INTERNATIONAL COUNCIL ON ARCHIVES

PRINCIPLES AND FUNCTIONAL REQUIREMENTS
FOR RECORDS IN ELECTRONIC OFFICE ENVIRONMENTS

RECORDKEEPING REQUIREMENTS
FOR DATABASE BASED BUSINESS SYSTEMS

OCTOBER 2013

October 2013
INTRODUCTION

This document will assist business owners and implementers to build business systems that will properly manage information as evidence. The business systems are assumed to be implemented using a relational database, and manage the information within the business system.

The core of this document is the section “Functional Requirements” that lists mandatory, conditional, and optional functional specifications for managing records. These specifications are written in a style such that they can be incorporated into requirements specifications.

The functional specifications are not complete. Instead, they focus on specific management functions dealing with records that business owners often overlook when specifying systems. They do not include functions that are routinely included in business systems (e.g. access control), nor do they include the specific functions that are dependent on the business (e.g. the data formats used by the system). The intended audience of this document is business owners and systems developers. It is not records professionals.

Business Systems

Business systems are defined as automated systems that create or manage data about an organisation’s activities. They include applications whose primary purpose is to facilitate transactions between an organisational unit and its customers – for example, an e-commerce system, client-relationship management system, purpose-built or customised database, or finance or human resources systems. Business systems are typified by containing dynamic data that is commonly subject to constant updates (timely), able to be transformed (manipulable) and holds current data (non-redundant).

This document is intended to be used to specify business systems that are:

- Built using relational database technology
- Hold and manage the records within the business system.

Records and Information

Records are information created, received, and maintained as evidence and information by an organisation or person, in pursuance of legal obligations or in the transaction of business. A more intuitive definition is that records are the subset of information in the business system that must be maintained over time as evidence.

Evidence is used in a broader sense than just evidence used in a legal trial. Records are used to provide evidence for:

- Citizen or client entitlements (e.g. ownership of land, issuance of licenses, rights to use services)

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1 International Standard on Records Management, ISO 15489.
- Work undertaken (so that staff in the future can carry out further work).
- Actions and agreements in order to mount or defend legal action in the courts.
- Investigations into the actions of the organisation, such as those carried out by
  internal or external auditors for senior management, an Ombudsman, the
  Auditor General, police, or a Royal Commission
- Historical understanding of what happened and why.

The reason for distinguishing between all of the information that a business system
holds, and the subset of the information that forms the records, is that this reduces the
quantity of information that must be intensively managed.

Because of the important function of records, there is a range of requirements placed
on organisations, particularly government agencies, in creating, managing, and
finally disposing of records. These requirements are imposed on organisations by
the government, by standards, and by the management of an organisation. These
requirements affect all records held by an organisation, even those held within
business systems.

Due to the dynamic and manipulable nature of business systems, the capture of
fixed records and the ongoing management of their authenticity, reliability, usability,
and integrity can be challenging. Organisations are therefore faced with a significant
risk of mismanagement, inefficiency, and unnecessary expenditure.

**Database Business Systems**

There are many possible technologies that can be used to implement business
systems. There are then many ways in which the required recordkeeping
functionality can be implemented within the technology. If these recordkeeping
requirements covered all possible technologies and implementations it would be
extremely complex. Instead, we have chosen to restrict the functionality to a widely
used specific technology and implementation.

It is assumed in this document that the business system is implemented using
relational database technology, and the records are retained within the business
system.

The key characteristic of a relational database is that the information is structured.
All information is slotted into an information structure that is described by a database
schema. Typically, the schema will arrange related individual pieces of information
into entities, and link the entities together. All information in such a business
application has its place and has defined relationships with all other pieces of
information in the application. This structure is defined during the design of the
application and is formally documented.

This structure means that the information in a relational database naturally has
strong context, metadata, and structure, which are key features of records. These
recordkeeping requirements are focussed, therefore, on the processes of creating
and managing records. The core functions are as follows:
• The information contained in a record needs to be fixed when the record is created. By fixed, we mean that either the value is locked so that it cannot be changed, or a history is recorded so that the value of the information at any point in time can be determined.

• Information needs to be recorded about the history of the record, in particular when and who created the record and how the record subsequently changed (if it has changed).

• Disposing of the record once it is no longer required. All records have a minimum retention period. Some records must be disposed of after this minimum retention period expires (e.g. for privacy reasons). These two requirements mean that a business system must manage the disposal of records. Disposal may mean destruction, or it may mean transfer to another organisation or system.

• Export of records (and any associated data, such as the recorded history).

• Generate management reports on the records management activities.

Recordkeeping Analysis

This section discusses the implications of structured databases from a recordkeeping perspective. The analysis in this section informs the simplification carried out on the full recordkeeping requirements identified in *Principles and Functional Requirements for Records in Electronic Office Environments, Module 3: Guidelines and Functional Requirements for Records in Business Systems*.

The key simplification is that the business system is based on a relational database. As described earlier the main characteristic of a relational database is that the information is structured: all information has a defined meaning, a defined syntax, and a defined relationship with every other piece of information. The syntax and the relationships are tightly controlled by the database schema. The schema is defined during the design and implementation of the business application and is subsequently maintained during the life of the application. The schema is normally formally expressed in the configuration of the software used to implement the application.

The fact that the information in a relational database is so tightly structured has important implications for recordkeeping.

• A record is a subset of the information held in the database. The information within a record (and outside) can, if necessary, be listed. Records are implicit within the database schema. The business system is built to hold specific records and there is no provision to manage arbitrary records. Record creation, manipulation, and access are only done through the business functions of the application. Records are consequently registered implicitly as business activity occurs. Recordkeeping metadata is automatically captured.

• A major part of the context of a record is represented by the relationships between information defined by the schema. The context of a record is consequently very tightly defined and controlled. It may not, however, be a
simple hierarchical context (classification/file/record/document) commonly used in recordkeeping. There is consequently no need for a conventional classification scheme (although one may be present if there is a business need).

- The other part of the context of the record is the relationship between the business system and the rest of the organisation. This context includes, for example, the functions/activities the business system supports, and how the records in the business system relate to other records created by the organisation.

- The business activities supported by the business system are defined when the system is designed and implemented. The activities dictate what information is captured, the formats of the information, where, when and how the information is captured, how the information is structured, what operations can be performed on the information, the management reports generated, and the security placed on access. Generic recordkeeping metadata and functionality consequently has no place in this recordkeeping plan. For example, if a record needs a ‘title’ this requirement will be identified in the business analysis and built into the schema. There is no point adding a title just for the sake of fulfilling recordkeeping metadata requirements. Equally, recordkeeping functions such as ‘reclassification’, ‘duplication’, and ‘redaction’ will only be present if there is an identified business need, and hence there is no need to consider these from a recordkeeping view.

- The purpose of the business system is to support a business activity. In general this will involve supporting day-to-day operational requirements, which, in turn means holding evidence. There seems little point in capturing the records into another system (e.g. an EDRMS) on a day-to-day basis, as this would be simply duplicating the records. This does not preclude periodically transferring records no longer in operational use to prevent performance degradation of the business system.

While the guidance presented in this recordkeeping plan should be applicable to recordkeeping in highly integrated software environments based on service-oriented architectures, such scenarios are not explicitly addressed. Similar principles and processes will apply in such environments, but additional analysis will be required to determine what processes and data constitute, across multiple systems, the required evidence (or record) of any particular transaction.

The use of the term ‘system’ in this document refers to a computer or IT system. This is in contrast to the records management understanding of the term that encompasses the broader aspects of people, policies, procedures, and practices. Organisations will need to consider these wider aspects, and to ensure that fundamental records management supporting tools such as disposal authorities, information security classifications and a records culture are in place, in order to ensure records from business systems can be appropriately managed.

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2 A formal instrument that defines the retention periods and consequent actions authorised for classes of records described in the authority.
Scope of Functional Requirements

This set of functional requirements only addresses those requirements that are necessary to manage records and does not include

- General system functions (e.g. access control, reporting, searching)
- Specific functions necessary to support the business.

Audience

The primary audience for this document is staff responsible for designing, reviewing and/or implementing business systems in organisations, such as business analysts and groups overseeing information and communications technologies procurement or investment decisions.

The audience also includes records professionals, who are involved in advising or assisting in such processes, and software vendors and developers who wish to incorporate records functionality within their products.

Given the target audience for this document, the use of specific records management terminology has been kept to a minimum.

Related Standards

This document is based on the International Council on Archives’ suite of guidelines and functional requirements, Principles and Functional Requirements for Records in Electronic Office Environments, known collectively as ICA-Req. ICA-Req consists of 3 parts:

- Module 1: Overview and Statement of Principles (ISO 16175-1:2010);
- Module 2: Guidelines and Functional Requirements for Records in Electronic Office Environments (ISO 16175-2:2011); and

This functional specification is based on Module 3. It is important to understand, however, that these functional requirements are intended to replace those in Module 3 when record keeping functionality is required for a particular implementation scenario (business systems based on database technologies, where the business system creates and manages the records). This set of functional requirements is intended to be a stand alone document that can be understood without reference to Module 3. It is also not intended as an explanatory guide to Module 3.

However, readers that are interested in a broader understanding of records and business systems are referred to Module 3. Appendix A of this document gives a mapping between the requirements in Module 3 and the requirements in this document.

The reference metadata standard for these requirements is ISO 23081 – 1: 2006, Information and Documentation – Records Management Processes – Metadata for
IDENTIFYING THE RECORDS

A record is defined as information created, received, and maintained as evidence and information by an organisation or person, in pursuance of legal obligations or in the transaction of business. Not all information in a business system is a record (or part of a record). Consequently, by identifying the important records held within a business system it is possible to reduce the implementation and operational cost of managing records in a business system.

From the point of view of a designer or implementer of a business system, the purpose of identifying the records is to identify the subset of the information in the business system that must be formally managed in order to meet legal and other requirements. Only managing a subset of the total information held by the business system in this way is expected to reduce the cost of the business system.

A specific process for identifying the records held within a business system is beyond the scope of this document. In outline, however, the process requires three steps.

Step 1 – determine the broad business functions and specific activities and transactions carried out, in full or in part, by the business system

The result of this step will allow the identification of what records the business system needs to create and manage, how long the records need to be held, and how they are to be disposed of.

Step 2 – for each function, activity and transaction or business process managed by the system, consider what evidence is required to be retained by the organisation

The result of this step will allow the identification of what information comprises the records.

This business analysis should not just identify the information required for the immediate day-to-day operational needs, but should identify the information required by other parts of the organisation (e.g. management, compliance, and legal).

Step 3 – for each requirement for evidence, identify the content or data that make up the evidence

The result of this step will allow the identification of the data held within the business system that forms the information that comprises the records.

It is recommended that this analysis should be carried out by the business owner in conjunction with the staff of the organisation’s recordkeeping unit.

FUNCTIONAL REQUIREMENTS

This section contains the functional requirements for recordkeeping required of a business system.

In order to apply this section, the business system must satisfy the following requirements:

- The business system is based on a database.
- The record is captured entirely within the business system.
- The record is managed entirely within the business system.

The functional requirements are divided into four broad areas:

- Creation (capture) of records
- Managing and maintaining records
- Import and export of records
- Disposal of records

Each of these sections commences with a short explanation of the goals the functions are attempting to achieve.

Creation of Records

In order for information to be evidence, it is necessary to be able to prove (in a court of law, if necessary) what the information was at any point in time. The key to creating a record, consequently, is the concept of ‘putting the information aside’ in a way that it is either not possible to subsequently modify the information, or, if it is modified, to record how it was modified, when it was modified, and who carried out the modification.

Requirements

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<td>1.</td>
<td>The records created or received by the business system must be captured. Capturing means that</td>
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<td>- The content of the records (i.e. the value of the information) at the time of creation must be retrievable at any subsequent time.</td>
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<td>- It either must be possible to prove that the content of the records is unaltered since creation, or, if altered, how the content changed, when it was changed, and who changed it.</td>
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<td>- Where the content is composed of several parts (e.g. an email body and attachments), the content is related together.</td>
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(Sources: ICA Req 1, 9)
Record creation – business systems must

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| 2. | When capturing a record, metadata must be captured or associated with the record. The metadata to be captured may be specified in jurisdictional standards. If the metadata is not specified in a jurisdictional standard, the following metadata elements can be used:  
- Unique identifier of the record. The identifier need only be unique within the system. The business analysis will indicate if the identifier must be unique outside the business system (e.g. so that other systems can refer to the record, or so that records remain uniquely identified if exported from the system).  
- Name of the record  
- Date and time of capture  
- Language of record (if the content is not in the official language of the organisation)  
- Classification of the record. This may be implicit if the business system only supports one function (i.e. all the records in the system have the same classification), or if the classification is implicit in the structure of the information.  
- Format (if the content is digital). (Format Name, Format Version) OR (Creating Application Name, Creating Application Version)  
- Security information, such as security classification or security caveat  
- Rights statement, type and status where the record is subject to policies that govern the use of and access to the record (e.g. copyright)  
If, during records capture, the format of the content is converted to another format (e.g. from Word to PDF), this conversion must be recorded. The details of this recording must include identifying the tool that performed the conversion and any warning or error messages generated by the conversion.  
(Sources: ICA Req 4, 12; Australian Government Recordkeeping Metadata Standard) |
| 3. | Where the record must be retained for more than five years, the business system must store a copy of the content in a suitable long term preservation format. |

Managing and Maintaining Records

Once records have been created, they must be managed and maintained for as long as required. Records must be managed to ensure they have the following characteristics:  

- **Authenticity** – the record can be proven to be what it purports to be, to have been created or sent by the person that created or sent it, and to have been created or sent at the time purported.

- **Reliability** – the record can be trusted as a full and accurate representation of the transactions to which they attest, and can be depended on in the course of subsequent transactions.

- **Integrity** – the record is complete and unaltered, and protected against unauthorised alteration. This characteristic is also referred to as 'inviolability'.

- **Usability** – the record can be located, retrieved, preserved, and interpreted.

The functional requirements in this section assist in ensuring that the records held by a business system retain these characteristics.

However, the functional requirements detailed below are not sufficient to ensure that records in business systems have all these characteristics. Normal system controls

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5 These are taken from ISO 15489.1 Records Management, Section 7.2 Characteristics of records.
over access and security support the maintenance of authenticity, reliability, integrity, and usability, and therefore should be appropriately implemented. However, as noted in Section 1, as this functionality is common to business systems, these have not been included in the functional requirements below.

A risk assessment should be carried out to inform business decisions of how rigorous the controls need to be. For example, in a high-risk environment, it may be necessary to prove exactly what happened, when and by whom. This links to the system’s permissions and audit logging to prove that approved actions are undertaken by authorised people.

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<td>4.</td>
<td>The business system must prevent the destruction of the record (including its metadata) except when destruction takes place as part of an authorised disposal activity (Source: ICA Req 27)</td>
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| 5. | Where records can be modified, the business system must document all modifications (including modifications to metadata and linkages to other information). The documentation must record:  
   - sufficient information to determine the previous value of the record  
   - the result of the modification  
   - who performed the modification  
   - the date and time the modification was performed  
   The documentation of alterations itself must be secure against tampering. (It is understood that in normal business systems it is generally impossible to absolutely prevent tampering by a user with direct administrator access to the database tables.) |
| 6. | The business system must be capable of reporting on the execution of all recordkeeping functionality over a specified period. The functionality to be reported on is  
   - Creation of records  
   - Modification of records (including the modification of associated metadata or linkages)  
   - Migration of record content from one format to another (including the set-up details and the results)  
   - Import and export of records  
   - Disposal of records  
   (Sources: ICA Req 43, 44) |

Managing and maintaining – a business system may

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| 7. | Be able to produce statistical information about records captured and maintained by the system, such as the number and location of records by application type and version.  
   (Sources: ICA Req 45) |
| 8. | Be capable of closing a record. In this case, the metadata associated with the record must record the closure date/time. |
Import and Export of Records

The ability to export records from a business system is a critical requirement, particularly when decommissioning a business system and transferring the information it contains to its successor. In addition there may be a requirement to export and transfer records to another organisation (such as an archive) as part of the disposal process.

In some circumstances, the ability to import a record is also important, generally when commissioning a new system and loading the initial data.

For ease of import and export, use of open formats and industry standards will increase levels of interoperability and reduce the cost and difficulty of any import/export process.

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| 10.   | Be able to export electronic records, and where applicable aggregations of electronic records, in one sequence of operations such that:  
    - the content and structure of electronic records, and where applicable aggregations of electronic records, are not degraded;  
    - associations are retained between exported electronic records and their associated metadata; and  
    - relationships are maintained between exported components of an electronic record, between exported electronic records, and where applicable aggregations of electronic records, so that their structural links can be re-built in the receiving system. (Source: ICA Req 58) |
| 11.   | Allow records to be exported more than once. Note that while a business decision may be made to delete information in the system after export, the purpose of this requirement is to ensure that the system itself does not limit the export process. (Source: ICA Req 60) |

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| 12.   | Be able to perform a bulk import of electronic records,  
    - records in their existing format, maintaining their content and structure;  
    - records and their associated metadata, so as to maintain the relationships between them and map the metadata to the receiving structure; and  
    - the system structure to which the records and associated metadata are assigned, maintaining all relationships between them. (Source: ICA Req 54) |
Disposal of Records

Disposal of records refers to the removal of records from the business system – this might involve destruction of the records, or transfer to another organisation (e.g. an archive).

Agencies have legal obligations to manage this disposal process for all records. Managing disposal, however, is a complicated process.

No records can be disposed of without authorization; indeed in some jurisdictions disposal of records without proper authority is a criminal offence. Typically disposal authorizations are expressed as a requirement to keep records a minimum period after some trigger point (e.g. 7 years after creation). It is normally permissible (and occasionally required) to retain records longer than the retention period. However, some records must be disposed of after the retention period expires (e.g. records that involve privacy).

In some situations it may be inappropriate (or even illegal) to dispose of a record even though the retention period has expired. For example, disposal of records that are required for legal action normally cannot be disposed of. For this reason disposal functions should never automatically dispose of records and there should always be a manual authorisation.

The following list of functional requirements is concerned with ensuring:

- **Compliance with disposal authorisation regimes** – part of the process of assessing records management involves determining how long the records should be kept to account for legal obligations, business needs, and community expectations. A disposal schedule sets out the retention periods for various groups of records. These retention decisions, documented in the disposal schedule, should be authorised at a senior level in accordance with jurisdictional requirements. These functional requirements assume the existence of a disposal schedule that covers the records in the business system.

- **Disposal is effectively applied** – provision must be made for facilitating retention and disposal. Keeping everything for the entire lifespan of the system can be expensive and impair the operations of the system. There may be some circumstances where a cost-benefit analysis and risk analysis conclude that it is preferable to retain records for the lifespan of the system. However, this simply postpones decision-making about the appropriate retention of records until the time of decommissioning.\(^6\)

- **Records ready for disposal can be reviewed** – prior to taking any disposal action, users must be able to review the disposal action and be able to amend it/apply a different action.

- **Records are appropriately destroyed** – it should not be possible for records to be deleted except in accordance with an authorised disposal schedule, and then only after agreed sign-off by authorised staff.

- **Metadata of the destroyed records is retained** – evidence of the implementation of disposal actions must also be maintained, either through metadata within the business system or through integration with another system.

- **Reporting can be undertaken** on the disposal activity.

**DISPOSAL**

Requirements

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| 13. | Support the managed disposal of records held in the business system. The managed disposal of records involves the following process⁷:
  - Setting and managing disposal classes to control when particular types of records may be disposed of
  - Applying the disposal classes to the records held in the business system to determine which records may be disposed of.⁸
  - Notifying an authorised user of the records that may or must be disposed of
  - Reviewing the disposal recommendations, and, if necessary amending it (e.g. by assigning another disposal class to the record or a disposal freeze).
  - Execution of the disposal action after confirmation – either destroying, exporting, or transferring the records.

  Each step of this process must be documented.
  (Sources: ICA Req 63, 78, 77, 79, 83, 96)
| 14. | Restrict the ability to carry out steps in this disposal process to an authorised user.
  (Sources: ICA Req 70, 82, 84) |

**CONTROLLING DISPOSAL**

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| 15. | Allow the definition⁹ of disposal classes to control the disposal of records.
  The business system must support at least one disposal class.
  Each record must have at least one disposal class associated with it.
  Authorised users must be able to associate disposal classes and records at any time.
  (Sources: ICA Req 64, 81) |

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⁷ Implementing this process may involve software functionality in the business system, or the integration of external software applications.

⁸ The application may be triggered automatically by the system (e.g. periodically), or manually by an authorised user.

⁹ The system must implement the functionality of disposal classes, but this does not mean that the system has a specific data object ‘disposal class’. For example, where a business system manages a single type of record the disposal class could be implemented as a function.
### Disposal (control) – a business system must

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| 16. | Each disposal class must consist of a:  
  - trigger (event) that marks the commencement of the minimum retention period.  
  - retention period to establish how long the record must be maintained; and  
  - disposal action, to prescribe the fate of the record at the end of the retention period.  
  - reference to the source of the disposal class (typically a reference to the disposal authority from which this disposal class was drawn).  
  (Source: ICA Req 65) |
| 17. | The following triggers must be supported  
  - date of record creation;  
  - date of last retrieval of a record;  
  - opening or closing date of an aggregation of records (where applicable);  
  - date of last review of a record, or where applicable an aggregation of records.  
  - occurrence of a defined event where the notification is manually entered into the system by a user  
  (Sources: ICA Req 85, 86) |
| 18. | Retention periods must be capable of being set from one day to an indefinite length of time.  
  (Source: ICA Req 69) |
| 19. | The disposal action must be one of the following:  
  - review (i.e. manually determine disposal action)  
  - export (i.e. the generation of an external copy of the records (and metadata) for import into another record system. Note that information is not deleted from the business system when exporting.)  
  - destruction  
  - transfer (a three step process combining both export and destruction. First the data is exported from the business system. Second, a confirmation message is loaded into the business system that acknowledges another recordkeeping system ).  
  (Sources: ICA Req 66) |
| 20. | The system must allow the definition of non-standard retention periods and disposal actions (for example, 'destroy when superseded', ‘disposal not authorised’). Non-standard retention periods and disposal actions cannot be automatically applied by the business system and must be manually determined.  
  (Source: ICA Req 67) |
| 21. | Be able to maintain a history of all changes to disposal classes, including  
  - date and time of change  
  - what was changed  
  - the reason for change  
  - the user that made the change  
  (Source: ICA Req 71) |
| 22. | Allow a disposal freeze to be placed and subsequently removed on a record in order to prevent any disposal action from taking place for the duration of the freeze. Records subject to a disposal freeze cannot be destroyed (but may be reviewed, exported, or transferred).  
  A disposal freeze may, for example, be placed on records identified as being subject to a pending or ongoing Freedom of Information application or legal discovery process. To meet this requirement the system need not provide specialised disposal freeze functionality. It is sufficient for the business system to simply allow an authorised user to manually identify affected digital records and implement controls to prevent their disposal until the disposal freeze is no longer in place.  
  (Sources: ICA Req 88, 89, 90) |

### Disposal (control) – a business system should

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| 23. | Be able to import\(^{10}\) and export\(^{11}\) a set of disposal classes in a standard format.\(^{12}\)  
(Source: ICA-Req 73) |
| 24. | Be able to assign multiple disposal classes to one record.  
(Source: ICA Req 74) |
| 25. | Be capable automatically applying a disposal class to a newly created record based on a set of pre-defined instructions. (For example depending on the type of the record in the schema).  
(Source: ICA Req 92) |
| 26. | Be able to notify the authorised user on a regular basis of all disposal actions due to occur in a specified period of time. |
| 27. | Record the disposal classes that have been assigned to a record over its life  
(Source: ICA Req 114) |
| 28. | Be able to report on all electronic records subject to a disposal freeze  
(Source: ICA Req 124) |

### Disposal (control) – a systems may

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| 29. | Support the definition of disposal classes from multiple disposal authorities.\(^{13}\)  
(Source: ICA Req 75) |
| 30. | Allow one or more disposal authorities to be merged during an import process.  
(Source: ICA Req 76) |
| 31. | Support the following information in a disposal class:  
* a scheduled review date;  
* date and details of revision; and  
* date and details when superseded.  
(Source: ICA Req 118) |

### EVALUATE DISPOSAL TRIGGERS

**Requirements**

| Disposal (evaluate) – a business system must |
|----|-------------|
| No | Requirement |

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\(^{10}\) That is, import an authorised set of disposal classes into the BS, or where applicable the relevant external disposal management mechanism, so as to remove the need for the business system administrator to manually configure disposal classes.

\(^{11}\) This is the ability to export a set of authorised disposal classes from the BS, or where applicable, the relevant external disposal management mechanism, so that they may be transferred to another system, such as an electronic records management system.

\(^{12}\) A structured set of disposal classes issued by an archival authority may be known as a disposal authority or disposal/retention schedule.

\(^{13}\) To support organisations that may have more than one current approved disposal authority.
### Disposal (evaluate) – a business system must

<table>
<thead>
<tr>
<th>No</th>
<th>Requirement</th>
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<tbody>
<tr>
<td>32.</td>
<td>Be able to determine if a disposal trigger has occurred and whether the associated retention period has expired. Evaluation of a disposal trigger or retention period must occur when the decision to dispose of the record is being made using the current disposal classes and information associated with a record. The evaluation must not be carried out and the result stored for later execution. Ensure that the retention period cannot be artificially shortened. (Sources: ICA Req 72, 87, 108)</td>
</tr>
</tbody>
</table>
| 33. | Be able to identify any conflict of disposal actions applied to a record and either:  
- automatically apply the correct disposal action according to precedence defined by the organisation;\(^\text{14}\) or  
- notify an authorised user and request remedial action. |

### Review Disposal Action

**Requirements**

<table>
<thead>
<tr>
<th>Disposal (Review) – a business system must</th>
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<tbody>
<tr>
<td>No</td>
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<td>34.</td>
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</tbody>
</table>
| 35. | When performing a review disposal action, allow the reviewer to reapply a disposal class that could:  
- mark electronic records for further retention and later review;  
- mark electronic records for immediate export, transfer, preservation treatment (through a technique such as migration) or destruction;  
- mark electronic records for further retention and later export, transfer, preservation treatment (through a technique such as migration) or destruction;  
(Source: ICA req 98) |

<table>
<thead>
<tr>
<th>Disposal (Review) – a business system should</th>
</tr>
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<tbody>
<tr>
<td>No</td>
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<tr>
<td>36.</td>
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<tr>
<td>37.</td>
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<th>Disposal (Review) – a systems may</th>
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</thead>
<tbody>
<tr>
<td>No</td>
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<tr>
<td>38.</td>
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</tbody>
</table>

\(^\text{14}\) Usually the longer period is applied.
### DESTRUCTION

**Requirements**

<table>
<thead>
<tr>
<th>No</th>
<th>Requirement</th>
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</thead>
</table>
| 39. | Ensure that destruction results in the complete obliteration or inaccessibility of all electronic records (including all components of each record, and any alternate or derived versions) as authorised, and that they cannot be restored through operating system features or specialist data recovery techniques.  
(Sources: ICA req 101, 106) |
| 40. | Seek confirmation of destruction from an authorised user as part of the disposal process. Prevent the destruction of electronic records until confirmation is received, and allow the process to be cancelled if confirmation is not received.  
(Sources: ICA Req 102, 103) |
| 41. | Be able to retain information about electronic records that have been destroyed. This information must record:
  - The identity of the record that was destroyed
  - The fate (destruction).
  - When the record was destroyed
  - The disposal class under which the record was destroyed
  - Who performed the destruction  
(Sources: ICA Req 111, 112) |
| 42. | Be able to produce a report detailing the outcome of a destruction process, detailing all records successfully destroyed and identifying those electronic records which were not successfully destroyed  
(Sources: ICA Req 123) |

### EXPORT

**Requirements**

<table>
<thead>
<tr>
<th>No</th>
<th>Requirement</th>
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</table>
| 43. | Be able to produce a report detailing any failure during an export of records from the system, identifying those records which have generated processing errors or were not successfully exported  
(Sources: ICA Req 121) |

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15 While this document does not cover the management of back-ups for business continuity and disaster recovery purposes, it is noted that good practice should ensure that back-ups are not retained for longer than needed for business continuity purposes.
TRANSFER

Requirements

<table>
<thead>
<tr>
<th>No</th>
<th>Requirement</th>
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</table>
| 44. | Ensure that successful transfer results in the complete obliteration or inaccessibility of all electronic records (including all components of each record, and any alternate or derived versions) as authorised, and that they cannot be restored through operating system features or specialist data recovery techniques.  \(^{16}\)  
(Sources: ICA req 101, 106) |
| 45. | Be able to retain information about electronic records that have been transferred. This information must record:  
- The identity of the record that was transferred  
- The fate (transfer) of the record  
- Where the record was transferred to  
- Information about the confirmation of transfer transmitted by the receiving system.  
- When the record was transferred  
- The disposal class under which the record was transferred  
- Who performed the transfer  
(Sources: ICA Req 111, 112) |
| 46. | Be able to produce a report detailing any failure during a transfer of electronic records from the system, identifying those records which have generated processing errors or were not successfully transferred.  
(Source: ICA Req 121) |

Disposal (Transfer) – a business system should

<table>
<thead>
<tr>
<th>No</th>
<th>Requirement</th>
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</table>
| 47. | Allow users to add any metadata elements required for the archival management of electronic records selected for archival transfer (e.g. agency, series and consignment identifiers)  
(Source: ICA Req 113) |

DISPOSAL METADATA

Requirements

<table>
<thead>
<tr>
<th>No</th>
<th>Requirement</th>
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</table>
| 48. | Be able to restrict the amendment of metadata that affects the retention period of an electronic record to a business system administrator or other authorised user  
(Source: ICA req 110) |

\(^{16}\) While this document does not cover the management of back-ups for business continuity and disaster recovery purposes, it is noted that good practice should ensure that back-ups are not retained for longer than needed for business continuity purposes.
DISPOSAL REPORTING
Requirements

Disposal (reporting) – a business system must

<table>
<thead>
<tr>
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<th>Requirement</th>
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| 49. | Be able to report on all disposal activity over a period. The following reports are required:  
  - all disposal classes currently defined in the system;  
  - all records and associated metadata to which a particular disposal class is currently applied;  
  - all records for which a particular disposal action will occur over a given period of time;  
  - all records due for disposal within a given period of time (providing quantitative information on the volume and type of records); and  
  - all records that are overdue for disposal at a given point in time (providing quantitative information on the volume and type of records). |

(Sources: ICA req 120, 121)
APPENDIX – RELATIONSHIP BETWEEN THIS DOCUMENT AND ICA-REQ MODULE 3

Some of the functional requirements in the Principles and Functional Requirements for Records in Electronic Office Environments Module 3: Guidelines and functional requirements for records in business systems (ISO 16175-3:2010) have not been included in the functional requirements in this document. This section briefly lists these requirements and the reasons they have not been included. Note that the requirement number references the ICA-Req numbers.

Requirement 2 and 3. It is assumed that the business analysis has identified the information that the business system must capture and manage, including sources and formats of the information. If the business system fulfils its business requirements, it will automatically fulfil the ICA requirements 2-3. The critical requirement is to ensure that the identified records are captured from this information.

Requirement 4. The use of collections of records are governed by the business analysis.

Requirement 5. The provision of an API (Application Programming Interface) to allow import and export of records will be governed by the business analysis, primarily depending the use of the record outside the business system. It is consequently not considered a recordkeeping requirement in this document.

Requirement 6. The function of being able to store electronic records in their native format will be governed by the business analysis, primarily depending the use of the record outside the business system. It is consequently not considered a recordkeeping requirement in this document.

Requirement 7. The number of records that the system can store will be governed by the business analysis. It is consequently not considered a recordkeeping requirement in this document.

Requirement 8. The ability to specify the format of the record identifier will be governed by the business analysis, primarily depending the use of the record outside the business system. It is consequently not considered a recordkeeping requirement in this document.

Requirement 10. The ability to name a record (e.g. assign a patient name) will be governed by the business analysis. It is consequently not considered a recordkeeping requirement in this document. Within a business system, a record will be given meaning from the context within the database scheme. If a grouping of information (i.e. record) has a ‘name’ will be obvious from the business analysis. If it does not, the meaning of the record will be established by means of the context given by the schema.
Requirement 10.1. The ability to support the process of naming records (e.g. by spell checking or detecting duplicates) is considered to be governed by the business analysis.

Requirement 10.2. Restricting the ability to modify the name of a record is considered to be governed by the business analysis.

Requirement 13. The source of the information/metadata associated with each record will be governed by the business analysis. It is good practice, of course, to automatically capture as much of the metadata as possible and minimise rekeying.

Requirement 14. Ensuring the tightly bound association of the metadata and the record is implicit in the definition of a record and the definition of the database schema.

Requirement 15. Controlling the modification of the record and the metadata associated with it is governed by the business analysis. Any modification to the record must be recorded.

Requirement 16. Supporting the ability to override metadata depending on the organisation of the records is governed by the business analysis.

Requirement 17. While this requirement is desirable if the business system supports either aggregation or classification, these requirements should be driven by business need, not a recordkeeping specification.

Requirement 18. The requirement to maintain the metadata over time is more properly a requirement in the managing and maintaining records section.

Requirement 19. The requirement to be able to capture metadata manually entered by the user is governed by the business analysis.

Requirement 20. The requirement to support customised metadata fields, selected metadata sets for particular record types, and customised obligation levels for metadata elements is governed by the business analysis.

Requirement 21. The requirement to allow user entered descriptions of records or aggregations of records is governed by the business analysis.

Requirement 22. The requirement to retain information in the history of a record or aggregation of records when the history or aggregation is reclassified is more properly in the managing and maintaining records section.

Requirement 23. The requirement to support the assignment of default values for metadata elements upon record creation is governed by the business analysis.
Requirement 24. The organisation of records within a particular business system is described by the database schema. This schema may describe a physical or logical hierarchical aggregation of records. It may, on the other hand, describe a more complex structure, such as multiple hierarchies. In any case, from a recordkeeping perspective aggregations allow the management of groups of records, and so are more properly examined in the managing and maintaining records section.

Requirements 25 and 26. It is assumed that the business system supports one function/activity within an organisation. Hence, support of a classification system within the business system is not required.

Requirements 28-38. The minimum metadata to be associated with each record is controlled by this recordkeeping plan. Any further metadata will be governed by the business analysis. Requirements concerning metadata are consequently not considered a recordkeeping requirement in this document.

Requirements 39-42. The functionality of reassigning/reclassification, duplication, extraction, or redaction of records will be governed by a business analysis. They are not considered to be a recordkeeping requirement in this document.

Requirements 46-52. It is assumed that the business system will not use online security processes: encryption of record contents; the use of digital signatures to sign external traffic; and supporting authentication.

Requirements 53-55. It is assumed that the initial bulk loading of the business system (e.g. from the superseded system) will be governed by a business analysis.

Requirement 68. The association of unique identifiers to disposal classes has no functional implications.

Requirements 104 and 105. It is not recommended to provide the ability to delete records outside the disposal function.

Requirements 107 and 108. The requirements dealing with using disposal metadata to calculate (and recalculate) the retention period are omitted as they deal with mechanisms for altering the retention period. In a function specification, the outcomes desired are stated, not how the outcomes will be implemented.

Requirement 115. The metadata to be retained about a destroyed record (beyond that specified in requirement 45) is governed by the business analysis.

Requirements 118 and 119 have been omitted as their value would be minimal in a database business system.