

MoReq2

Survey of the Test Framework

P R O J E C T C O N S U L T

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MoReq2 – Test Framework Survey



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1. Scope of this Survey

1.1 Introduction

The MODEL REQUIREMENTS FOR THE MANAGEMENT OF ELECTRONIC RECORDS (MoReq2) is the new European Standard for Records Management. The Moreq2 requirements were published on February 13th, 2008. MoReq2 is accompanied by a certification program led by the DLM Forum

The basis of this certification process is the test framework produced by imbus AG. The drafts of these test scripts were published in February/early March 2008. The documentation of the test framework consists of the test script itself and the associated test data used for the performance of the test scripts.

1.2 Role of PROJECT CONSULT

PROJECT CONSULT was asked to review the MoReq2 Test Framework in regard to its relation to the requirements, feasibility and usability.

Dr. Ulrich Kampffmeyer is member of the Editorial Board for MoReq2 and Member of the DLM Forum. Dr. Kampffmeyer has been working as product manager and system designer for several document, records and archive management products in the past. In end user projects he already introduced and used MoReq for system design, tenders, and testing in more than 10 projects.

Christoph Jeggle has been working as head of development and system designer for several records, document, archive and workflow management product companies. He is a specialist in system design, product quality assurance and solution testing. He has been as well auditing records management solutions in the pharmaceutical and other industries.



1.3 Scope

The intention of this survey is the review of the MoReq2 Test Framework in regard to the structure of the overall testing concept.

The basic questions in this review are:

- Is the approach of the test framework appropriate to MoReq2 Specification?
- Is the test procedure understandable and clear?
- Is the test data repository useful for the test framework?
- Do the test cases cover the assigned requirements?
- What is the difference to other testing and certification procedures and does the MoReq2 Test Framework approach fulfil the requirements of being the base of the certification process

This review does not claim the review and examination of every test case. This would go beyond the scope of this review and survey.

A more detailed examination is only done with the chapter 3 of the MoReq2 Test Framework (Classification Scheme and File Organisation).

The survey was conducted based on MoReq2 requirements version 1.0.1 and MoReq2 Test Framework version 0.4.



2. Overview of the MoReq2 Test Framework

The scope of the test framework is the usage:

- „by official MoReq2 Compliance Test Centres: to support the implementation of a consistent compliance testing regime;
- by potential ERMS users: as a basis to prepare an invitation to tender;
- by ERMS users: as a basis for auditing or checking an existing ERMS and for preparing acceptance testing for an existing ERMS;
- by academic institutions: as a teaching resource;
- by ERMS suppliers and developers: as a guide to product development and in preparation for undertaking MoReq2 compliance tests;
- by potential users of outsourced record management services: as an aid in specifying the services to be procured.“ (see *MoReq2 Test Framework, page 3*)

The test framework is structured according the structure of the MoReq2 specification. The test cases are separated into following sections:

- classification scheme and file organisation
- controls and security
- retention and disposition
- capturing and declaring records
- referencing
- searching, retrieval and presentation
- administrative functions
- management of physical files and records
- disposition of physical records
- document management and collaborative working
- workflow
- casework
- integration with content management systems
- electronic signature
- encryption
- distributed systems
- offline and remote working
- fax integration
- security categories

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Only the section „Digital Rights Management“ of the MoReq2 specification is not covered by the test framework because these requirements are not testable.

Each section is a set of test cases of its own with independent test data set. Therefore each section has to be handled as own test procedure which is independent from the other test procedures.



3. Survey of the Framework

3.1 Introduction of the Test Framework (Chapter 1 and 2)

The scope of the test framework is widely extended. The test framework is not only the base for compliance testing and certification but also a tool for a deeper understanding of the MoReq2 specification.

The very different audience mentioned in the test framework (see above) makes it difficult to find the right approach to a generic test framework. Generic means the framework is not intended to a specific electronic records management system (ERMS) and not to a list of use cases limited to certain lines of business.

The challenge of testing a certain software product using a generic test framework in the first meaning is the translation of the generic requirement specification and the test case into the certain product. It can not be expected that the wording used in the requirement specification and the test cases is also used in the software product. E.g. the success of the certification of a product depends on the ability of the tester to translate the concept of classes, classes, file and volumes into the structure of the certain application. On the other side this challenge is unavoidable for generic test frameworks and not specific for MoReq2.

The challenge of testing with a generic test framework in the second meaning is that not all requirements of the business process are covered by the test framework. A generic certification test can not completely replace the test of the business process requirement fulfilment, but it can ease the test very much.

The main focus of the test framework seems to be the consistent compliance testing regime. But all the other audience can be satisfied as well due to the strict organisation of the test framework according to the structure of the MoReq2 specification and due to the explanations given to the test cases, which also helps to understand the requirements itself.

The explanation of the terminology used in the test framework and test cases is helpful for the unambiguous understanding of the test cases. This understanding enables the test framework as explanation of the MoReq2 specification.

The test framework does not state the testing of functional correctness (see MoReq2 Test Framework Introduction, page 3). The functional correctness is the precondition of the certification process and should be assured by the system tests. Certainly if the tests according to the MoReq2 test framework detect functional incorrectness the particular test case is failed.



It makes sense that the sections of the test framework follow the MoReq2 specification but the testing procedure within each section of the test framework is independent from the structure of the section within the MoReq2 specification. This is the only way to create as far as possible a feasible test script for the section which can be used in the order as it is described. But due to this fact it would be important to have some kind of cross reference between specification and test case. Currently this reference is given from the test case to the requirement. Vice versa the reference is not given.

For each test section test data are provided and described. This helps for the understanding how to translate a test case into a given system. The presentation of the test data is clear and understandable.

The Entity/Agent model introduced in the test dataset for the description of access rights to classes, files, volumes and records is driven by a relational data model. It is a complex but very powerful model of the access option description. For reducing the complexity the model is currently only used for the description of no access to entities which is according to the MoReq2 specification of access rights.

3.2 Chapter 3 as Sample of a Test Section

The chapter 3 of the test framework handles the classification scheme and file organisation. Inside this chapter the test section can be performed step by step except one problem: The test procedure in the section starts with the creation and import of classification schemes. But later test steps include the precondition that no classification schemes are created (e.g. T3.1.2.4). This seems to be a break in the logical sequence of test steps and is an example that the current test framework can not provide a sequence of test steps which can be performed one by one. This is recommended in the remarks to the test execution but this does not mean that the test steps can be performed as one test script.

This sample shows as well one of the major problems of unified tests in the future. The classification scheme is very rigid. Quite a lot of vendors do not use the classification model specified by MoReq2, but a more general approach like “virtual classification schemes” or “virtual folders”. The metadata are used to create views on documents and ordering structures, which can as well show a structure as defined by the classification scheme but use other, more flexible database mechanism. The question in regard to testing will be, how strict the special form of implementation of a classification schemes is evaluated. A “virtual structure” gives the users at least the same functionality like a “hard coded classification scheme” and offers more flexibility in regard to other presentations of the same content.



4. Comparison to DOMEA

DOMEA (Dokumentenmanagement und elektronische Archivierung im IT-gestützten Geschäftsgang) is the German public standard for workflow, document management and case work by the Ministry of the Interior, department KBSt (Koordinierungs- und Beratungsstelle der Bundesregierung für Informationstechnik). The current version of DOMEA is version 2.2. DOMEA is accompanied by a certification program.

DOMEA includes a description of the requirements and a list of the requirements for certification purposes.

The certification process is done in two steps:

1. Answering the requirements catalogue by the vendor
2. Presentation of a predefined scenario

This procedure is similar to a request of bids process. This approach can be chosen because DOMEA is not really a generic requirement model but focused on a certain area: the public sector. DOMEA helps to describe the requirements of the public sector in requests for proposal. So it makes sense to use this procedure as well in the certification.

This approach is not feasible for a generic requirement model because every presentation of a scenario would be specific for a certain line of business. Therefore MoReq2 chooses the alternative way of defining a standard test script which can be performed with all systems. But due to the generic approach this test script can not be used for checking the usability of a certain system in a certain scenario. The test scripts of MoReq2 can only check the functionality of the application against the list of requirements.

The disadvantage of the MoReq2 approach is that the certification is very time consuming because almost every single requirement is tested in a test case. Some of the requirements have to be tested double or three times. In this case the requirements are very similar but the varying parts are optional and has to be tested separately (e.g. T3.1.3.3 and T3.1.3.4 and T3.1.3.6). The generic approach of the MoReq2 requirements causes similar requirements with variations. Therefore some test cases are also very similar with variations.



5. Conclusions

Following statements can be made:

- The test framework is appropriate to the generic approach.
- The test framework is consistent and logical and covers the whole range of the MoReq2 requirements.
- The test framework of MoReq2 is very complex. This is the consequence of the generic approach. Nevertheless the test framework can easily be performed as a test script.
- Due to the complexity the test performance is very time consuming.
- The generic test framework has to be “translated” for every single application (e.g. what means class, file, volume in the application?)
- In regard to the MoReq2 requirements the test cases are more detailed. These test cases are the base of the certification. Therefore the test cases should be considered as the binding interpretation of the MoReq2 requirements itself.
- The test data set is also complex due to the complexity of the test framework but nevertheless helpful for the performance of the tests.
- A special advice or education programme, and a special guideline for the accreditation might be necessary for the accreditation authority in regard to select the right test centres.
- A special training programme and a guideline for the test centres might be necessary to properly handle the testing on a standardized basis all over Europe
- A review programme is necessary after the first tests to improve the test cases and to standardize the quality of the testing procedures at the different test centres

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