Scoping Report

from the DLM Forum Working Group

for Development of the

Model Requirements for the Management of Electronic Records (MoReq2)

Version 2   September 2005

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PART A – OVERALL AIMS AND SCOPE FOR MOREQ2

ABOUT THIS SCOPING REPORT

This report sets out the overall scoping of MoReq2 in Part A. In Part B, enhancements over the original MoReq are proposed. These are presented within a complete set of headings for MoReq2 based on the structure of the original MoReq. Where a section is new or substantively changed, descriptive text explains the suggested content of or changes to that section.

The presentation is designed to allow use of this report as part of the Technical Appendix for a MoReq2 development contract. Accordingly, Part B is written partly as a set of instructions to the future developer, particularly where a need to consider a change has been identified.

This report has been prepared also as a proposal to the European Commission from the DLM Forum Working Group on MoReq2.

AIMS FOR MOREQ2

The overall aims for the MoReq2 development are to develop extended functional requirements within a European context, and to support a compliance scheme by:

■ Strengthening from Moreq what have in the interim become key areas and covering important new areas of requirements with clarity

■ Ensuring that the functional requirements are testable and developing test materials to enable products to be tested for compliance with the requirements

■ Making the requirements modular to assist application in the various environments in which they will be used.

To provide compatibility, MoReq2 is to be an evolutionary update to the original MoReq, not a radically different product.

METHOD OF WORKING

The contents of this report are based on the analysis of over 170 comments and suggestions for change drawn from:

■ A widespread solicitation of comments (received from a wide range of organisations including archives, users of electronic records management, software suppliers, and experts from 18 countries);

■ MoReq Working Group minutes;

■ Examination of other standards which have emerged since the original MoReq;

■   Experience in the use of MoReq.

Overall the comments were positive towards MoReq and believed that development would enable it to remain and become a stronger, more widely used de facto standard. There are strong lobbies for using it in their countries as a de facto standard, implementing a compliance testing regime and extending the requirements in important areas for records management and archival needs.

Subsequently further comments on the resulting draft by MoReq WG members have been used in the report.

ARRANGEMENT OF MOREQ REQUIREMENTS INTO MODULES, AND TESTING MATERIALS

It is proposed that MoReq2 will be arranged in modules. Some of the modules will form an essential, or "base", part of the specification, meaning that they will always be part of any interpretation of MoReq2. Other modules will be optional, meaning that their applicability will depend on circumstances. However, optional modules may contain "mandatory" requirements – known as "optional mandatory" requirements. These "optional mandatory" requirements will be considered mandatory if the optional module they belong to is included in a test. Any module may also contain desirable requirements. This scheme is illustrated in the following table.

	Mandatory requirements	Desirable requirements
Base module	√	√
Optional module	√	√

An example of an optional mandatory requirement would be "The ERMS must support a distributed classification scheme which can be maintained across a network of electronic record repositories" in the distributed systems module. If an organisation will run their system with one business classification scheme within one site, they can decide not to use the optional module for distributed systems. If an organisation chooses the module for distributed systems then the must implies a mandatory requirement to be met by a software supplier.

Modules

The requirements are to be arranged in a base module which constitutes the minimum necessary to provide credible electronic records management, and as optional modules.

The base includes sections 1 – 9, 11 and 12 the metadata requirements.

The proposed arrangement of optional modules (a modified section 10) is stated here:

■   Integration with Content Management Systems (new);

■   Management of non-electronic records and hybrid files (existing);

■   Workflow (existing);

- Case work (new);

- Document management and collaborative working (existing);

- Encryption, watermarking etc. (existing);

- Interoperability and openness (existing);

- Distributed systems (new, including existing requirements drawn from base and other sections));

- Remote/offline working (new);

- Record Keeping processes (new);

- Electronic signatures (existing);

- Scanning (new);

- Fax integration (new);

- Advanced search (new);

- Security categories (from 4.6);

- Tracking Record Storage Movements (from existing 4.4.1 and 4.4.2).

Testing Materials

Test scripts and associated testing materials are to be produced by the developer as a combined deliverable with the base and each optional module of the requirements, to cover all the functional requirements.

The intention is that the testing materials will be usable:

- By a generic (European-level) packaged software testing regime, which the DLM Forum expects to establish;

- By the user community, to test specific implementations.

The testing materials are expected to be packaged in testing modules. Each module of the testing materials will accompany the relevant module of the MoReq2 functional requirements.

PRIORITIES FOR DEVELOPMENT IN MOREQ2

The European Commission has asked that updates of and additions to MoReq are accorded a relative priority for development by the proposed EC funded MoReq2 project.

The following order of priorities are proposed as follows. These priorities are based on MoReq WG meetings and the weight of comments:

1. Updates of the base requirements (sections 1 – 9, 11 and 12 the metadata requirements) which are the minimum necessary to provide credible electronic records management, and the development of accompanying test scripts. The updates are to include the entity-relationship model and section 13 access control model, and a review for compliance with ISO15489 and internal consistency

2. In Annex 7, relationship to other standards and guidelines and two new appendices on changes from the original MoReq and metadata/requirements reconciliation

3. Integration with Content Management Systems particularly control of website material (new optional module) and accompanying test scripts

4. Management of non-electronic (physical) records and hybrid files (update to existing as an optional module) and accompanying test scripts

5. Workflow (existing) and case work (new) and accompanying test scripts

6. Interoperability and openness (existing) and accompanying test scripts

7. Offline and remote working (new) and accompanying test scripts

8. Electronic signatures, encryption and electronic watermarks (digital rights management) (update to existing as an optional module) and accompanying test scripts

9. Record keeping processes (new) and accompanying test scripts

10. Document management and collaborative working (existing) and accompanying test scripts

11. Fax integration (new) and accompanying test scripts.

Production of XML schemas for import into and export from an ERMS are seen as a follow on project to be addressed by the DLM Forum subsequently.

GENERAL CHANGES

Overview

The following describes the expected content of MoReq2. This is presented as strong guidance for the developer rather than as a mandatory outline. The developer of Moreq2 will be able to vary the structure and content, but only by negotiation, proposed as follows:

■ Any deletion would need to be justified fully and agreed by both the Project Officer and the DLM Forum representatives to the project;

■ Any substantive change would need to be justified fully and agreed by both the Project Officer and the DLM Forum representatives to the project;

■ Any minor change or addition would need to be brought to the attention of the Project Officer.

Nature of the Update

MoReq2 is to be an evolutionary update to the original MoReq, not a radically different product. Accordingly it is to:

■ Maintain a focus on usable systems intended for the management of live electronic records;

■ Be based on the original MoReq;

■ Take into accounts developments since the original MoReq, in particular updates to source documents and potential further source documents, such as:

□ ISO 15489;

        □   UK TNA 2002 specification;

        □   German DOMEA standard;

        □   Norwegian NOARK;

        □   Swedish Transfer Method

        □   Dutch REMANO;

        □   Finnish Sahke-project;

        □   Update to US DoD 5015,2;

        □   ISAAR(CPF).

■   Correct errors, resolve ambiguities;

■   Extend functionality in specified areas, to the extent appropriate for a live records management solution;

■   Be testable;

■   Contain improvements to reflect lessons learned in applying MoReq;

■   Be compatible with the original MoReq, save perhaps for a small number of acknowledged incompatibilities.

MoReq2 is not intended to shift its focus from mainstream management of electronic records to a new area, such as the specialist management of archives.

Relationship with MoReq

The structure of MoReq2 must be similar to the structure of the original MoReq, except where there is a strong reason for change. This is to maximise the continuity during the adoption of MoReq2.

MoReq2 must explicitly indicate changes from the original MoReq. It is important that they be indicated in a way which:

■   Highlights any change which is not backwards-compatible with the original MoReq (these are likely to be very rare);

■   Allows software developers and others to identify changes easily;

■   Allows other users (e.g. students, Records Managers) to read and use MoReq2 without undue distraction.

Terminology

In keeping with the original MoReq, the structure of MoReq2 is defined as a series of *chapters* and *sections*. Chapters are referenced by a single number (e.g. 1 Introduction) and sections by two numbers (e.g. 1.1 Background).

The numbering of chapters and sections is the same as in the original MoReq, except where new sections have been added. New sections are all numbered "x" here to aid cross-referencing.

Where a section is new and where it will change, descriptive text describes the content of the section. Where there is no descriptive text, the section is not expected to change significantly. However, all sections must be edited to:

■   Correct any errors;

■   Update all information and references (e.g. the name and status of the DLM Forum, the status of other standards);

■ Clarify any uncertainties or ambiguities in the original MoReq;

■ Ensure total consistency with all other sections of MoReq2.

Compliance Testing Regime

The DLM Forum intends to initiate a compliance testing regime for MoReq2. Accordingly, all functional (mandatory and desirable) requirements must be written so as to allow unambiguous testing; and any non-testable requirements (such as MoReq 3.1.1) should be rewritten or moved to the introductory part of their sub-section; with the exception of any section on non-functional requirements where generic compliance testing is not appropriate.

Presentation

MoReq2 requirements are to be presented in a format similar to the format of the original MoReq, namely a series of requirements stated in plain English, in tables for ease of use, and in editable form.

Many requirements in the original MoReq are followed by a rationale (in italic text). This approach should be followed in MoReq2. Rationales are to be included wherever they will be helpful; in general, it is expected that new requirements will have a rationale, and that the rationales of some existing requirements will be expanded.

Country Introduction (Chapter 0)

There is a consensus in the Working Group that a country introduction or "Chapter 0" should be written by the DLM Forum representatives of each country. These would be provided for inclusion at the finalisation of the various language versions of MoReq2. This was done by some translators of the original MoReq to explain the concept of "records" and their context in some cultures (for example Slovenian and Portuguese translations).

The country should decide what will be appropriate in their country introduction and it is likely to include:

• the effect of national legislation

• the effect of the records management culture for example procedures round MoReq2 for rules for recording documentary transactions, providing registry facilities using MoReq functions etc

• translation information.

PART B - PROPOSED OUTLINE FOR MOREQ2

Format of this Outline

The following presents a complete set of headings for MoReq2. Where a section is new or substantively changed, descriptive text explains the suggested content of or changes to that section. Where no text is shown for a section, no changes have been identified for that section, but it should nevertheless be reviewed.

PREFACE

If possible, add a short preface (equivalent to, and possibly based on the one-page "MoReq – managing electronic records made easy section" which is at the start of the printed version – but not the electronic version – of MoReq) signed by a senior executive of the European Commission and the DLM Forum Executive Committee members. This is desirable to emphasise the value of MoReq2 and its definitive nature; an important part of the attraction and value of MoReq2 is the mandate it provides, and so formal approval by senior officials is especially important.

COUNTRY INTRODUCTION

This will be provided by the DLM Forum representatives of each country.

1   INTRODUCTION

1.1   Background

Add an explanation of the intentional evolutionary nature of this specification.

1.2   Purpose and Scope of this Specification

1.3   What is an ERMS?

1.4   For What can this Specification be Used?

1.5   Emphasis and Limitations of this Specification

Add clarification that the specification is primarily intended to deal with unstructured records (e.g. standard electronic office documents, e-mail messages, video, letters) in

non-case environments (though it can be used in the context of structured records and case management, and case records are addressed in section 10.x).

1.6 Using this Specification

Add emphasis that the specification should not be used for procurement purposes without being customised. Customising the generic requirements in MoReq2 will be an essential step, as each organisation will find MoReq2 contains requirements which are inapplicable to it, and also that it has particular requirements which are not included in MoReq2 such as national regulations.

1.7 Organisation of this Specification

1.8 Mandatory and Desirable Requirements

Consider carefully how best to express the concept that some requirements will be mandatory only in some environments – for example, features related to multi-site synchronisation are mandatory for distributed architectures but irrelevant to central architectures.

1.9 Comments on this Specification

Agree with the Project Officer an e-mail address (or other mechanism) for comments which can be sustained indefinitely.

2 OVERVIEW OF ERMS REQUIREMENTS

2.1 Key Terminology

Make changes required for consistency with other sections.

2.2 Key Concepts

Replace the figure with one which :

- Is consistent with the original MoReq 3.1.6 (i.e. replace level with class);
- Shows sub-record entities.

2.3 Entity-Relationship Model

Update for consistency with 13.2.

3 CLASSIFICATION SCHEME

3.1 Configuring the Classification Scheme

Rework to give equal weight to other means of deploying classification schemes, in particular the use of a thesaurus. Note that this has many repercussions on the wording of many of the detailed requirements.

Add the principle of inheritance of metadata values.

Requirement 3.1.6 prevents files and classes from being stored within the same class. Consider carefully in what circumstances it is required. It is required in some circumstances (e.g. in a classification scheme based on functions and activities) whereas it is possible that it is not needed in others (e.g. in a classification scheme based on keywords); if such a scheme is needed, controls need to be stated.

3.2 Classes and Files

3.x Record Types

Include new requirements for defining and managing record types (i.e. different types of documents which have different retention requirements, access controls or metadata elements).

3.3 Volumes and Sub-files

Consider carefully the need for sub-files as well as volumes and depending on this include an extensive rationale for the inclusion of volumes and sub-files, namely that it is not only to avoid creating large files, but also:

- To ease navigation through large files;
- To allow management of retention for files which may never close, e.g. geographically-referenced files.

Review extensively (this section and other sections) to ensure that the functionality allows the ERMS to manage using volumes while allowing the users to perform all functions without needing to recognise the existence of volumes.

Add functionality to allow the division of files into sub-files. Note that this may require changes in other sections.

Draw a distinction between volumes and sub-files. A volume is:

- A "mechanical" (e.g. time-based) sub-division of a file;
- Created sequentially;
- Can only be opened if no other open volume exists in the file;

and a sub-file which can be:

- A sub-division created on any basis, mechanical or intellectual;
- Created concurrently;
- Can be open at the same time as other sub-files in a file.

Note that the removal of the concept of "volumes" would be considered as a radical change, and so it is not likely to be appropriate to remove this concept. Accordingly, if the concept of sub-files is added, care will have to be taken to ensure the two concepts co-exist without problems.

3.4 Maintaining the Classification Scheme

3.x Navigation and Process Initiation

Add requirements for the ability to initiate processes (such as declaration, examination of metadata, opening a file, creating a file) from any point within the classification scheme rather than having to initiate the function from a menu then having to navigate to the desired point.

This usability feature may be described in requirements in a new section; or it may prove preferable to organise the requirements elsewhere to avoid the need for this additional section.

4 CONTROLS AND SECURITY

4.1 Access

Allow for the definition of roles and the allocation of access rights to them.

Allow for several different administrators, each to have control over a part of the classification scheme, or each to have control over one of several classification schemes.

Consider how best to represent the requirements for access to different functions. In practice, different organisations allocate functions to different roles, so it may be more helpful to specify the capabilities to allocate and maintain rights according to arbitrary schemes rather than to specify a single view of rights.

Some implementations will need roles designed to support a distributed architecture. These will need specific mandatory access features (which will not be mandatory otherwise).

Consider defining the specific role of "reviewer" for the appraisal and disposal of records.

4.2 Audit trails

Consider whether it is desirable to add features to ensure that any changes made to the back-end database are recorded in the audit trail.

4.3 Backup and Recovery

Consider carefully the need for additional requirements to handle (re-)destruction of records, after a restore is performed, of records which had previously been disposed of (destroyed) in the interim.

4.x   Vital Records

Add desirable requirements to allow vital records to be:

■   Identified (in metadata);

■   Restored first, in the event of a disaster which requires a system restore.

This will be especially useful for environments that involve very large volumes, in which a full restore may take an unacceptably long time.

4.4   Tracking Record Storage Movements

Note new title for this section.

Expand this section to reflect physical tracking features in detail and move 4.4.1 and 4.4.2 to 10.x as a separate module.

Review 4.4.3, with a view to moving it to 11.7 after appropriate change, and desirable addition of an interface to a file format registry.

4.5   Authenticity

Review against ISO 15489 with a view to ensuring that MoReq2 supports the essential characteristics for records: namely authenticity, reliability, integrity and usability.

4.6   Security Categories

The current section is written to apply only to secure environments. Move it to 10.x as a separate module. Consider whether any subset of it would form a part of the mandatory base requirements (i.e. whether any requirements similar to categories are needed in all environments including private sector, charities etc).

5   RETENTION AND DISPOSAL

5.1   Retention Schedules

Review carefully to emphasise the role of retention schedules and disposal. Consider the treatment of potentially more than one retention schedule applying to an object. Note also the need to consider record types (see 3.x). Retain the current MoReq principle that more than one retention schedule is allowed. Remove actual and potential ambiguities, and clarify details of logic such as:

■   How and when conflicts between retention schedules are identified;

■   How conflicts between retention schedules are avoided (if they are avoided); or

■   How conflicts between retention schedules are resolved (if they are allowed).

Clarify that any number of external events (as referenced in 5.1.11) is unlimited, and so different external events can be linked to different retention schedules.

Consider carefully whether to include clearly-structured requirements for:

■   Defining, referring to, maintaining, deleting retention schedules;

■   Defining, referring to, maintaining, deleting external events.

5.2   Review

5.3   Transfer, Export and Destruction

Clarify the meaning of transfer (with reference to 10.8) and consider carefully the need for additional requirements to support export and transfer, including that the ERMS should produce a delivery file that would contain records and the necessary metadata in a standard format; and prompts to log successful transfer notified by a recipient and destruction of the source transferred records.

6   CAPTURING RECORDS

6.1   Capture

Consider adding here the automated extraction of metadata at the time of declaration of documents created using templates (or macros , etc.).

6.2   Bulk importing

Add detail of requirements required to support the bulk import of records, for example;

■   Import of a classification scheme (where the records are not to be imported into the "live" classification scheme);

■   Features to (optionally) close classes, files and volumes imported after the import;

■   Import of the audit trail records to accompany the imported records.

6.3   Types of Objects (Title changed from Types of Documents)

Include more detail on the capture and management of:

■   Multimedia records;

■   Compound objects;

■   References to the existence of external databases;

■   References to physical records;

■   Records of web-based transactions;

■   Telephone conversations   (e.g. Århus Convention, requests for environmental information etc.).

In all of these cases, consider special requirements, including metadata requirements.

Consider also whether instant messaging should be included.

6.4   E-mail Management

Include more detailed requirements for the capture of e-mail, including the mandatory automatic capture of e-mail metadata, and tight integration to aid ease of use.

Consider adding requirements for capture of records generated by emerging communication channels (e.g. video conferencing and instant messaging).

Consider cross referencing (to 10.5) to requirements for the management of digital signatures.

6.x   Scanning and Imaging

Include more specific requirements for scanning and imaging capture, including requirements for integration, bulk scanning, and other conventional features of production scanning systems.

7   REFERENCING

Add references to the existence of emerging identifier systems (e.g. DOI and URN), and their relevance (if any) to identifying objects in an ERMS context.

8   SEARCHING, RETRIEVAL AND RENDERING

8.1   Search and Retrieval

8.2   Rendering: Displaying Records

8.3   Rendering: Printing

8.4   Rendering: Other

9   ADMINISTRATIVE FUNCTIONS

9.1   General Administration

9.2   Reporting

Include more detailed reporting requirements.

Include requirements for rendering reports in other electronic formats.

Consider requiring more flexibility in reporting.

9.3   Changing, Deleting and Redacting Records

10   OTHER FUNCTIONALITY

10.1   Management of Non-electronic (Physical) Records

10.2   Hybrid File Retention and Disposal

Revise to include more detailed requirements for management of non-electronic records and hybrid files. Ensure complete consistency between this section and sections 1.2 and 1.5.

10.3   Document Management and Collaborative Working

Note the revised name for this section.

Include more detailed requirements for document management, version control and editing.

Add requirements for collaborative working, being sure to take into account the capabilities of a range of products.

10.4   Integration with Workflow

Consider adding more detail on workflow requirements, for example to take into account:

■   Support for documents as well as for records;

■   Features to support directly the ability to demonstrate compliance with a specified business process (e.g. maintenance of the process that was followed as a record);

■   Workflow instances automatically associated with instances of files or documents when they are created;

■   Automated declaration of documents as records in a workflow;

■   The relationship between types of files and workflow maps;

■   The relationships between instances of files, documents and instances of workflows;

■   The ability to determine the version of a workflow definition that a workflow instance (within a file) was based upon.

10.x   Casework

Add new requirements for managing casework files, for example:

■   Case files can be created and opened by case workers (whereas non-case files normally cannot);

■   Applicable requirements from section B4 of the 2002 specification published by The National Archives of England, Wales and the United Kingdom.

10.x   Integration with Content Management Systems

"Content management" for these requirements means the management of documents and records in a variety of contexts (including particularly, but not exclusive to, an internet protocol (IP) -based environment accessed using browser technology).

The main challenge in this area is the need for robust control of public website, intranet and extranet content. There are other important considerations:

- The need for some degree of integration into the business classification scheme used by the organisation to manage record resources and their disposal;

- Dynamic and data driven solutions where databases and other active content are present;

- Repurposing of content for new contexts and user communities whilst keeping audit trails and lines of authority clear; and

- Historical archiving and disaster recovery back-ups.

Accordingly, the requirements can be seen to involve three different levels of content management with the meanings of these levels as below:

1.Simple content management is where there is a capability to 'publish' a single object from the EDRM environment to a world wide web [or other] IP environment [possibly involving rendition of the object in the process]

2.Web content management is defined as the scenario where complex compound objects from diverse sources are published to websites (including intranets); and

3.**Enterprise content management** is where the previous environments have been integrated fully into the EDRM (and perhaps other) environments and, optionally, there may be records management control exercised over objects in many systems.

The first should give rise to mandatory requirements in this module.

Consider carefully the other two outlined above for the degree to which and how they should be covered by requirements. The main characteristics of these two requirements are summarized by the following two high level requirements:

- Treating the entire drafting, publishing, 'archiving' (in the sense of taking off-line) and disposal (including historical archiving and other methods of *final* disposal) as a continuum and bringing together the document / content management stages of approval and publishing together with the records management concepts of disposal. These requirements treat both as essential and complementary parts of content 'status'.

- Developing the means of controlling alternative manifestations of content from that present in the base requirements (i.e. rendition, extraction) into the dynamic *Content management* environment. The main needs here are ensuring that the objects in the document repository are under the required level of control and there is sufficient metadata present to ascertain what the content was at a given time in the past (subject to the audited disposal of objects no longer required).

10.5 Electronic Signatures

Clarify and expand on existing requirements. Include requirements for medium term use and removal of reliance long-term on personal electronic signatures.

Although MoReq2 is of course for international application, it may be necessary to take into account specific national legislation and relevant EU directives (i.e. ensure that MoReq2 does not contradict it, or if this is not possible make explicit mention of any contradiction). If appropriate, include requirements for the removal of the signature for records management and archival purposes.

Consider adding a description and discussion of the main types of electronic signature, and their implications for records management.

10.6 Encryption

10.7 Electronic Watermarks etc.

Consider adding more requirements related to Digital Rights Management (DRM), in particular relating to DRM features which may compromise the ability to access and/or render records over the long term.

10.8 Interoperability and Openness

To the extent possible, include requirements for interchange standards not only for records themselves, with reference to section 12, but also the associated:

- Retention schedules;
- Security models;
- User/group models
- Classification schemes;
- Taxonomies;
- etc.

Consider also adding requirements for a standard interface which supports direct interactions with other systems/services/portals. This interface would enable applications to append records to the records management system and also to request records from it (note that this may be covered in section 10.x on case work).

Consider adding more detailed requirements for integration with desktop applications.

10.x Offline and Remote Working

Include in this new section all requirements which can be foreseen for users whose PCs/workstations are not always connected to the network hosting the ERMS repository. This should include at a minimum:

- Users who are mobile for part of the time, using a mobile device with no connectivity to the ERMS network, or with occasional low-bandwidth connectivity which does not support full functionality;

- Users at a fixed location which has an unreliable telecommunications connection to the ERMS network.

This will include (but is not limited to):

- Downloading information to work on while disconnected;

- Providing a mechanism which results in capture of records created while disconnected;

- Offline administrative changes;

- Effect of transactions such as file deletion while a user has an offline copy of the file;

- Audit trail.

Note: the terms "offline" and "remote" have not been defined. They may have different requirements or may be synonymous. The important point is to capture requirements which are practically relevant in the present and foreseeable future, to allow users to create and use electronic records easily and with the required rigour.

10.x Definition and Description of Recordkeeping Processes

Include in this new section requirements for linking together "atomic" functions and changes of metadata to form common business processes, for example:

- The process of redacting a record, which involves creating an extract, making the redaction, declaring the redacted version into the appropriate folder, cross referencing the record and the extract, and updating several metadata elements;

- The process of changing the security category of a record, which includes updating several metadata elements;

- The process of opening a hybrid file, which includes the production of physical file covers, the attachment of paper records and the linking of the physical to the electronic part;

- The review process, which involves looking at the metadata and contents of several files and/or volumes in a row, then making disposal decisions which may affect the retention schedules and possibly other metadata (see also 5.2.3).

10.x Fax Integration

Consider adding a new section on requirements for fax integration (see the NARS specification for some possibly appropriate requirements).

11   NON-FUNCTIONAL REQUIREMENTS

A note on testing of non-functional requirements: no generic compliance tests are specified. MoReq2 should include advice that user organisations should devise and carry out tests as part of their specific selection and implementation activities.

11.1 Ease of Use

11.2 Performance and Scalability

Add a comment (possibly as a rationale to 11.2.8) to the effect that a production ERMS may have to cope with millions of records in hundreds of thousands of files and classes. In some cases even larger numbers can be foreseen This statement should not, strictly, be necessary, as it is covered by the existing requirements 3.1.3 and 3.2.9. However, experiences with system implementations suggest that some suppliers are surprised by this magnitude.

Search other resources related to best practice to try to find suggested minima for system performance levels. These minima are to be indicative rather than mandatory. Wherever possible, refer to the sources used.

Consider moving all requirements related to scalability (e.g. 6.3.5) to this section.

11.3 System Availability

11.4 Technical Standards

11.5 Legislative and Regulatory Requirements

11.6 Outsourcing and Third Party Management of Data

Consider adding more detailed requirements for outsourcing the management of electronic records.

11.7 Long Term Preservation and Technology Obsolescence

Update to reflect changes in status of referenced works, and any additions. In particular review to meet ISO15489.

Include more detailed requirements for preservation in general and in particular for sustaining records in the original ERMS environment and in any successor ERMS; cover file format migration, and explain the relationship of this section with interoperability. Consider including migration of not only records but also of the index and metadata structures underpinning them.

Also consider adding desirable requirements intended to increase the medium-term usability of the software, such as:

- Open source code;
- Escrow versions of code.

Add requirements for the conversion to records from their origination format to one or more preservation format(s) at time of capture or subsequently, with the ERMS storing all formats of a record.

12 METADATA REQUIREMENTS

Develop the metadata model further, with the intention of providing in the model as much detail as is possible at the generic level for a basic implementation.

Take into account ISO 23081 ("Metadata for records – Principles").

Review existing, and add new, mappings of the metadata model to the existing models:

■ Dublin Core;

■ (if feasible) EAD.

Note that such mappings need not be to a greater level of detail than those in the original MoReq.

12.1 Principles

Add the principle of inheritance of metadata values (through classes, files and volumes).

Add the principle of "tacit" metadata i.e. the idea that metadata need not be stored explicitly so long as it can be created from other data when needed, e.g. for transfer.

Add discussion of the "fixity" of metadata, i.e. the idea that some metadata values may be changed by users or by the system while it is held, while other metadata must not be changed.

Add mention of the potential benefits of compliance with ISAAR(CPF), and the associated EAC DTD, for metadata describing persons and organisations. The benefits will accrue especially to ERMS users that expect to transfer records to permanent or long-term archives (so long as the archives comply with ISAAR). In theory, there will also be benefits to using ISAAR(CPF) for persons and business units within organisation, to track changes. However, MoReq2 should recognise explicitly that requiring ISAAR compliance is beyond its scope, and also that the practical costs of such compliance will deter some organisations.

12.2 Organisation of the Remainder of this Chapter

Retain or rationalise the organisation which lists metadata for each object type (class, class and file, file, volume etc). For each element, provide at a minimum:

■ A unique name;

■ Description;

■ Rationale;

■ Cardinality;

■ Obligation;

■ Default value (if appropriate);

■ Way in which the value is captured;

■ Rules governing changes to the value.

12.3 Classification Scheme Metadata Elements

12.4   Class and File Metadata Elements

12.5   Metadata Elements for File or File Volume or Sub File

12.6   Metadata Elements for Volume or Sub File

12.7   Record Metadata Elements

12.8   Record Extract Metadata Elements

12.9   User Metadata Elements

12.10 Role Metadata Elements

12.x   Preservation Metadata Elements

Include metadata elements needed for digital preservation purposes. Ensure the model is compatible with ISO 14721 (OAIS) and ISO 23081.

12.11 Customisation Notes for Metadata Requirements

Revise for consistency with earlier sections.

Add forward reference to new appendix which relates metadata and requirements.

13   REFERENCE MODEL

13.1   Glossary

Add definitions for any new concepts (e.g. record type and component).

Review all definitions for correctness and appropriateness. In particular, consider adding more rationale to clarify any contentious or possibly ambiguous definitions, such as (in particular) "record", "records management ", "medium term" and "long term".

Also, review against definitions in 13.3 to ensure consistency and remove duplication.

13.2   Entity-Relationship Model

Review with a view to:

- Improving the modelling of physical files;
- Clarifying the applicability of retention schedules;
- Seeing whether a better layout is possible, to avoid the present possible (albeit incorrect) interpretation that "level" are related to electronic records while "classes" are related to physical records (possibly by removing "level" entirely);
- Adding entities which make up documents and records (sometimes called "components";
- Incorporating other changes in the specification since the original MoReq.

Consider whether the entities recognised by ISO 14721 should be included.

13.3 Entity-Relationship Diagram Narrative

13.4 Access Control Model

Consider how best to represent the access control requirements and provide a more granular approach which identifies more roles.

Consider also more complex and powerful access control functionality as desirable requirements. This would allow an access model which allows any arbitrary selection of requirements to be allocated to any of several arbitrarily defined roles.

APPENDICES

APPENDIX 1 - REFERENCE PUBLICATIONS

Update to reflect changes in status and versions of referenced works, and any additions.

APPENDIX 2 - DEVELOPMENT OF THIS SPECIFICATION

Describe briefly the development process.

APPENDIX 3 - USE OF THIS SPECIFICATION IN ELECTRONIC FORM

Consider the publication formats for MoReq2 ~ such as in the current Microsoft Word version, PDF, Open Office XML.

APPENDIX 4 – ACKNOWLEDGEMENTS

1 Project Team.

2 Validation Organisations

3 Trademarks

APPENDIX 5 - CORRESPONDENCE TO OTHER MODELS

1 Correspondence to Dublin Core Metadata Model

2 Correspondence to Pittsburgh metadata model

APPENDIX 6 - DATE PROCESSING

Retain this section to ensure that metadata for records of any age is handled correctly – unless a convincing argument to do otherwise is identified.

APPENDIX 7 – STANDARDS AND OTHER GUIDELINES

x   Graphical Model of Relationship with other Guidance

Include in this new section a graphical model which shows ERM-related standards and guidance, such as MoReq, OAIS (ISO 14721), ISO 15489, ISAAR, ISAD(G) etc., showing how they are related and what aspect(s) of electronic records management they address.

Consider the extent, if any, to which national standards (e.g. Germany's DOMEA, Norway's NOARK4, UK's e-GIF) should be included in the above.

1   Standards

Update to reflect changes in status of referenced works, and any additions.

2   Other Guidelines

Update to reflect changes in status of referenced works, and any additions.

3   Accessibility Guidelines

Update to reflect changes in status of referenced works, and any additions.

4   Long Term Preservation Guidelines

Update including in relation to ISO 15489.

APPENDIX X – CHANGES FROM THE ORIGINAL MOREQ

1   Changes which are not Backwards-Compatible

List here all requirements which are not compatible with requirements in the original MoReq (note it is desirable that as few requirements as possible should be incompatible).

2   Relationship between Sections

3   Requirements Reconciliation

A tabulation showing the relationship of each MoReq2 requirement to any corresponding requirement(s) in the original MoReq, e.g.:

- Identical to requirement in the original MoReq;
- Identical to requirement in the original MoReq but with minor change(s) of wording;
- Corresponds to requirement in the original MoReq, but with significant changes.
- New requirement.

APPENDIX X – METADATA/REQUIREMENTS RECONCILIATION

1   Metadata needed by requirement

A tabulation showing the metadata elements needed by each requirement. This is included so that users who customise the requirements can see what metadata elements might be affected.

2   Requirements using each metadata element

A tabulation showing the requirements which use (refer to or update) each metadata element. This is included so that users who customise the requirements can see what metadata elements might be affected, and so that users can evaluate the effect of an incomplete metadata model.