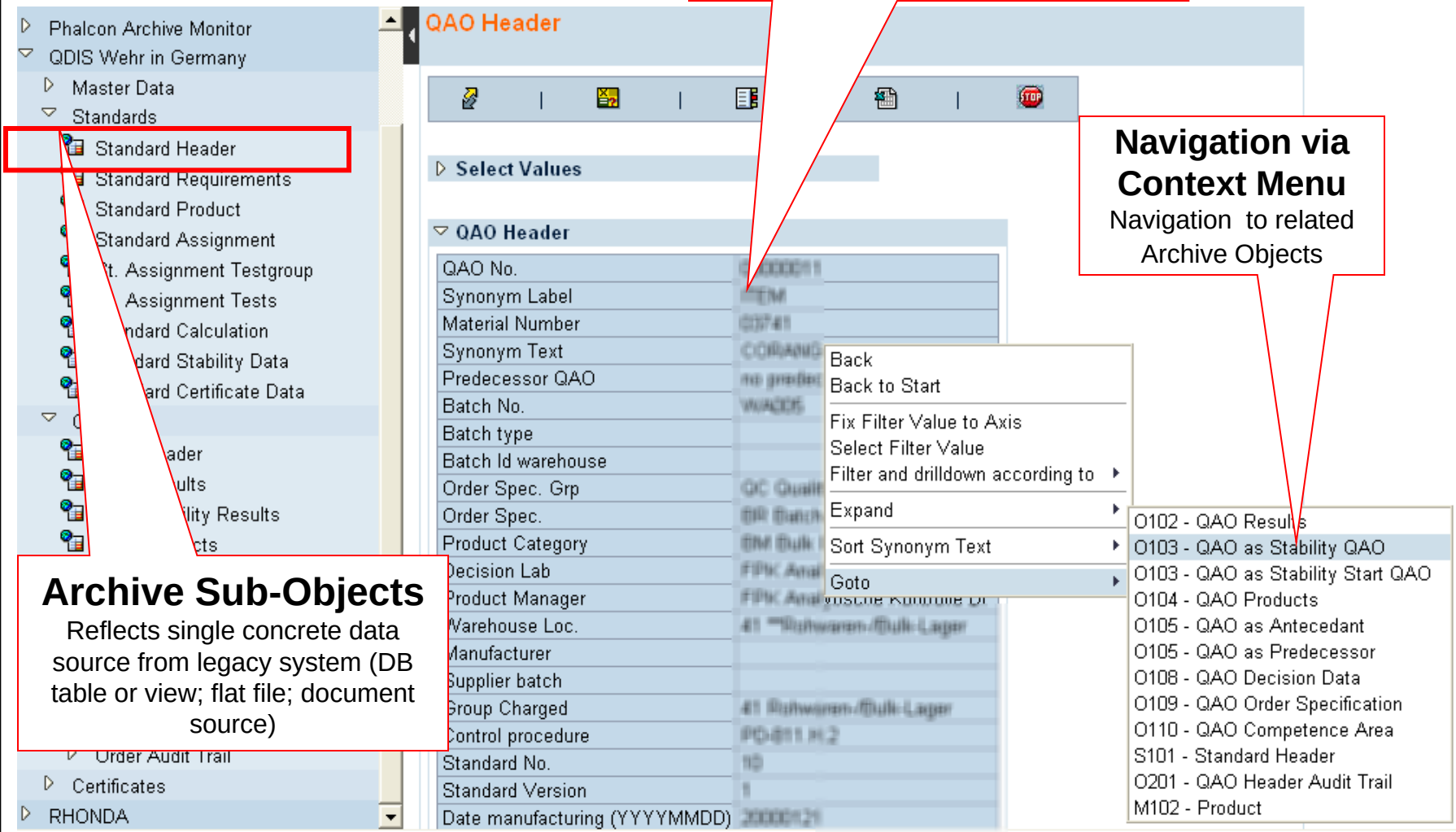
Archive Sub-Objects

Reflects single concrete data source from legacy system (DB table or view; flat file; document source)

Filter Value Search Help

Query filter values can be selected searched and combined in a flexible manner

Mig4DL – Structured data sample (2)



Mig4DL – Document-like data sample