

February, 2010

Legacy System Archiving with Mig4DL

***Samples for archiving of
QDIS LIMS Systems***

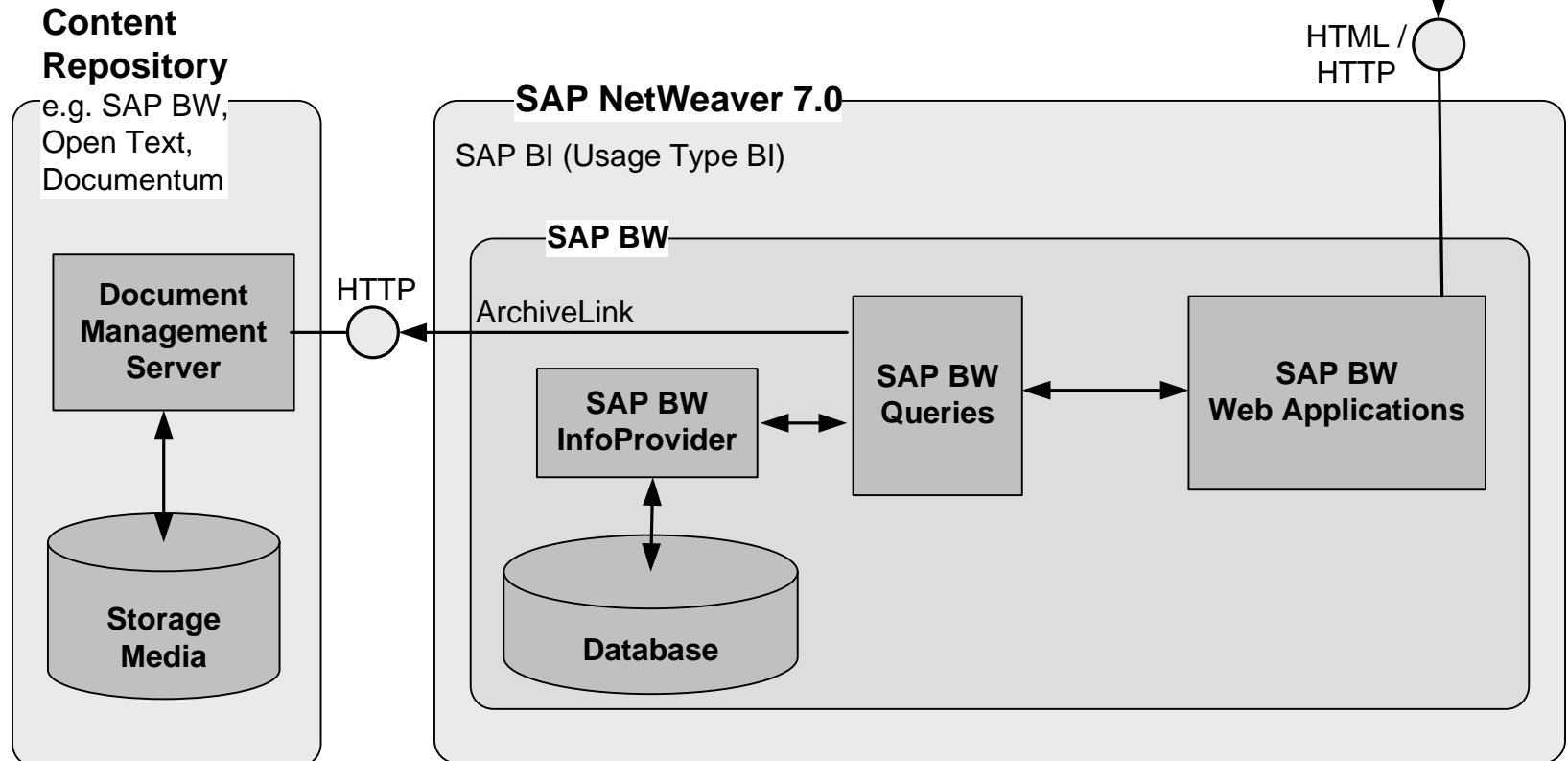
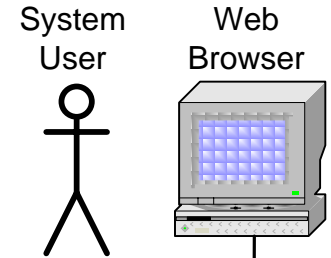
Orianda Solutions AG
your competent consulting company

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

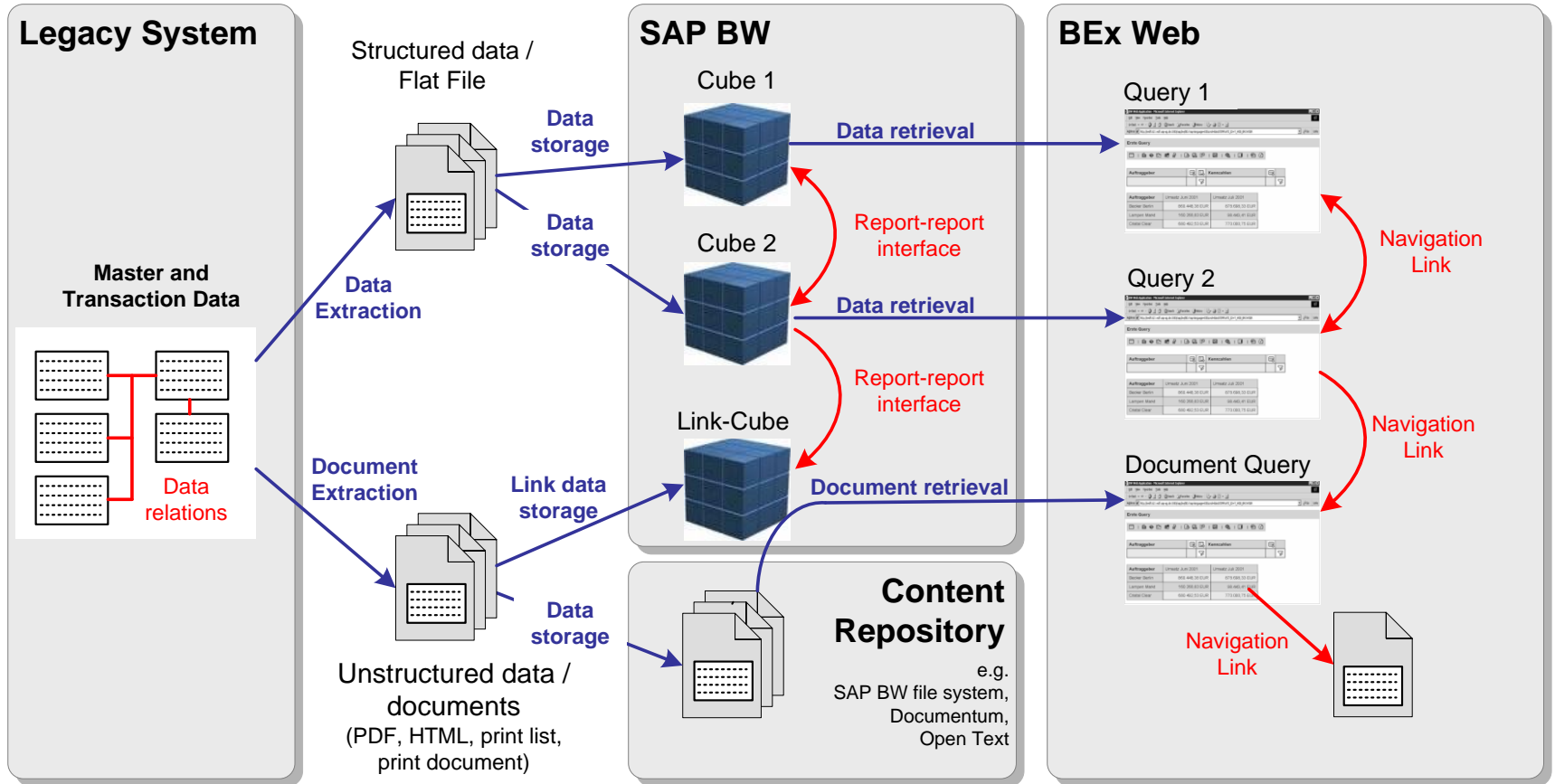


- Data extracts from legacy systems are transferred to SAP BI and Content Repository
 - Structured, table-like data is stored in SAP BI InfoCubes
 - Unstructured, document-like data is stored in Content Repository and link entries are stored in SAP BI InfoCubes for search purposes
 - Non-Structured data 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.

- 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

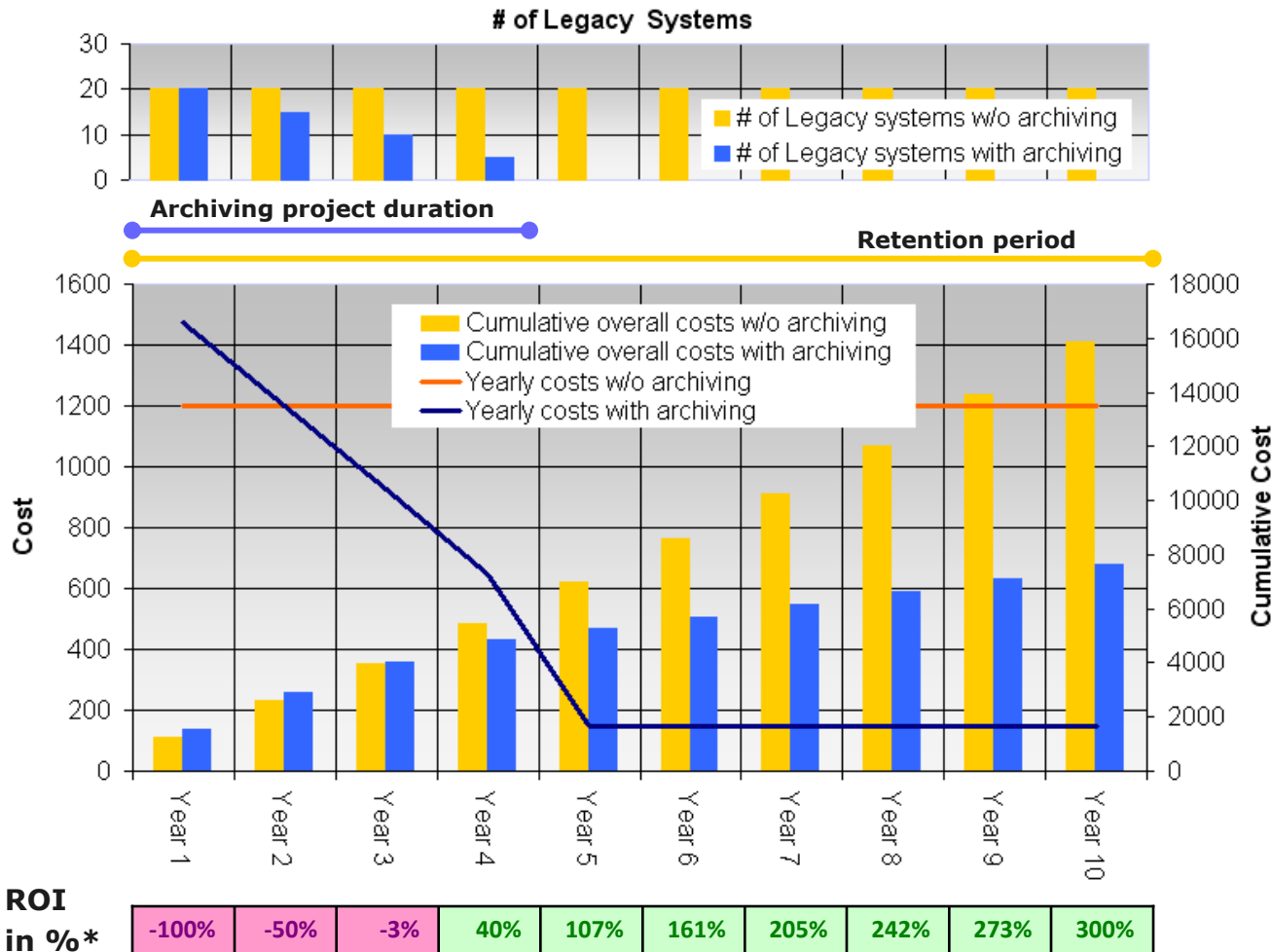
Number of systems: 10 QDIS LIMS systems
3 Lotus Notes applications
Num. of archive objects: approx. 4000-5000 archive objects
Project timeline: 2009-2011
Effort: approx. 60 person days p. site

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



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 |

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

- 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

Achieve Flexibility: Mig4DL.

Data Migration with Mig4DL.
Adapt your Data to New
System Landscapes.



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Appendix:

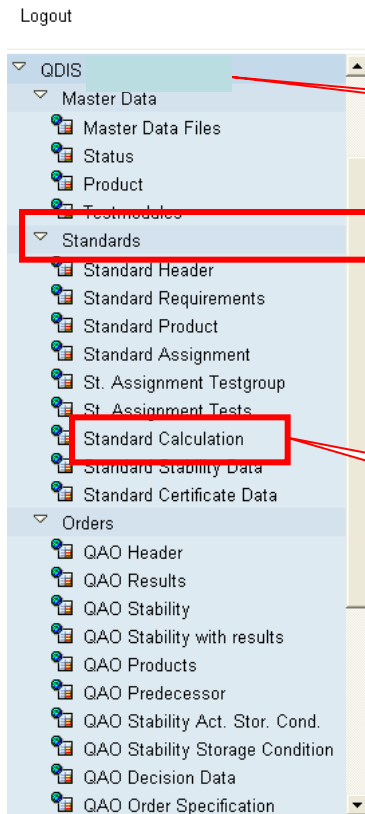
QDIS LIMS screenshots

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 |



System Level
Selection of legacy system

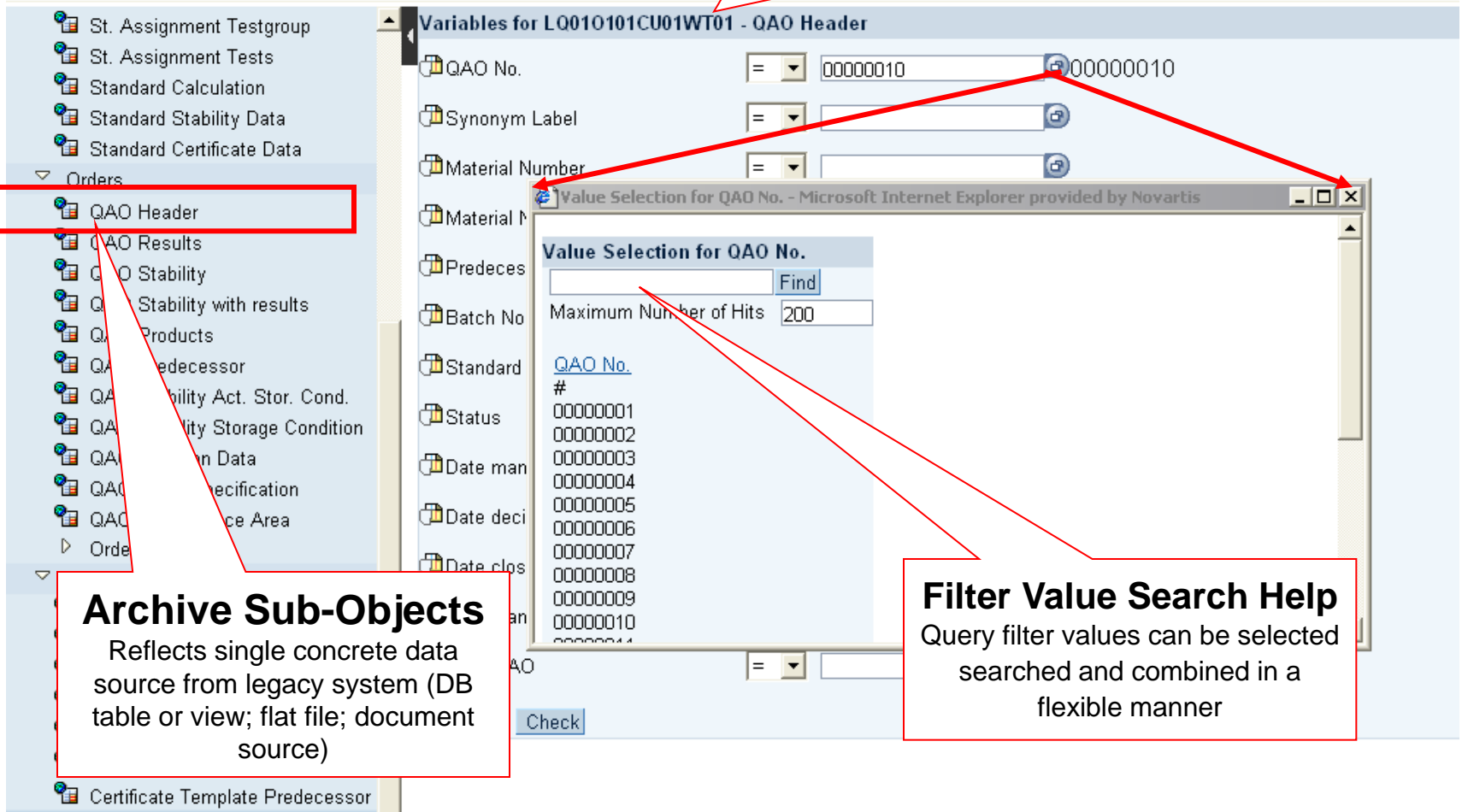
Archive Functional Area
Selection of the functional area of which data needs to be queried

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

Variable Screen
Query filter values can be defined for any table field

Logout



The screenshot shows a web-based application interface. On the left is a navigation tree with 'Orders' expanded and 'QA0 Header' selected. The main area displays 'Variables for LQ010101CU01WT01 - QA0 Header' with fields for 'QA0 No.', 'Synonym Label', and 'Material Number'. A search help window is open for 'QA0 No.', showing a list of values from 00000001 to 00000010. A 'Check' button is visible at the bottom of the variable screen.

QA0 Header

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)

Display of data

Query result set can be filtered further

Navigation via Context Menu

Navigation to related Archive Objects

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

| QA0 Header | |
|-------------------------------|-------------------------|
| QA0 No. | 0000011 |
| Synonym Label | ITEM |
| Material Number | 03741 |
| Synonym Text | CORIANO |
| Predecessor QA0 | no predecessor |
| Batch No. | WAC05 |
| Batch type | |
| Batch Id warehouse | |
| Order Spec. Grp | QC Quali |
| Order Spec. | 0000011 |
| Product Category | 0000011 |
| Decision Lab | FPK Anal |
| Product Manager | FPK Analyse/Kontrolle D |
| Warehouse Loc. | 41 "Rohwaren/Bulk-Lager |
| Manufacturer | |
| Supplier batch | |
| Group Charged | 41 "Rohwaren/Bulk-Lager |
| Control procedure | PO011 H2 |
| Standard No. | 10 |
| Standard Version | 1 |
| Date manufacturing (YYYYMMDD) | 20000121 |

- Back
- Back to Start
- Fix Filter Value to Axis
- Select Filter Value
- Filter and drilldown according to
- Expand
- Sort Synonym Text
- Goto
 - 0102 - QA0 Results
 - 0103 - QA0 as Stability QA0
 - 0103 - QA0 as Stability Start QA0
 - 0104 - QA0 Products
 - 0105 - QA0 as Antecedant
 - 0105 - QA0 as Predecessor
 - 0108 - QA0 Decision Data
 - 0109 - QA0 Order Specification
 - 0110 - QA0 Competence Area
 - S101 - Standard Header
 - O201 - QA0 Header Audit Trail
 - M102 - Product

Mig4DL – Document-like data sample

Logout

Download of document-like data

- Home
- Dashboard
- My Documents
- My Documents
- My Documents
- My Documents
- My Documents
- My Documents
- My Documents
- My Documents


GODB Documents

Select Values

| Deviation Number | Version | Document Name 1 | Document Name 2 | Linked Document |
|------------------|---------|--|-----------------|--------------------------|
| FDV 0000 | 2 | FDV 0000 v. 2.pdf - Lotus Notes Printout | | Download |
| FDV 0000 | | FDV 0000.pdf - Lotus Notes Printout | | Download |

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