



Requirements for Electronic Records Management Systems

4: Implementation guidance

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1 Implementing Electronic Records Management

1.1 Introduction

Guidance on successful implementation of electronic records management can exist on a number of different levels:

- introducing, integrating and configuring a software package (or 'ERMS');
- perhaps including in the above some closely associated application-level software capabilities such as workflow, document management, case management;
- user culture change and training; wider infrastructure change issues, such as enterprise content management, line of business applications or e-Government platforms;
- intellectual control issues implemented within the ERM environment, such as the business classification scheme;
- business benefits realisation; and
- more comprehensive programmes of business change including business process re-engineering.

This guidance only deals with the first and touches on the second of these scenarios as it applies to the type of environment set out in volumes 1 – 3 of this series (separate guidance will address the third on the premise that electronic records management is an activity; something an organisation does, rather than simply the implementation of a software package). There is also some high level rationale provided on why parts of the Functional requirements are couched in the way they are. Other TNA guidance already exists on the following subjects¹ and has been written with the electronic environment particularly in mind:

- guidance for the development of an email policy;
- business classification scheme design;
- disposal scheduling;
- ePolicy framework for electronic records management (published in collaboration with the e-Government Unit of the Cabinet Office).

Within this scope, it is not the intention to provide a "Configuration toolkit". Off-the-shelf and bespoke software solutions will be too diverse to make that possible. Instead, explanation of higher level issues on the possibilities of the configuration are given to assist public authorities in clarifying their needs in this respect. References to specific functional requirements (from volume 1) and other parts of this series of publications are given where appropriate.

¹ All accessible through: <http://www.nationalarchives.gov.uk/services/>

2 Degree of configurability

2.1 General

There is one overriding point that needs to be borne in mind when considering configuration issues for this type of solution. It is likely that proprietary software capable of compliance with the functional requirements will be also capable of a high degree of configuration, so that the software **could be configured out of as well as into** compliance with the requirements.

This is particularly marked where the overriding concern in the product design was document, rather than records management. Care and attention to detail are required to ensure that this does not occur, especially in the sourcing, capture and subsequent handling of metadata. For some further detail in this area, refer to section 7 of this guidance.

2.2 Responding to requests for change (RFCs)

This and other TNA guidance stresses the need to maximise the usability of the system for the end user. It is only in this way that user buy-in can be maintained and this is essential to the capture of the corporate record. Due to the desire to ensure user buy-in, system administrators may occasionally be asked to make configuration changes that will compromise the robust handling of the records to a degree that makes the system incompatible with the generic requirements. These requests must be declined and an explanation given.

3 Functionality supporting Freedom of Information implementation and other openness legislation

3.1 General

Robust records management has a vital part to play in supporting the implementation of both the Data Protection Act 1998 ('DPA') and the Freedom of Information Act 2000 ('FOIA'). The general management principles will aid DPA compliance, as may incidental functionality² such as 'contacts' or 'locations' features that may exist within a proprietary product and / or its integration with an email client.

The role with respect to FOIA operates at a number of levels:

- Knowing what is held and how it is managed is vital to the servicing of access requests.
- The Lord Chancellor's Code of Practice under section 46 of the FOIA requires public sector organisations to have an appropriate records management capability in terms of resources, organisational placement and sets out the main components of a records management programme.

Aside from the importance of this, there are more specific points about improving the information management and retrieval capabilities of public authorities that the electronic records environment is uniquely equipped to support. This section concentrates on explaining how specific functionality in the *Functional requirements* can aid compliance with openness and privacy legislation and the rationale behind it.

Electronic records management on the model of the *Functional requirements* introduces degrees of auditability of records management activity that could only be dreamed of in the paper environment.

Simultaneous with the implementation of the FOIA 2000 and the push to online, web-based government, it also follows that a far greater proportion of data relating to private individuals will be processed electronically and this must be done in accordance with the Data Protection Act 1998. The need is to strike the correct balance between openness and accountability with the privacy of personal information processed in the course of public business.

The retrospective nature of FOIA means that it will apply to large quantities of legacy information in both paper and electronic formats. As the Lord Chancellor's *Code of Practice* encourages good practice in records management, the Information Tribunal and the Information Commissioner may not accept that poor records management in the past is an adequate defence against demands for openness and accountability from citizens.

Further guidance on the more general records management implications of openness legislation are contained in the following publications:

- DPA: a guide for records managers and archivists, TNA 2000

² In the sense of not being specified in the *Requirements*

- Manual of guidance on access to public records, TNA 2001 (revision in progress, 2004)
- Draft Code of Practice under DPA s. 51, Society of Archivists, 2002

3.1 Support for FOIA 2000, DPA 1998, etc. in the *Requirements*

The *Functional Requirements* contained for the first time a number of features aimed at supporting recent access legislation:

- The concept of the non-default *Record_type* (aimed solely at facilitating DPA compliance) where, exceptionally, a restricted type of document can inherit its disposal schedule from its 'type' rather than the folder it is contained within;
- The *Presentation* requirements (non-mandatory requirements A.3.29 – A.3.32) for making record metadata and / or content available by a process of web publication, e.g. to assist in the administration of an FOI publication scheme;
- *Rendition* and other multiple manifestation requirements such as the holding of redacted versions of records (called *extracts* in the Functional Requirements), to provide access copies within an ERMS or archival system, perhaps to safeguard personal data or sensitive information whilst making the rest available;
- *Disposal hold* where a record or group of records due for disposal can be retained temporarily, such as for litigation or responding to an FOI request (Requirements A.4.24 - A.4.26);
- Disposal roles (Requirement A.4.65) separating out the ability to run the disposal of the objects and metadata from the databases from the ability to apply a disposal schedule execution to provide assurance that a FOIA s.75 offence has not been committed;
- Access control requirements for the automatic declassification (Requirement A 5.38 – A.5.40) and progressive downgrading of folders and records.

Note: Not all these requirements fall within the mandatory set: public authorities should consider whether they need them or whether they have alternative solutions to some of the same issues.

3.2 Interface with applications to track compliance with openness legislation, especially FOIA

Interoperability may be required with FOIA tracking systems in several scenarios:

- where a request is held for information contained in records in an electronic records management system;
- where the ERMS is the tool for capturing the records of the FOIA request 'case' or workflow;

- where it is useful to access information on previous FOIA release decisions prior to exporting records to archival custody³
- [potentially] for cross-government monitoring purposes;
- [potentially] where a cross government tracking system is involved.

The *Functional Requirements* do not attempt to specify functionality explicitly to provide automated release in association with a FOIA publication scheme or a request tracking application. However, the following optional fields have been indicated in the *Metadata Standard* since 2002 (as sub-elements of 18. Access control) that might be populated as resources with records captured in advance of full implementation:

- FOIA exempt category
- A 'Disclosability' indicator for FOIA⁴
- FOIA Release details (i.e. date and reference number for reading across to any tracking application implemented later)
- Date of last FOIA 'Disclosability' assessment

This is to provide an interface that departments may wish to use in the future between the ERMS and future request tracking or publication scheme applications. Further development will follow in this area as a consequence of the development of a generic specification for FOI tracking systems by the Department for Constitutional Affairs.

The disclosability indicator and exempt category metadata fields form a distinct group, potentially repeatable (i.e. as a group) to assist in compliance with other openness provisions that may be forthcoming. The *Metadata Standard* specifies one additional group already, for the Environmental Information Regulations 1992 / 2004 revision.

The situation with the DPA is similar, but slightly more complex. The following elements have been identified that would be worthwhile including in records management metadata in some business environments, with the last two forming the repeatable group as with FOIA / EIR:

- DPA processing exempt category (**sub-element of 23. Mandate**)
- DPA data acquisition purpose (“ “ “ ”)
- DPA data subject disclosability indicator
- DPA data subject access exempt category (**sub-element of 18. Access control**)

³ transfer of public records to The National Archives will need to be accompanied by notification of any exemption considered by the transferring department to apply at point of transfer. Further information will be provided in the forthcoming guidance on this issue.

⁴ This may still required in circumstances where the legislation *does* require the release of exempt information in certain circumstances, as FOIA does. The indicator has been kept as simple as possible – a binary indicator - to increase the ease of integration with FOI tracking applications. It cannot be expected to observe the *dumbing down* rule expected of a refinement of **DC Rights**

3.3 Use of metadata tags

The FOI and DP metadata elements are user defined fields not linked to specific system functionality specified in the Functional Requirements. The procedures for the population of these sub-element fields must be very carefully defined in organisational procedures and supported by a high level of training⁵ for them to be useful.

These procedures need to bear in mind that the overhead in populating the fields needs to be justified by the benefit of doing so. Some organisations might, on this basis, decide not to use them at all. Capturing very broad categories of information about the disclosability status of records (e.g. if a whole area of a classification scheme contains information about a law enforcement function or subject to legal professional privilege) might be deemed worthwhile if it can be done as a default or at a high level (to facilitate inheritance) throughout the classification scheme area.

If completion of fields provides no specific information about the record in support of disclosure decisions there is little point in requiring the completion of fields for each individual record, for example, if an exemption from disclosure harm test based on the public interest in disclosure. In these circumstances it is unlikely that the end user will perceive any benefit and the organisation will not realise any.

Additionally, it will be observed that whilst it is intended that the use of the grouped fields should be optional, the “Y” / “N” indicator is shown as Mandatory in the Metadata standard. This is for four reasons:

- 1 If the fields are used, the “Y” / “N” indicator should be seen as mandatory if any past assessment of disclosability has been undertaken;
- 2 Because the default value ought in most organisations to be “Y”;
- 3 To encourage departments to set up rules to enforce the entering of a relevant exemption should the indicator be set to “N”; and
- 4 Because, again in order to minimise overhead, there needs to be a consistent business rule on the use of the fields and this is far less resource intensive than having a third option of “Not applicable”.

⁵ The intention of this is to support decision making with relevant information, not to prejudge decisions that have by law to be assessed or reassessed at the time of a request being received

4 Placement of optional modules on case and workflow management and content management

4.1 General

An ERMS solution needs to integrate to a variety of external environments. Exactly how this will work depends on the scenario and the realistic extent of support in the technology. It will not always be possible or indeed appropriate to bring every electronic record within an organisation under the control of application level ERM software⁶.

4.2 Rôle of Modules

The case and workflow and [planned] content management modules are not complete specifications for “applications” designed to achieve those activities, they are statements of what type of interface is likely to be required between the ERM environment and those technologies.

Public authorities should use them accordingly, incorporating such of the stated requirements into wider specifications as is appropriate.

⁶ In some circumstances where it is possible, e.g. database objects, it may be self defeating or overly proscriptive to control the objects using the ERMS

5 Major configuration decisions

5.1 General

There are a number of very significant decisions that are required quite early on in determining how an ERMS might be used. These require global configuration; it is not generally possible to have different settings for such things in different parts of the classification scheme or to suit different users' preferences.

5.2 Entity behaviour rules

The *Functional Requirements* assume that, broadly, the behaviour of entities is standardised to a sufficient degree to achieve robust records management outcomes. It is also extremely important for the achievement of standard metadata that entities behave in the expected way as the behaviour determines the appropriate and the required metadata.

There are a number of very significant areas where particular attention should be paid to such configuration issues:

5.3 Rules observed by classification scheme and its folders

The entity model contained in the *Reference Document* and associated TNA guidance (as well as the EU MoREQ standard) recommends a clear separation of the business classification scheme and the folders underneath it. Class entities are not simply folders higher up the scheme and do not behave in the same way, nor should they have the same metadata.

5.4 Folders within folders, records higher up the classification scheme

This relates closely to the previous point. Requirements A.1.4, A.1.25, A.2.13 and A.2.19 do not permit the existence of folders within other folders nor the holding of declared records except in a folder.

Aside from usability, this is for the very good reason that it will prove very difficult to move records from one platform to another and achieve interoperability if the entity model, supported as it is by relational metadata, has not been observed.

5.5 Use of folder parts in disposal management

Parts are often assumed, wrongly, to be an outmoded overhang from the paper paradigm. In reality, the part entity is a very useful tool for disposal management. Requirement A.1.52 clarifies the role of parts as a segmentation of a folder by time. This is a narrowing of the definition in the 1999 requirements, where a separate disposal schedule could be applied to a part.

Application of a disposal schedule in the 2002 requirements could and, if the schedule is triggered by a part event, should lead to the same schedule producing a different execution date.

For example, a folder entitled “Budget” might have a disposal schedule containing the rule “destroy 6 years after part closure”⁷. This rule would be inherited down to all the folder parts. On closure of the parts at the end of each year, the ERMS would calculate a disposal date 6 years from the closure of each respective part, and therefore 1 year later in each case. Therefore the rule is the same, but its execution different.

5.6 Defaults, settings for documents and records

There are number of other default settings that should be present in a compliant solution. Exactly how these should be used may vary from one organisation to another.

Some are system defaults such as routines for the disposal of undeclared documents are mainly of interest to the administrator and records manager. Some will affect end users and use of them may depend on the skills of the user community.

Further information on specific user roles, access control settings and metadata configuration follow within dedicated sections on those important topics.

⁷ this is just an example: an *external event* type of disposal trigger based on end of financial would in many cases be more likely

6 Rôles and responsibilities (functional access rights)

6.1 General

At the functional level, the requirements assume a particular division of labour between distinct groups:

- end users
- local administrators, such as “super users”
- “custodians” as defined by Functional Requirements A.5.41 – A.5.44;
- records managers; and
- the system administrator[s].

A clear understanding of the types of rôles and the functions of each is required to get a clear picture of how the operation of the system is intended to operate.

6.2 Roles

Typically the broad description of the roles will be as follows (for more details refer to the *Functional requirements* or the roles defined in your own implementation):

- the **system administrator** has global powers over the application[s] and perhaps the underlying document repository (although the last role may be the preserve of a database administrator);
- the **records manager** rôle is typically responsible for the translation of senior management mandates on records management policy into implemented tools such as the business classification scheme, disposal schedules and access rights. Other information professionals may provide important assistance with some aspects, such as the maintenance of controlled vocabularies / metadata encoding schemes or the addition of specialist metadata close to the point of capture;
- the **local administrator** may have local powers resembling a cut down version of the records manager or system administrator role but normally over only a small portion of the classification scheme and its folders;
- a **records custodian** who may be given local administration rights insofar as they relate to certain access controls;
- the **end user** will mainly capture and retrieve records and other information from the system.

This division of labour and a degree of separation between some roles is important to preserve the auditability of the system as a whole and can normally be made to work

within the accustomed ICT management structure. This also requires different skills and competencies of each category and this issue and what can be done to assist with the end user at configuration is explored further in this guidance.

6.3 General configuration pointers

This model leaves a number of issues unresolved and some general pointers may be helpful:

- Except in a high security environment, it is desirable for all objects and metadata to be visible and retrievable by all users unless there is a specific reason (e.g. personal information) for them not to do so. Not to follow this point is to risk negating one of the principle benefits of ERM: improved information sharing as a corporate resource⁸. More is said on access control in the next section;
- A decision is required on whether the end user is sufficiently competent to have the power to create folders and parts as well as to capture records in them, or whether a 'super user' in their business area needs to do this for them;
- The end user's most common search interface will be viewing one of several types of metadata: the classification scheme, folder and record titles, etc. and only then having narrowed the possibilities the record content itself;
- There are a number of common misconceptions about metadata in a records management environment that need to be explained. This follows in the next section of this guidance; and

Finally, the importance of the XML representation of the TNA Metadata standard is stressed in the last section of this guidance, both for business focused interoperability and for archival transfer.

6.4 Access control configuration issues

There is detailed functionality in the Functional Requirements designed to support the UK government security model⁹ in a way appropriate for the electronic environment.

This includes some alternate configuration defaults articulated in requirements A.5.31, A.5.32, A.5.33 and A.5.34:

⁸ It also follows that the classification scheme design should not normally perpetuate organisational units operating as information 'silos'. For further information, refer to Business classification scheme design, TNA 2003

⁹ whilst this is primarily seen as a central government requirement, there are areas of other public authorities, e.g. resilience to terrorist attack, where information is shared with central government organisations and must be handled in the same way

- A.5.31(M) Where a folder has a higher security category, the ERMS must be capable of automatically upgrading the security category of a record with a lower rating to that of the folder in which it is contained.
- A.5.32(HD) The ERMS should allow a configuration option, to be set by an administrator, which allows a record to have a lower level security category than the folder in which it is contained.
- A.5.33(M) The ERMS must be capable of automatically upgrading the security category of a folder to the level of the highest rating of any of its contents.
- A.5.34(HD) The ERMS should allow a configuration option, to be set by an administrator, which allows a record to have a higher level security category than the folder in which it is contained.

Clearly it is not possible to have all these requirements operating simultaneously.

The two mandatory requirements A.5.31 and A.5.33 are derived directly from the security requirements and show their origins in the paper environment, but must accordingly be supported. The two highly desirable requirements are necessary refinements to that model sometimes required in the electronic environment to avoid the security model from becoming over-rigid (especially where only a very small number of protectively marked records are involved) or to prevent it defeating usability of the system as a whole.

6.5 Access to records from outside the organisation

In many government organisations, there are cogent security reasons why records management systems need to be completely separated from public web interfaces. We are, however, in an age of increased direct access and there are several pointers in the *Functional Requirements* on how this could be supported:

- the presentation requirements (see the previous section on FOIA), where the content and / or metadata of records can be rendered to a browser compatible format and made available through a public website;
- 'thin client' browser access (with search functionality only) could be pushed to an external portal, providing public access to records in the system;
- some public service web delivery projects will implement individuals' access to their case records by logging on through a web client

7 Usability and metadata

7.1 General

The main *Functional Requirements* relating to usability are in section A.8. This section explains important issues about records management metadata from the user rather than the records manager / system administrator / organisational point of view.

7.2 The end user and records management metadata – general

Records management metadata is a complex, specialised and at times technical subject. Within the confines of this, we have aimed to provide a metadata standard that is:

- understandable to a wide user community comprising records managers, information managers, system suppliers, integrators and information technology managers;
- practical to implement; and
- straightforward for the ‘average’ end-user to use

This last point is extremely important. Experience with ERM in the UK and other countries has shown that the ability of the end user to declare a record without undue effort is crucial to the success or failure of an implementation.

7.3 The ‘average’ end-user and metadata capture

In line with and supported by substantial parts of the software industry, the approach has been taken to promote this by making the ordinary end-user’s task at point of capture as simple as possible. The rule of thumb is they should typically be asked merely to decide that a document needs to be treated as a record¹⁰, specify the location in the classification scheme it is to be declared to and define (or edit) a title. This does, however, imply that the end user needs to be clear when they are required to declare a document (or group of documents) to be a formal record in the first place. It is helpful in this respect that, given the presence of the requisite system functionality, the more the metadata is system defined, the more robust the records management disciplines will be.

Beyond this, the only demand likely to be made of them is to complete any additional mandatory fields implemented by their organisation to suit particular business environments. Where additional user defined fields are present (i.e. fields to be populated by the normal end user rather than that system administrator), organisations will need to ensure that these personnel are properly trained to do this.

¹⁰ Dependent on the organisational culture and procedures for this to take place when it should – issues that are not within the scope of this document

7.4 Other information management users

Information professionals will necessarily have some understanding of the technical aspects of electronic records management and the place of records management metadata within it. Whilst there are quite a number of sub-elements specified in the scheme as user defined rather than system generated, many of these are not likely to require data entry by the ordinary end-user and relate to quite specialised tasks within the organisation's information and records management activity. For example, the recording of FOIA / DPA request information, changing access permissions or protective markings, recording aspects of preservation policy. This point should also emphasise the importance of adequate training and procedures for the personnel engaged in those other roles, especially if they are to be devolved more widely.

7.5 Metadata implications of the degree of integration between the document and records management environments

Care has been taken in all of the Requirements documents not to make assumptions about the extent of the integration between the document and records management environments, nor the design of the technology used to support this. However, pragmatically, records and document management applications are often convergent technologies and this can be advantageous if properly exploited. The exact fit will be dependent on the business requirements of individual organisations.

This means that in a number of cases, the Metadata Standard refers to a "document management environment" denoting little more than the stages of the preparation of a document prior to the actual transaction of public business, when the capture of the state of the document as a record is required.

Document management systems can typically allow more flexibility for end users to define both metadata fields and their population. It must be the eventual aim that all end users' information management skills (including those required for records management) will be developed progressively to support and in response to the *Modernising Government* agenda but this will not remove the need for automating the vast majority of records management metadata.

It is also a moot point whether many, if not most, documents produced in a public authority should really be managed as records in any case.

7.6 Resource discovery (searching) in a records management environment

Improved access to information is one of the principle benefits of ERM from the end user's point of view. In addition to resource discovery using record level metadata, there will be other tools present in a compliant system to aid retrieval (see *Functional Requirements* A.3.1 – A.3.19). In particular, corporate information structures, including classification schemes, folders and their metadata, will continue to be

valuable methods of retrieval for public records¹¹. In addition, ERMS normally provide such functionality as free-text retrieval to complement other methods.

In some quarters, the subject of “Metadata” has become almost synonymous with metadata schemas derived from the Dublin Core Metadata Element Set [DCMES]. It is simply not possible to use the DCMES to manage records properly. It may be possible to define a records management element set and establish a mapping of some sort back to some of the Dublin Core elements, but this cannot observe the usual DC rules such as “Dumbing down” rule and can lead to awkward semantic clashes with DCMES definitions¹². It is also important to realise that the mappings are only really meaningful for the resource discovery type fields in any case and even they have to be interpreted if the capture of records is not to be discouraged by onerous demands on the end user at capture stage.

Depending on the searching functionality provided to end users, organisations may have a need to educate end users in the different metadata that may be attached to records, how it was captured and its meaning for the interpretation of the records. For example, specifying date parameters in an advanced search screen (when conducting a metadata search) might not produce the expected results if the user is unaware that there will be date metadata present relating to records management processes (such as access control changes, disposal status, etc.) as opposed to just the initial creation of a document or its declaration as a formal record.

7.7 Display of metadata attributes vs. / holding at system [database] level

Most ERMS can be configured to display more user friendly representations of record metadata such as date, language than can be permissible in the values actually held by the underlying system. The importance of this for individual organisations will have to be determined by organisational business requirements.

For example, ISO 8601 is mandated by the UK Government Data Standards Catalogue for the formatting of date and time metadata values. This requires the format ccyy-mm-dd. An organisation wishing to encourage naming conventions on such things as date to promote improved searching might decide that the most user-friendly form for their naming convention for dates where they occur in titles etc. would be dd-mm-ccyy and display of metadata values in this format might promote this particularly in the transition to ERM. Clear guidance would have to be given on conduct of metadata searches within the ERMS depending on whether the search engine could convert a submitted date in this more ‘user friendly’ format and produce hits on the dates in the ISO format.

¹¹ Whilst the FOIA 2000 does not make it a requirement of information requests, it is likely that most information requests under it will relate to the conduct of actual public business rather than an interest in the information resource purely of itself. Even where it is, the context will often be required to establish the provenance and *meaning* of the resource

¹² such clashes are the reason why it is unwise to attempt to define a records management metadata schema from the starting point of DCMES or something derived from it

7.8 Formation of names etc, in titles

A related issue is the convention used in an organisation for the formation of names of people, organizations etc. in freetext titles. If the is not consistent, retrieval using these metadata fields will be compromise.

For example: if a naming convention is “Surname, Firstname”, the natural language form “John Smith” will not normally work as a search term. “John P. Smith” or “J Smith” would not be picked up by the natural language form whereas “Smith, J” may be.

7.9 Metadata implementation

The value of records management metadata is far more closely related to technical and management processes for its deployment than with resource discovery schemes.

Apart from resource discovery, metadata is required for:

- supporting and recording records management processes;
- supporting preservation and sustainability activity;
- providing evidence of the environment the records have been held in.

Given the importance in records management of authenticity and evidential weight, metadata capture mechanisms need to be quite different and far more robust (and generally automated). Even the type of metadata that will support most resource discovery needs, and will map quite closely to resource discovery standards, mostly operating through tools such as the business classification scheme, record aggregations and other ERM functionality. The main exceptions to this are:

- titling of records and folders; and
- (where appropriate) post coordinate indexing of objects, e.g. with subject terms from a controlled list where there is a functional classification scheme in place or freetext descriptions

In general, only the allocation of access control and other metadata specifically stated in the metadata standard is suitable for user definition. This may not itself be the role of the ordinary end user in all organisations as already noted. It also follows that there are very restricted circumstances where it can be permissible for users to alter metadata (particularly system generated metadata) after capture stage, although metadata addition may sometimes be appropriate.

In practice, there are a number of metadata fields where more than one function can be served metadata. Dates are an obvious example.

7.10 Sources of the metadata

Records management software compliant with the functional requirements captures the system generated metadata from the following sources¹³:

- the ERMS application;
- the operating system; or
- the authoring application of the document in question.

Thus application of record management metadata requires additional technical capability on the part of systems compared to the resource discovery metadata, but not (in this respect) from end users, whose task is, by comparison, far simpler. At the record level, much of the metadata is in any case inherited downward from higher entities in the classification scheme on declaration of the record. This is another reason why the integrity of record aggregations also needs to be maintained to the maximum degree possible.

This also means that at systems design and configuration stages, care needs to be taken to ensure that the relevant metadata is captured and from the right source. A flat listing of the metadata elements present in the *Metadata Standard* is included in the *Reference Document* and this format is perhaps more useful in the configuration of systems. Nowhere is this more important than in the capture of email transmission data and specific guidance on the mapping of this is also contained in the *Reference Document*.

¹³ i.e. populating the relevant metadata fields with values taken directly from the source, the mapping to the field in the ERMS being clear and auditable

8 Positioning of Metadata Standard

8.1 General

The prime function of the *Metadata Standard* is to define a transfer / export standard in the spirit of e-GIF and to support data sharing, transfer of archival records and the movement of records aggregations following machinery of government changes. The concentration is on maintaining the “recordness” of the records. This involves the *Metadata Standard* forming volume 2 of this series being represented by XML schemas. These will be published on <http://www.govtalk.gov.uk> as consultation drafts and then as finalised schemas.

There will still be other metadata around in implementations: the schema shows that which has been identified as essential to accompany the records across platforms. This is the only metadata that will be capable of being moved using the standard XML schemas in an automated fashion¹⁴. Steps are also being taken to support the processing of other metadata should that be required but automation of this beyond parking in queue for processing will probably be the responsibility of the organisation[s] concerned.

These points should be remembered when diverting significantly from the specified *Metadata Standard*.

8.2 Producing a ‘local’ metadata schema: relationship with e-GMS

Metadata schemas for a specific organisation’s records management have to serve a number of functions:

- supporting resource discovery in the records management environment;
- integrating as far as possible into the resource discovery / knowledge management activities of the organisation by mapping to the domains of other activities and technologies¹⁵;
- supporting specialised metadata requirements according to the business activities of the organisation, e.g. GIS, criminal justice,

It is a relatively simple matter to adopt a subject thesaurus as an encoding scheme, but far more complex to determine how the generality of national standards can map to local schemas.

TNA's *Metadata Standard* forms the implementation of the e-GMS¹⁶ in the ERM environment and provides the implementation guidance. Consequently, compliance with it is deemed to be compliance with the e-GMS. [This has the advantage that only one document has to be considered for the purpose of e-GMS compliance,

¹⁴ other schemas may be required for non-standard office systems (e.g. Lotus Notes) or where for other reasons the local schema does not resemble the generic one identified by TNA in consultation with a working group of central departments in 2002

¹⁵ albeit it may be relatively simple in the case of document management: see previous page

¹⁶ from e-GMS versions 2 onward

although local implementations may still need to take additional elements from the resource discovery e-GMS element set.

8.3 e-GMS elements not covered

The following e-GMS elements are not covered by the Metadata Standard for the reasons stated [it will be observed that a number have little or no meaning in the context of record rather than document management / resource discovery]:

e-GMS element; obligation	Comment
Accessibility ; M if applicable	Defined in terms of web pages only
Audience ; O	As defined has little to do with records management
Coverage ; R	[Being introduced to satisfy local government needs, 2004]
Creator.Contributor ; O	Some potential for implementation as an additional sub-element of Creator but not considered to be part of the generic cross government requirement for ERM. Unlikely to be linked to system functionality and may have more meaning in the document management environment and some departments may wish to implement as a user defined field
Publisher ; M where applicable	May have more meaning in the document management environment
Status ; O	Defined largely in terms of document rather than records management

In these cases an integrated records and document management solution may give some scope for assisting users in complying with these additional requirements for document management inherent in the e-GMS (especially the two 'mandatory where applicable' elements).

Where this is being implemented, it must be remembered that the source and capture mechanisms for metadata at the point of declaration any of these documents to be formal records (or parts of records) should comply with the *Functional Requirements*. This is a configuration issue: although there are some metadata values that can be safely carried forward from the document management to the records management domain (e.g. *Subject* and *Description*) and the saving of user effort is valuable here, this may not be compatible in other cases with the correct source as indicated in this *Standard* and the *Functional Requirements*. If the incorrect source of the metadata is used, evidential value is usually undermined.

8.4 Metadata elements slightly different in scope in e-GMS

Finally, there are a few elements resembling those in the e-GMS but with significant differences of scope in the records management environment:

Format	<i>Physical format</i> (including medium) is excluded here owing to the scope of the core <i>Functional requirements</i> (<i>hybrid management</i> is an optional module)
Relation	The demands of maintaining the relationships between records of public business and controlling multiple references to the same record (as in the <i>Functional requirements</i>) mean that there are some very specific uses of this element in records management. Controlled relationships between records are distinct from user defined 'see also' and other relationships which have more commonality with the e-GMS refinements of <i>Relation</i>
Type	'Record type' is a highly specific sub-element of <i>type</i> which is aimed at facilitating DPA compliance.
Type / Aggregation	The vital importance of aggregation in the records management scheme necessitates its promotion to the status of a main element. It has been agreed with the Office of the e-Envoy that from e-GMS2 onwards, e-GMS will include Aggregation as a main element (the mapping to e-GMS v.1 is to Type.Aggregation)

8.5 Different obligation levels

For a few similar metadata elements, the 'obligation level' (whether the capture of a value is mandatory or not) in the ERM environment is different from that for resource discovery. In many of these, *more* metadata is required to support and record the records lifecycle and it is necessary to be more specific about the source of the metadata¹⁷.

The obligation level on *Subject*, though, is lower: mandatory in the DC set / generic e-GMS but optional in the ERM environment.

This is for a number of reasons. Where a classification scheme itself contains *Subject*, there is little point in requiring end users to capture the same value in another field and doing so could mean it is less likely that records are captured in the first place.

It does mean that some thought should be given to making *Subject* mandatory in local implementations where a functional principle determines the classification scheme. Another consequence is if the records are taken out of their current arrangement, it may be necessary to tag them with subject metadata at this stage.

¹⁷ and in the future it will probably be necessary to be more specific about the syntax also

9 Archival requirements

9.1 General

Throughout the *Functional Requirements*, there are many requirements that are of benefit both to current records management for business purposes and the preservation of electronic records for permanent preservation in an archive. The implementation of a business classification scheme should be of use in distinguishing important information from the ephemeral. As a further example, the *Metadata Standard* and associated XML schemas define a standardised exchange of metadata that can support both archival transfer and the movement of records from one organisation to another (e.g. on transfer of functions) or from one technical platform to another (system migration)¹⁸.

9.2 “HD” and “D” requirements

There are, however, a number of requirements that are likely to be of more relevance to an organisation with a larger proportion of its records destined for long-term retention and / or preservation. For this reason, these requirements are in general “HD” or “D” requirements. For example:

- The rendition, redaction requirements (A.2.12, A.2.56 – A.2.60, A.4.57)
- Preservation metadata capture / addition (which is only directly associated with functional requirements A.2.5 / A.2.8 but has more detail emerging in the Metadata Standard¹⁹)
- Component relationship handling in XML schemas (by extension from A.2.8 again).

¹⁸ TNA is also looking at the issue of the handling / mapping of any additional metadata accompanying records from ERMS that have been selected for permanent preservation.

¹⁹ aside from the generic capability to manage a compound object as in A.2.5 and A.2.8, other capabilities similar to those outlined in the *Generic requirements for sustaining electronic records over time* may be required

10 XML schema representation of records management Metadata standard

10.1 General

The XML schemas developed to represent the *Metadata Standard* in XML will be published for consultation and available in finalised form on the Govtalk website (<http://www.govtalk.gov.uk>). Implementation guidance will also be issued.

The use of XML as the medium for the exchange of the metadata from an ERMS is an important part of e-GIF compliance [the relationship with e-GMS is also covered in the previous section].

10.2 Summary points

The technical detail will mainly be of interest to designers and integrators, but a number of important summary points can be included here.

The e-Envoy's schema design guidelines require the definition of reusable schema 'fragments' that can potentially be brought within other exchange standards. The ERMS schemas themselves reuse several schemas from other parts of the e-GMS. It is hoped that a number of software suppliers will support export to these schemas as a standard interface or one stylesheet away from their standard interface, making the stylesheet available to UK public sector organisations as part of their standard product package.

Public Authorities adopting their own local metadata schemas for ERM solutions should be aware that the departures will not be supported by these generic XML schemas without custom scripting. A specific schema, manual or semi-automated processing will be required to exchange this metadata.