

Requirements for Electronic Records Management Systems

2: Metadata Standard

2002 revision : final version

Requirements for Electronic Records Management Systems

1: Functional Requirements

2: Metadata Standard

3: Reference Document

4: Implementation Guide

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2. Metadata Standard

SUMMARY	1
SECTION 1: INTRODUCTION TO RECORDS MANAGEMENT METADATA	2
SECTION 2: RECORDS MANAGEMENT ELEMENTS	5
1. IDENTIFIER	7
2. TITLE	8
3. SUBJECT	9
4. DESCRIPTION	10
5. CREATOR	11
6. DATE	12
7. ADDRESSEE.....	14
8. TYPE.....	15
9. RELATION.....	16
10. AGGREGATION.....	18
11. LANGUAGE	20
12. LOCATION	21
13. RIGHTS	22
14. DISPOSAL.....	25
15. DIGITAL SIGNATURE	27
16. PRESERVATION	28
17. MANDATE	29
ANNEX: METADATA 'STUB' REQUIRED TO RECORD THE PRE-EXISTENCE OF DISPOSED RECORDS	31

Summary

This *Metadata standard* should be read in conjunction with the accompanying series on *Requirements for electronic records management systems* and particularly the first volume, *Functional requirements*. The references to metadata in the requirements are spread throughout the latter document with explicit sets of metadata requirements in sections A.1 & A.2. References to the *Functional requirements* contained in this *Metadata standard* are not exhaustive but are aimed at linking the most relevant and important points between the two.

A flat listing of the metadata contained in this Standard appears in the accompanying *Reference document*. This presentation may be more useful to systems suppliers and integrators.

To comply fully with the *Functional requirements*, suppliers will need to produce systems that can export record metadata in the XML schema that will follow the final version of this Standard and provide comprehensive management information in response to reporting functionality specified in the requirements. This is essential to ensure compliance with the e-Government Interoperability Framework (e-GIF)¹. The metadata specified is also required to support the functionality in the *Functional Requirements*.

The Office of the e-Envoy and the Public Record Office have agreed that this Standard will be incorporated into the e-Government Metadata Standard

Audience

The intended audience is information managers and information technology managers in UK central government and the software supplier / integrator community².

Working group

It has been produced by the Public Record Office in consultation with a working group with representation from the following organisations:

Office of the e-Envoy
HM Customs and Excise
Department of Trade and Industry
Department for Transport, Local Government and the Regions
Department of Health
Lord Chancellor's Department
Ministry of Defence
National Archives of Scotland
National Assembly for Wales
Scottish Parliament
Cornwell Management Consultants plc.

The PRO will, in consultation with the Office of the e-Envoy, be developing an XML schema to support the exchange of records management metadata in accordance with this Standard

¹ References are listed in the accompanying *Reference document*

² Both documents have been produced with the needs of central government departments and agencies in mind and other organisations should remember their own business requirements may be different

Section 1: Introduction to records management metadata: what is 'Metadata'?

Metadata is usually defined literally, as 'data about data'. From its early usage to denote the field labels of flat file databases, it has acquired new meanings in information and information technology management that are somewhat context-dependent.

In the library and information management field, it is used for information describing a resource in many of the ways associated in the past with bibliographical referencing: author, subject, position in a pre-defined subject classification scheme are obvious examples. It also has the capability to support more sophisticated ways of managing and distributing information that are often given such labels as knowledge management and information resource management.

Metadata and the management of electronic records

The most important characteristic of electronic records management metadata is, that it is what gives an electronic record its 'record-ness'.

ISO 15489 (paragraph 7.2) gives the general characteristics of a record as: '*a record should correctly reflect what was communicated or decided or what action was taken. It should be able to support the needs of the business to which it relates and be used for accountability purposes*'. The consequent definition of metadata given in ISO 15489 runs: '*data describing context, content and structure of records and their management through time*'.

One of the principal properties of an electronic document (as opposed to an electronic *record*) is that it can readily be edited. Preventing this from happening to records where it should not and auditing where it *has* apparently happened are vital issues.

Where properly implemented, records management metadata does this by:

- supporting record retrieval;
- supporting the wide range of records management processes in the *Functional requirements*;
- establishing the provenance of the record (ISO 15489 describes this as 'the context in which the record was created, received and used should be apparent in the record, including the business process of which the transaction is part, the date and time of the transaction and the participants in the transaction');
- showing whether the record's integrity is intact (e.g. it has not been subject to changes after being fixed as [or 'declared'] a final record)³;
- 'demonstrating that the links between documents, held separately but combining to make up a record, are present'⁴;
- demonstrating that the relationships between separate **records** are present;
- providing essential information to support interoperability / sustainability of the record between platforms and across time and technological platforms⁵.

³ Essentially what happens at record 'declaration' is that the content and most of the applicable metadata is fixed as it is at that point and cannot be changed. ISO 15489 again: '*the structure of a record, that is, its format and the relationships between the elements forming the record, should remain intact*'. One is left to infer 'to an appropriate evidential level'

⁴ Quoted directly from ISO 15489: arguably, this is an issue of provenance and integrity, but one of so much importance as to merit this promotion to a point in its own right. Certainly, the importance of aggregation levels to the metadata requirements that are to follow would be difficult to overestimate; see **element 10**

⁵ i.e. the migration approach, rather than of the computer museum or emulation being the expected norm for e-preservation (ISO 15489 is format independent and would not be expected to tackle this electronic records issue directly)

Aggregation levels: at part, folder and fileplan level

Record metadata should be dependent (in part) on its relation to business process. If a folder or folder part contains the records of that business transaction, then there will be metadata elements in common that the constituents should share.

Declaration of a document as a record and entering it into a container (i.e. 'filing' it into a folder) is analogous to associating it with the relevant part of the corporate information structure (fileplan). It therefore follows that this operation should lead to the generation of some of the record metadata by carrying it through from the folder metadata.

This effectively automates the application of those metadata elements, embedding them at the same time into the business processes that creates and captures the records. Providing the correct container is selected, the metadata will be consistently applied. The logic of this also applies higher up the fileplan structure, with folders inheriting relevant element values from their 'parent' objects.

Inheritance principle, 'explicit' and 'tacit' metadata

The Public Record Office requires⁶ that public sector records management is implemented by associating individual records with others that form a part of the same transaction or theme (or related group of transactions) by entering into a point in a corporate information structure or fileplan. This has the advantage of supporting accountability, for example through judicial review of the process (and the information available at the time) by which a decision was reached.

The folder level is the primary aggregation used to support this (see below). As explained in the *Functional requirements*, many attributes of fileplan objects described in the metadata are populated by the principle and functionality of inheritance from the higher object to the lower⁷. There are other important advantages to this, for example the ordered management of retention and disposal can be achieved by the assignment of a retention period based on the business need for the records and appearing in a retention schedule. It also permits a pragmatic approach to consistent metadata application.

The inheritance principle (*Functional requirements* A.1.20 – A.1.24, A.1.29 – A.1.36 and A.1.56) means that a substantial amount of metadata at any aggregation level is usually inherited from the level(s) above.

It is important to distinguish in planning an implementation where these inherited values are either:

- part of the metadata of the inheriting object; or
- where they only subsist at the higher level of aggregation and will be used to trigger lifecycle events on the inheriting objects (**14. Disposal.schedule identifier** is the obvious example) through the operation of the ERMS.

Nearly all of the metadata is specifically required to be held in a tightly-bound relationship with the fileplan entities as indicated in the element descriptions, the exceptions being where sub-elements of **13. Rights** and **14. Disposal** are inherited from a higher level in the fileplan in accordance with the inheritance principle (see above) and may, in some solutions, only be held at that higher level.

⁶ *ERM policy framework; Management, appraisal and preservation of electronic records* Vol. 1: Principles, see also *Functional requirements*

⁷ Except where this principle is specifically overridden at a lower level as described in *Functional requirements* A.1.23 and A.1.35

The exact technical solution in place will determine which is the case⁸. *Functional requirements* A.7.8 – A.7.11 (Reporting) are drawn to the attention of suppliers and departments as clarifying what systems that do not hold the specified metadata individually with every entity as well as the requirement to be able to extract management information as well as export in accordance with this standard and the XML Schema to be developed following it (*Functional requirements* A.4.50 – A.4.63).

This Standard, in conjunction with the *Functional requirements*, clarifies at what level metadata is to be applied to demonstrate this inheritance principle.

Note on preservation issues

This Standard indicates, for the first time, some metadata at the component level (i.e. a level below that of the individual record and consisting of the single physical object (i.e. the smallest level of granularity the operating system can handle - MS-DOS or UNIX file level). This is the first phase of extending PRO guidance on metadata into the areas of sustainability and preservation of business records within departments. This Standard needs to be extensible to allow for these developments to follow⁹.

The result of this – **16. Preservation**¹⁰ is a marker that is being put down at this stage to flag up an area that will be returned to during the current year (2002-03)¹¹. It is expected that the definition of requirements and accompanying metadata for sustaining records in departments for periods of up to 70 years¹² as well as permanent preservation in the national archives will lead to additions to this area of the metadata framework. It is important that this *Standard* has the extensibility to accommodate these. However, this does not form part of the metadata required for current records management using the present *Functional requirements*.

Recommendation

The PRO and the Office of the e-Envoy have agreed that this *Standard* and the e-GMS are aligned and the e-GMS will be incorporating this records management standard and its elements at its next revision¹³. Compliance with this standard satisfies the requirements of the e-GMS for material comprising formal electronic records.

The 17 elements and their sub-elements are necessary to support the cross-government *Functional requirements* for effective electronic records management in UK central government.

⁸ i.e. some may choose to capture the inherited metadata at every level of aggregation ('explicit' metadata), cascading them down from the parent. In others, the metadata only exists 'tacitly', meaning that it is applied and held bound to a higher level in the fileplan and only directly relevant to the subordinate objects when certain processes are run in the ERMS (e.g. export, access is sought to particular records, disposal of records falls due, reporting).

⁹ A separate workstream – establishing the metadata required for the permanent preservation of electronic records in the national archive – is expected to be broadly consistent with the output of this work

¹⁰ Element **16. Preservation** does not (at the present) have any implications for ERMS functionality

¹¹ It is important for the implementation of the XML schema that will follow this Standard that these areas are outlined now within the overall framework to avoid radical changes to retrofit these later

¹² for *business* rather than historical purposes: e.g. personnel or health and safety records

¹³ as implied in the details highlighted in the 'e-GMS mapping' sections of individual elements **10.**

Aggregation and 17. Mandate

Section 2: Records management elements

The remainder of this document contains explanation of the records management metadata elements themselves with particular points explaining their source, application, obligation level and significance. For ease of reference, the elements are listed below:

1. **Identifier**
2. **Title**
3. **Subject**
4. **Description**
5. **Creator**
6. **Date**
7. **Addressee**
8. **Record type**
9. **Relation**
10. **Aggregation**
11. **Language**
12. **Location**
13. **Rights**
14. **Disposal**
15. **Digital signature***
16. **Preservation***
17. **Mandate**

*Note: elements **15. Digital signature** and **16. Preservation** are under development

A tabular format is used for each element, varied only very slightly to impart the relevant information for individual elements. The following table includes all the categories involved and explains how the table for each element expresses the information.

Functional Requirements for Electronic Records Management Systems : Metadata Standard

Definition	The brief definition of the element				
Purpose	The purpose of the element				
Rationale	The reason behind the element (i.e. its function within the records management Standard and link to ERMS functionality) if explanation of this is required beyond that given under <i>purpose</i>				
Obligation	Whether mandatory or optional in accordance with this <i>Standard</i>				
Aggregation level	At what level(s) of aggregation the element is used (i.e. class, folder, part, record, component)				
Use conditions	How the element is to be used. This is picked up in detail in the following fields, particularly <i>schemes</i> and <i>comments</i>				
Repeatable	Indicates whether there can be more than one value for this element applicable to the same object				
Sub-elements	Indicates whether there are sub-elements (broadly equivalent to <i>Refinements</i> in the e-GMS) possible for this element ¹⁴ or the <i>same</i> sub-element. Where there are, the field is subdivided showing the possible values allowed in the Standard:				
	Sub-element	Aggregation level	Obligation	Source	Encoding schemes
	Sub-element name	Level of aggregation where it applies	Mandatory, Recommended or Optional	Whether system or user derived	Any encoding scheme is use for this sub-element
Assigned values	This field only appears against the Aggregation element and represents the unique <i>encoding scheme</i> for this element, corresponding with the entities in the <i>Functional requirements</i>				
Default value	The value (if any) that should be inserted as a default if no other value is specified by the relevant capture mechanism				
Source	<p>Whence the value for this element is derived. This will typically be from the operating system, the ERMS or the authoring software of the document being declared as a record at the point of declaration (or a combination of these). It may also be inherited from a higher level of aggregation. Occasionally, user definition will be indicated (e.g. record <i>Title</i>)</p> <p>This field will clarify when the user would typically select from a pick list (enforced as an <i>encoding scheme</i>) within the ERMS, integrated with it or from other business rules</p> <p>At higher levels of the fileplan (class level) 'user definition' may mean the administrator function rather than the normal end user. This is clarified in the <i>Source</i> field for the individual elements, where applicable</p>				
Schemes	The encoding scheme (or list of possible values) used as business rules for populating this field. These may be implemented as pick lists in the ERMS itself or present in some other form.				
Comments	Any comments which are required to clarify aspects of the element which do not fit into other categories				
Example(s)	Example(s) of how the element might be populated in use				
e-GMS mapping	Equivalent elements in the e-GMS				

¹⁴ The term 'Sub-element' is preferred to 'Refinement' (employed in the e-GMS) as it lends itself more readily to being understood in the alternative view of the same Standard ordered by aggregation level (see *Reference document*) and is the terminology used by other records management metadata standards. However, they are broadly equivalent.

1. Identifier

Definition	Unique identifier for an object, either on the fileplan or within the system, be it an individual record (declared document) or an aggregation of records				
Purpose	The unique identifier is a code (potentially any combination of numeric and alphabetical values) distinguishing an object from others				
Rationale	<p>The System ID (sub-element 1) is for the purposes of the internal processes of the ERMS (including the underlying database repository) and will rarely, if ever, be visible to the end user, although it can be a useful tool for administrators accessing other information about the fileplan object (e.g. interrogating the audit trail).</p> <p>The Fileplan ID (sub-element 2) is the reference derived from the fileplan. This is a cumulation of information inherited from higher levels of aggregation in the fileplan as required in <i>Functional requirement A.1.14</i>, according to the following rationale:</p> <ul style="list-style-type: none"> • The branches of the fileplan at each level will possess a code according to the logic of the classification scheme in use; • In an hierarchical scheme, these codes will cumulate with those existing above them in the fileplan so that the fileplan ID is a reference consisting of a combination of the references above, plus an identifier for the object itself (class, folder and part level); • This information will be applied automatically to descendant objects, though not normally below part level (the only identifier below part level is likely to be the UID unless some form of sequence number within the folder / part is implemented) 				
Obligation	System ID is Mandatory at all levels (<i>Functional requirement A.9.3</i>) Fileplan ID is mandatory at Class, Folder and Part levels				
Aggregation level	Record (A.2.49), part, folder and class levels				
Use conditions	-				
Repeatable	No				
Sub-elements		Aggregation level	Obligation	Source	Scheme
	1. System ID	Class, folder, part and record level	Mandatory	System defined	System
	2. Fileplan ID	Class, folder and part level	Mandatory	System defined except at the highest class level [see Rationale]	Fileplan structure
Default value	None				
Source	See sub-elements				
Schemes	System or fileplan (see sub-elements)				
Comments	-				
Examples	<p>[Sub-element 1: The format and appearance of system IDs are system specific].</p> <p>Sub-element 2: If an area of a hierarchical fileplan concerned with Data Protection issues (under a code 'DTZ'), at the next level regional office <i>notifications</i> under DPA are coded '004' and the identifier for the West Midlands region '047', the fileplan ID of the second folder part in this case would be 'DTZ/004/047/002'.</p>				
e-GMS mapping	Identifier (direct equivalent)				

2. Title

Definition	The title given to the record, folder or class
Purpose	To assist in identification, including for retrieval purposes
Rationale	Selection of a meaningful title, i.e. one that gives relevant information about the content as an information resource or its significance in a business process
Obligation	Mandatory
Aggregation level	Class, Folder and Record level
Use conditions	<p>Title can be implemented as either a natural or controlled language equivalent of the Fileplan ID where that is the naming convention in force. Thus at fileplan level, Title will be an identifier to distinguish the branches of the fileplan. As with fileplan identifier codes, where a hierarchical scheme is in use they <i>may</i> be deemed to cumulate down the hierarchy with each level picking up the title attributes of their superior objects (as in the example below and <i>Functional requirements</i> A.1.20 & A.1.36)</p> <p>At record level it is far more likely to be implemented as a freetext title</p>
Repeatable	No
Sub-elements	-
Default value	None
Source	User defined unless default capture is implemented through the document management environment
Schemes	Organisational (fileplan) naming conventions
Comments	<p>Users will often have to specify record titles with a view to their use as a retrieval aid by themselves or other users. This needs to be informed by organisational naming conventions.</p> <p>Alternatively, title can be either a natural or controlled language equivalent of the Fileplan ID.</p> <p>Capture of some documents as records will lead to the population of title fields in record metadata from mapped fields in the document, e.g. email subject lines.</p> <p>These defaults should not <i>necessarily</i> be accepted unless the title line is both appropriate and useful (<i>Requirements</i> A.2.16 – A.2.17). Care needs to be exercised in declaring forwarded emails as there is a danger that a number of records could be saved with undistinguishable titles as a result. This would deprive users of a useful means of distinguishing them, especially where the discussion contained in the string has shifted in its emphasis and could be more precisely described</p>
Examples	[Class level]: Policy - Criminal justice - youth custody - residential facilities. See also examples in <i>Functional requirements</i> A.1
e-GMS mapping	Title direct equivalent (apart from details of application: see Comments)

3. Subject

Definition	Keywords or phrases describing the subject content of the resource
Purpose	Providing a more structured retrieval aid to searching than can be achieved with Title
Rationale	see <i>purpose</i>
Obligation	Optional (Recommended at folder and class levels of aggregation ¹⁵)
Aggregation level	Potentially applies at any level of aggregation (raising system configuration issues not covered in the <i>Functional requirements</i>), but especially at record and folder level
Use conditions	Terms that most precisely and specifically define the subject area should be used (i.e. excluding more general terms)
Repeatable	Yes
Sub-elements	-
Default value	None
Source	User defined
Schemes	Local thesaurus if in use, other controlled subject lists (e.g. Government Category Lists could be implemented as a default at class level): <i>Functional requirement A.1.24</i>
Comments	Departments where organisational policies require the use of a thesaurus will wish this to be mandatory in their ERMS
Examples	-
e-GMS mapping	Subject direct equivalent

¹⁵ the ability to support the capture of this metadata in system functionality is a mandatory *Functional requirement*, see A.1.36 and A.2.33

4. Description

Definition	Freetext description of the resource
Purpose	Provides additional detail that may be more helpful to some users than Subject, Title, Fileplan ID and UID when searching
Rationale	see <i>purpose</i>
Obligation	Optional
Aggregation level	Potentially applicable at any level of aggregation (raising system configuration issues not fully covered in the <i>Functional requirements</i>), but especially at record and folder level. Support for the functionality is mandatory at <i>Functional requirement A.1.38</i>
Use conditions	To be useful, descriptions need to be brief as a user may be browsing through a list of search results only showing the first part of the text. There is no point in merely duplicating the information captured in the Subject element as this adds no value
Repeatable	Yes
Sub-elements	-
Default value	None
Source	User defined
Schemes	Organisational naming conventions and guidance may be in force
Comments	-
Examples	At record level: <i>Case papers disclosed to the defence</i> Alternatively the document summary could form the description At class level, a scoping note could be added for the description
e-GMS mapping	Description direct equivalent

5. Creator

Definition	The person responsible for the content of the resource up to the point of declaration as a record
Purpose	Identifying the individual(s) and/or organisation(s) responsible for the intellectual content of the record
Rationale	Establishment of an important aspect of the context of the record; correspondence with resource discovery framework of e-GMS
Obligation	Mandatory (if available for externally generated records: see use conditions)
Aggregation level	Record level
Use conditions	<ul style="list-style-type: none"> • Availability of creator information (as defined from the document creation / management environment) will operate in different ways according to business rules and the technology in place • At the point of declaration of the document as a record, this information needs already to be present by these processes and will be finalised at this point • For material received from outside the organisation, the Creator organisation may be the only available information except in the case of emails where the transmission information should include the sender
Repeatable	Yes
Sub-elements	-
Default value	-
Source	Login of user in native [i.e. authoring] application [ultimately derived from the operating system] or document management software may be implemented as a default. However, there will be circumstances (e.g. collaborative working scenarios) where this will require amendment to some other person who is responsible for the content of the record resource (<i>Functional requirement A.2.40¹⁶</i>). For example, where a secretary has begun the drafting of a document for the authorization of a colleague, it is the colleague who needs to be identified as the creator
Schemes	-
Comments	The value for this element will not always be the same as the person responsible for the <i>declaration</i> of the resource as a record. In an ERMS compliant with the <i>Functional requirements</i> much contextual information on the provenance of the records will already be present in metadata, information structure and content
Examples	-
e-GMS mapping	Creator equivalent (albeit the refinement <i>Contact</i> does not apply and <i>Contributor</i> has essentially a document management application)

¹⁶ This should not however be possible for emails (see email mapping in *Reference document*)

6. Date

Definition	Date (and time) an important lifecycle event occurred to a resource excluding disposal events which are sub-elements of 14. Disposal			
Purpose	Identifying vital events for information and evidential purposes (and in the case of email, the transmission date and time)			
Rationale	see <i>purpose</i> . Many ERMS processes use date values to trigger other events (e.g. disposal) according to pre-defined business rules			
Obligation	Mandatory			
Aggregation level	See sub-elements			
Use conditions	-			
Repeatable	No			
Sub-elements	Name	Obligation	Aggregation level	Source
	1. Date.Created	Mandatory for all internally generated records	Record level	Document management environment
	2. Date.Acquired	Mandatory for email (A.2.44), optional for other records but recommended for all externally produced material	Record level	System generated for email, user defined for other records
	3. Date.Declared	Mandatory (A.2.13 & A.2.45)	Record level	ERMS
	4. Date.Opened	Mandatory	Folder level [A.1.39 – A.1.40]	User defined
	5. Date.Closed	Mandatory (optional at class level)	Folder and part level [A.1.59-60, A.1.41-44, A.1.7]	User defined
	6. Date.cut-off	Optional	Part level	According to business rules implemented at integration stage – <i>Functional requirement</i> A.1.60
Default value	-			
Source	<p>Date.Created is applied to an individual record automatically from an authoring application (e.g. email client, word processing application) and Date.Acquired from the email client (see email mapping in the <i>Reference document</i>)</p> <p>Date.Opened and Date.Closed are generated by an authorized user applying the current [server] date with the proviso that Functional requirement A.1.39 specifies the ability for an authorized user to have the option of altering Date.Opened on entering the first contents into the container</p>			
Schemes	<p>[All sub-elements] W3c / ISO / Office of the e-Envoy e-GIF <i>Government data standards catalogue</i> (see <i>Requirement A.2.48</i>)</p> <p>Max 10 characters for date in the format CCYY-MM-DD</p> <p>Max 6 characters for time in the format hh:mm:ss</p>			
Comments	<p>[See also Disposal for disposal date elements]</p> <p>Date.Declared is one of the principal events in the life of an electronic record without which its integrity and record value is in doubt.</p>			

Functional Requirements for Electronic Records Management Systems : Metadata Standard

	<p>It is the point at which the record came under the full records management control of the ERMS (<i>Functional requirements</i> A.2.13 & A.2.44. Declaration does this by fixing the content and most of the metadata for accountability, audit, admissibility and other purposes. It is not to be confused with creation of the document (Date.Created) in the document management environment (i.e. <i>prior</i> to its becoming subject to records management system control)</p> <p>Date.Cut-off is a specific event implemented as a business rule in some systems imposing a rigid end point on the aggregation that will be used to calculate effective retention activity from an external event (e.g. FYE, General election) even if later content has been [mis]filed prior to formal closure of the file. This is a discipline used (<i>inter alia</i>) to ensure failure to close folder parts does not frustrate retention policies</p>
Examples	-
e-GMS mapping	<p>A number of e-GMS refinements relate to the document rather than the records management environment: Date.Available, Date.Issued, Date.Modified, Date.Available, Date.Updating frequency, Date.Valid</p>

7. Addressee

Definition	The person (or persons) to whom the record was addressed
Purpose	Identifying the person(s) the record was dispatched to ¹⁷
Rationale	Important contextual information to assist in the interpretation of the content of the record
Obligation	Mandatory for email only (<i>Requirements A.2.45-A.2.47</i>). Optional for other record types
Aggregation level	Record level
Use conditions	In the document management environment, document production functionality may provide available metadata on addressees / intended recipients that can be captured automatically on the point of declaration. This may well be implemented through workflows or templates that treat the addressee information in a highly structured manner
Repeatable	Yes
Sub-elements	-
Default value	-
Source	Email client for emails. Document management system / environment for other records
Schemes	-
Comments	Apart from emails, this is unlikely to be implemented in the absence of document management / workflow applications – except as a purely user defined field of information value only. See email mapping in <i>Reference document</i>
Examples	-
e-GMS mapping	None. Not to be confused with Audience or Rights .

¹⁷ This does not provide evidence that the intended person actually received or read it

8. Type

Definition	Type of record that in some respect displays behaviour different from that of the default type (Requirements A.2.26 – A.2.29, A.2.43 and A.4.19 - A.4.21)			
Purpose	Promotion of DPA compliance			
Rationale	Data protection (fair processing) provisions may dictate that some information is required to be processed for periods shorter than that of the folder in which they are most appropriately stored in the fileplan			
Obligation	Mandatory where applicable			
Aggregation level	Record level			
Use conditions	See comments			
Repeatable	No			
Sub-elements	Name	Aggregation level	Source	Schemes
	Type.Record type	Record level	User defined unless configured tightly	Organisation's list of record types
Default value	'default' (see Functional requirement A.2.27)			
Source	System generated			
Schemes	An organisation's list of the record types in use			
Comments	<p>The Functional requirements envisage the scope of Type.Record Type as centering tightly on the need for DPA compliance. The 'default' record type should determine the behaviour of almost all records (disposal behaviour in the event of conflict resolution is explained in Functional requirements A.4.41 and A.4.43)</p> <p>It is expected that the implemented Record Types will overlap with templates implemented in the document management environment</p>			
Examples	<p>In a civil servant's personal file held by personnel functions, the main file will require retention for up to 72 years for superannuation purposes. Annual appraisals, leave records etc., will logically form part of this record and contain personal data but have a more limited useful life and their behaviour in terms of retention needs to follow a different rule from that of the rest of the folder/part</p>			
e-GMS mapping	Type.Record type			

9. Relation

Definition	Identifies instances where a record has a direct relationship with that of another (content or a direct business process relationship) or clarifies how a record at one level of aggregation relates to other levels			
Purpose	Establishing the relationship in metadata to make it explicit and available for automatic processing			
Rationale	Inheritance of rules and management of objects in multiple instances through the fileplan are inherent in the <i>Functional requirements</i> . The ERMS needs the ability to manage disposal conflicts, redaction and assist in the management FOI and DP queries on fileplan objects			
Obligation	Mandatory where establishing and maintaining the relations specified are implemented in the ERMS entirely within the records management environment Looser relational links can be established using sub-element 7 [or other user-defined fields]			
Aggregation level	As shown			
Use conditions	-			
Repeatable	Yes			
Sub-elements	Name	Aggregation level	Obligation	Source
	1. Copy / pointer	Record level	Mandatory if present ¹⁸	ERMS (see <i>Functional requirements</i> A.2.21 – A.2.24, A.2.52 – A.2.54 and A.4.40)
	2. Child object	Any	Mandatory	ERMS
	3. Parent object	Any	Mandatory	ERMS
	4. Redaction / Extract	Record level	Mandatory if present ³⁸	ERMS
	5. Reason for redaction / extract	Record level	Mandatory if present	User defined
	6. Rendition	Record level	Mandatory if present ³⁸	ERMS
	7. 'See also' relational links	Folder and record levels	Optional	User defined
	8. Hybrid paper folder relational links	Folder level	Optional	User defined
Default value	None			
Source	See sub-elements			
Schemes	ERMS will enforce either the valid fileplan location or Fileplan ID (through the system ID) for pointer systems, renditions, redactions or parent/child relationships; other sub-elements are user defined			
Comments	The strong interdependencies with 10. Aggregation and the details of the entity relationship diagram in the <i>Reference document</i> should be noted as important to the understanding of the operation of this element			
Examples	<i>Redacted version of record UID R0067578x</i> Prime fileplan location ¹⁹ of this record = DTZ/004/047/001 (where pointer functionality implemented)			

¹⁸ Extremely important to assist compliance with Freedom of Information Act 2000 and Data Protection Act 1998 by ensuring that all record instances are identified and managed

<p>e-GMS mapping</p>	<p>Relation</p> <p>Relation in the records management is normally required to be established in a more controlled manner (and supported by ERMS functionality) than in the document management environment</p> <p>Relation.Child object and Relation.Parent object have direct equivalents in the e-GMS refinements Relation.IsPartOf and Relation.HasPart respectively (terminology differs to avoid confusion between these Dublin Core refinements and the <i>Part</i> entity)</p>
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¹⁹ Many pointer systems conceptualise one of the instances in the fileplan of the same database object as the prime location, normally the first instance declared. Further information on the requirement *which does not assume this to be the technical solution* is contained in the *Functional requirements*

10. Aggregation

Definition	The unit of measurement used to define where in the information hierarchy any records management action is carried out	
Purpose	To clarify the extent to which actions can be carried out at different levels	
Rationale	<p>Control of the level at which actions are permitted can be either for administrative convenience (such as taking advantage of inheritance principles to simplify fileplan administration) or to ensure robustness of records capture (association of records with others produced by similar or part of the same business process within a folder or class)</p> <p>This element serves both to denote the level at which a particular entity is being described (see entities in <i>Reference document</i>) and at the same time to act as a 'switch' affecting the metadata that will be applicable according to the value that is present for this element (see example in <i>Comments</i>). Both obligation levels and possible metadata are affected.</p>	
Obligation	Mandatory	
Aggregation level	All levels	
Use conditions	-	
Repeatable	No	
Sub-elements	-	
Assigned values	Entity name	Entity definition
	Record	See <i>Reference document</i>
	Marker (record)	"
	Part	"
	Marker (folder)	"
	Folder	"
	Class	"
Default value	None	
Source	Records or system administration role in accordance with organisational rules for the information object hierarchy	
Schemes	See Assigned values for the encoding scheme applicable to this element	
Comments	<p>Depending on the value applicable for this element, application of many other metadata elements can be profoundly affected. See other element descriptions for details of this.</p> <p>For example, at folder level, this Standard specifies that the following mandatory metadata will be captured:</p> <p>1.1 Identifier.System ID 1.2 Identifier.Fileplan ID 2. Title 3. Subject 6.4 Date.Opened 6.5 Date.Closed 9. Relation 10. Aggregation 13. Rights 14. Disposal</p>	

	<p>At record level, the following values are mandatory²⁰. It will be observed that this is a quite different element set for the object at this lower level of aggregation:</p> <ul style="list-style-type: none"> 1.1 Identifier.System ID 2. Title 3. Subject 5. Creator 6.1 Date.Created 6.3 Date.Declared 9. Relation 10. Aggregation 13. Rights 14. Disposal
Examples	See <i>Comments</i> for examples of the effects and <i>Assigned values</i> for examples of the values for this element
e-GMS mapping	Expected to map to Aggregation in e-GMS v.2 (Type.Aggregation in e-GMS v.1)

²⁰ With the proviso that some of the values may be inherited from the higher levels of aggregation as described in Section 1 and the *Functional requirements* and that **1. Identifier.Fileplan ID** may not extend down to record level (see details of element 1)

11. Language

Definition	The language of the intellectual content of the resource
Purpose	Identifying the authoring language of a record for searching or other purposes [see also Comments]
Rationale	[See Purpose]
Obligation	Optional
Aggregation level	Record level
Use conditions	-
Repeatable	No
Sub-elements	None
Default value	English
Source	User defined
Schemes	ISO 639-2/B [as used by e-GMS]
Comments	Potentially useful for promoting Welsh Language Act compliance or recording the existence of incoming foreign language records, perhaps stored with translated equivalent material with the link established using the 9.Relation . See also sub-element (or similar)
Examples	ISO 639-2/B [Eng] for a record in English ISO 639-2/B [Cym] for a record in English and Welsh
e-GMS mapping	Language

12. Location

Definition	Physical location		
Purpose	Denoting the existence of physical format information resources only (plans, boxes, hard copy files, etc.)		
Rationale	Revealing the existence of physical or hybrid folders or metadata markers for individual records within the ERMS to support information retrieval in a hybrid media environment (e.g. legacy data or information not readily stored on ERMS) and enable the tracking of their location		
Obligation	Optional (probably needs to be Mandatory where the ERMS is the primary tool in use for the tracking of the location of records external to the ERMS but this is outside the Mandatory area of the <i>Functional requirements</i>)		
Aggregation level	Record and folder levels		
Use conditions	-		
Repeatable	No		
Sub-elements	Name	Obligation	Scheme
	1. Home location ²¹	Optional	Organisational
	2. Current location	Optional	Organisational
Default value	-		
Source	User defined		
Schemes	A pick list of geographic locations may be implemented		
Comments	Not to be confused with 1.Identifier.SystemID , 1. Identifier.Fileplan ID or the location of electronic media used to store electronic resources (e.g. file servers)		
Examples	Home location	Runcorn HQ – Filestore F – Shelf ref: HH632	
	Current location:	Parliamentary branch - Private office – personal secretaries	
e-GMS mapping	Location		

²¹ Sub element home location may be best implemented at Class level

13. Rights

Definition	Restrictions and permissions placed on access to view the records held in the ERMS		
Purpose	To support protective security and team working procedures within departments and provide information required to support decision making to assist in the administration of access requests from outside the organisation. The functionality required is specified in the A.5.xx <i>Functional requirements</i> and the security model appears in the <i>Reference document</i>		
Rationale	<p>Capture of protective marking information in metadata allows a degree of automation in the protective handling of material in the electronic records environment (subject to the security limits on holding of high protective categories on enterprise wide ERMS and central Cabinet Office security guidance: see security model)</p> <p>Protective markings in the electronic environment are capable of being applied (and consequently <i>should</i> be applied) with far greater precision than in the paper world. Managing this at the lowest level of granularity possible (normally record) is to be expected under FOI except in working environments where a very high proportion of the information being handled is sensitive</p> <p>Protective markings used to determine handling of information within departments do not determine release decisions under the Environmental Information Regulations (EIR), DPA or FOIA which have to be considered in the light of the provisions of the relevant legislation</p> <p>Where the metadata elements are user defined and not linked to system functionality (for either capture or processing) they are designed to provide useful information to support the taking of decisions on disclosure. Values captured earlier should not determine the actual decision to be taken: the <i>Freedom of Information Act 2000</i> will require the consideration of the likely harm to public business of the release of some exempt information <i>as it would occur at the time of the request being made</i></p>		
Obligation	<p>Mandatory (protective marking)</p> <p>Mandatory if applicable (protective marking sub-elements – 2,3,7 & 8)</p> <p>Optional (other sub-elements)</p>		
Aggregation level	All levels of aggregation, especially folder and record level		
Use conditions	-		
Repeatable	Yes (bracketed groups of values are repeatable in their groups)		
Sub-elements	Name	Obligation	Scheme
	1. Protective marking	Mandatory	Manual of Protective Security and/or organisational
	2. Descriptor (A.5.36)	Mandatory if present	Manual of Protective Security and/or organisational
	3. Protective marking expiry date (A.5.39) ²²	Optional	Organisational
	4. Custodian (A.5.41-A.5.44)	Optional	Organisational
	5. Individual user access list	Optional	Organisational
	6. Group access list	Optional	Organisational

²² i.e. the date on which the *current* protective marking is due to expire

Functional Requirements for Electronic Records Management Systems : Metadata Standard

	7. Previous protective marking	Optional	Organisational	} 23
	8. Protective marking change date	Optional	Organisational	
	9. Disclosability to DPA data subject	Mandatory	Y / N (default 'Y')	} 24
	10. DPA data subject access exemption	Optional	Based on DPA 1998	
	11. EIR disclosability indicator	Mandatory	Y / N (default 'Y')	} 24
	12. EIR exemption	Optional	Based on EIR	
	13. FOI disclosability indicator	Mandatory	Y / N (default 'Y')	} 24
	14. FOI exemption	Optional	Based on Part II of the FOIA 2000	
	15. Date of last FOI disclosability review	Optional	ISO date format	
	16. FOI Release details [a freetext field, to include date and any reference number to request tracking and publication scheme mechanisms]	Optional	User defined and based on organisational FOI tracking procedures	} 24
	17. FOI release date (publication scheme or request)	Optional	ISO date format	
Default value	Unclassified (i.e. sub-element 1. Protective marking)			
Source	User defined			
Schemes	Protective markings specified in Cabinet Office <i>Manual of protective security</i> . Other schemes will follow organisational business rules			
Comments	<p>The <i>Functional requirements</i> do not attempt to specify functionality either for administering a publication scheme or a request tracking application²⁵. A place has been provided for the capture of information that would probably be of practical use in the future</p> <p>Pre-capture in record metadata of an applicable exemption at creation and possibly at later stages is seen as a valuable tool especially in view of the fully retrospective nature of FOIA 2000</p> <p>The combination of a disclosability indicator and exempt category for particular openness enactments (DPA, EIR, FOI) form a group that is potentially repeatable for future legislation in this area. Both are required as falling within an exempt category may not mean that the information will not be disclosed</p>			

²³ bracketing denotes grouped repeatable elements: refer to *Comments*

²⁴ These two sub-elements, plus sub-elements 16 and 17:

- form a rudimentary interface for FOI/DP tracking and publication scheme administration applications (see **Rationale**)
- form a group that is repeatable for request release details (it is probably not required to repeat for publication scheme administration)

A summary of the approach taken to FOI and the DPA is in the *Implementation guidance*

Functional Requirements for Electronic Records Management Systems : Metadata Standard

Examples	<p>FOI release details: released under FOI request #101</p> <p>FOI release date: 01/01/2005</p> <p>FOI release details: released under publication scheme ref. #456</p> <p>FOI release date: 01/07/2002</p> <p><i>[see information above and Security model in Reference document on encoding schemes for protective markings based on the Manual of protective security]</i></p>
e-GMS mapping	Part of Rights but excluding the Intellectual Property Rights material that comprised the original DC definition of 'rights'

14. Disposal

Definition	What will happen to the records at the end of their lifecycle (sometimes called <i>sentence</i> or <i>retention</i>)		
Purpose	To allow the implementation of retention schedules in the ERMS (related to legislation, policy and business rules). <i>Functional requirements</i> A.4.1 – A.4.74		
Rationale	Retention and disposal management is a primary function of ERMS and essential to compliance with Public Records legislation and the Lord Chancellor's <i>Code of Practice on records management</i>		
Obligation	Mandatory		
Aggregation level	Class, Folder, Record and Part levels		
Use conditions	-		
Repeatable	Yes		
Sub-elements	Name	Obligation	Schemes
	1. Disposal schedule ID	Mandatory	Departmental ²⁶
	2. Disposal action	Mandatory	Destroy, Review, Export
	3. Disposal time period	Mandatory	Departmental (derived from schedules)
	4. Disposal event	Mandatory if schedule event-driven	Departmental (derived from schedules)
	5. External event occurrence	Mandatory if applicable	Departmental (derived from schedules)
	6. Disposal (due / effective) date	Mandatory if present ²⁸	ISO date formats
	7. Disposal authorised by	Mandatory after disposal	UserID / role
	8. Disposal comment	Optional	[User defined by records manager at disposal]
	9. Export destination	Mandatory if present ²⁹	-
	10. Export status	Optional	-
	11. Review date	Optional	ISO date formats
	12. Review comments	Optional	-
	13. Date of last review	Optional	ISO date formats
	14. Reviewer details	Optional	
	15. Review comments	Optional	
Default value	None		
Source	System generated (rules implemented in the ERMS ; see below)		
Schemes	Organisational policies, generic cross government retention schedules for common record types (e.g. financial / personnel records). Many of these will be based on legal and regulatory requirements.		
Comments	Some disposal schedules in the electronic environment will comprise several disposal phases: the first often indicating when the information is taken offline		

²⁶ Cross government schedules are expected to emerge under data sharing and sustainability initiatives

²⁷ Form a repeatable group to support multi-stage disposal (e.g. off-line storage, migration, migration to OGD systems, archival export / transfer) if this desirable requirement is supported (A.4.13) or two stage review processed are used

²⁸ May not yet be triggered depending on the disposal rule in force under the schedule in force

²⁹ As the normal archival or other repository / destination system (if known) including movement to offline storage – see footnote 27

Functional Requirements for Electronic Records Management Systems : Metadata Standard

	<p>and the last when it is finally disposed. These are quite distinct phases and there may be a number of intermediate stages. Offline information requires control and management as does online information. Back up strategies etc. must not frustrate official retention policies</p> <p>Sub-element Disposal authorised by (the user details) must be auto-captured in the record metadata when the disposal is activated (typically by the records manager role if a disposal in accordance with a retention schedule; the normal scenario). [see also <i>Requirement A.4.69</i>]</p>
Examples	(See sub-elements)
e-GMS mapping	<p>Disposal</p> <p>ERMS functional requirements do not permit the implementation of the e-GMS's <i>Disposal.AutoRemoveDate</i>. Disposal of records has to be by the conscious running of an audited disposal programme by an authorised user</p>

15. Digital signature

Definition			
Purpose			
Rationale			
Obligation			
Aggregation level			
Use conditions			
Repeatable			
Sub-elements			
Default value			
Source			
Schemes	-		
Comments	PRO will examine what metadata is likely to be created by digital signature technology and how far it is of relevance / use in records management when the adoption of this technology is further advanced in UK government. Further additions will be made to this element when this work is completed.		
Examples	-		
e-GMS mapping	-		

16. Preservation

Definition	Information on the object description, migration, sustainability and preservation management processes that have been employed during the life of the record and its component(s), to facilitate its survival across technical platforms			
Purpose	To support departmental migration activity, sustainability and archival preservation of the record and preserve aspects of the provenance of the record across transfer of custody between departments and to the Public Record Office			
Rationale	<p>A variety of approaches may have to be taken to sustaining and preserving electronic records and their components across technical platforms. Information on the technical environment that produced the original objects greatly improves the chances of such approaches being achieved successfully and may make possible digital archaeological reconstruction where past management has been lacking (and costs are justified). Some of this information may need to be included in archival description or custody documentation</p> <p>[Further metadata requirements will emerge in the next 12 months as part of the definition of functional requirements for sustainability of electronic records in departments for business purposes for periods in excess of 7 years]</p>			
Obligation	The single sub-element [Preservation.Originating format] currently listed for components of all records and is expected to be system generated from the individual components at record capture stage to support longer term sustainability and preservation of electronic records. [Other Sub-elements will be specified at a later date as mandatory for records identified as for permanent preservation or as required to be sustained for business purposes for periods in excess of 7 years but Optional for others]			
Aggregation level	This element is envisaged to operate at the component level			
Use conditions	-			
Repeatable	Yes			
Sub-elements [in preparation]	Sub-element name	Note	Obligation	Source
	1. Originating format		Optional at present (will be mandated later for some record categories)	Autocaptured
	2. To be identified	-	-	-
Default value	-			
Source	<p>Information on high level management processes (migration policy etc) are expected to be User defined at administrator level</p> <p>Automatic capture of information describing the technical environment that produced the object will probably have to be captured as early as possible in the life of the record is advisable for records for long term sustainability or permanent preservation</p>			
Schemes	-			
Comments	<p><i>This element is subject to further development</i></p> <p>This area is subject to development as a result of the definition of sustainability requirements (2002-03) for material retained in departments for extended periods of time and the PRO's electronic preservation strategy for public records</p>			
Example	Originating format: Microsoft Word 97			
e-GMS	Preservation			

17. Mandate

Definition	Purpose for which information is processed		
Purpose	Clarifying the legislative or other mandate for the business activity producing the record(s)		
Rationale	There can be important drivers for departments to maintain metadata on legislative mandate such as openness or privacy legislation or providing management information on the exercise of other powers, from the ERMS. It is envisaged that this is particularly important in the regulatory / law enforcement area. There are also future data sharing and e-trust issues		
Obligation	Optional. Some departments may wish to implement these sub-elements as mandatory in specific business environments		
Aggregation level	Record or folder level. Can be applied at Class level, but see Comments		
Use conditions	-		
Repeatable	Yes		
Sub-elements	Name	Obligation	Schemes
	1. Authorising statute	Optional	Departmental guidance and business rules: recommended to be scoped to <i>exclude</i> very broad legislative provisions, e.g. Companies Act 1989 and concentrate on the capturing of exceptional and specific powers, e.g. Charities Act 1993 s.8
	2. Personal data acquisition purpose (DPA 1998 Sch 1 Part 1, para 2)	Optional	Departmental guidance – probably needs to be scoped as excluding : <ul style="list-style-type: none"> • contact information of the addressee or sender of a piece of correspondence which would be apparent anyway in the context in which it was acquired; and • incidental references to individuals occurring where the purpose was not the collection of the personal data
	3. Data Protection Exempt category (processing)	Optional	DPA Part 4 (<i>Exemption from the data subject access provisions of the DPA 1998</i> is covered in 14. Rights)
Default value	-		
Source	User defined		
Schemes	See individual sub-elements		
Comments	<p>A balance needs to be struck between the usefulness of this information and the overhead involved in collecting it</p> <p>Departments may choose to use the sub- elements with a rather more ‘broad brush’ approach than indicated, capturing mandate details at class level and cascading this down through inheritance to the records below. For example under a functional classification scheme, a wider statutory mandate could be applied automatically (e.g. Companies Act 1989, Public Records Act 1958)</p>		

Functional Requirements for Electronic Records Management Systems : Metadata Standard

	<p>and – particularly in the case of regulatory and law enforcement agencies – DPA exempt categories for areas of fileplan to be cascaded downward rather than applied to individual records</p> <p>There may be little point in capturing all of the sub-elements if the business environment means that they tend to overlap (e.g. the power or purpose used to conduct the business function is the same as that purpose for which personal data is collected or one of these (or both) equates to a DPA Part 4 exempt category. The example below is one where this is <i>not</i> the case and all three are distinct</p>	
Examples	Statutory provision authorising function	Companies Act 1985
	Personal data acquisition purpose	Public Interest Disclosure Act 1998
	DPA exempt category (processing)	Crime and taxation: DPA 1998 s. 29
e-GMS mapping	Mandate (expected to be incorporated into e-GMS v. 2)	

Annex: Metadata 'stub' required to record the pre-existence of disposed records

The minimum information that should be retained at Class, Folder and Part levels after they are disposed is as follows³⁰:

- 1.1 Identifier.SystemID
- 1.2 Identifier.FileplanID (of highest point at which disposal applies)
- 2. Title
- 6.4 Date.Opened (folder / class levels only)
- 6.5 Date.Closed (folder / class levels only)
- 14. 1 Disposal.Retention schedule identifier
- 14. 6 Disposal.Effective date
- 14. 7 Disposal.Authorized by (userID / role) – captured at the time of disposal
- 14. 8 Disposal.Comment (if applicable)

Apart from the last and penultimate value, this amounts to the retention of some of the preexisting values present in the record metadata and does not normally require additional system functionality other than:

- *excepting* these values from the deletion of the record; and
- allowing for the addition of a user defined comment (optional); and
- where a disposal has been effected at some other date than the date due under the operative schedule (i.e. it has been implemented ad hoc by the system administrator rather than merely authorized by the records manager) the date of disposal will require to be auto-captured at this point
- see Functional requirements A.4.xx

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³⁰ the relevant level depends on the level at which the disposal was implemented. For example, if an entire class is disposed, the stub should appear at the highest point of that particular class but be inherited downwards to all affected descendant aggregation levels as far down as folder level. If an individual folder is disposed, then it follows that the stub should be applied and retained at that point