RECORDKEEPING METADATA STANDARD FOR THE GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION





Recordkeeping Metadata Standard for the Government of the Hong Kong Special Administrative Region

Version 1.1

Government Records Service

September 2016

REVISION HISTORY

Version	Reason for change	Sections affected	Date issued
1.0	-	-	July 2012
1.1	Update requirements and terminology taking into account implementation experience of ERKS in B/Ds and to align with <i>Functional Requirements of an</i> <i>Electronic Recordkeeping</i> <i>System.</i>	Various sections	September 2016

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EXECUTIVE SUMMARY

To drive electronic records management (ERM) in the Government and support implementation of an electronic recordkeeping system (ERKS) by bureaux and departments (B/Ds) under the Government's Electronic Information Management (EIM) Strategy, the Government Records Service (GRS) promulgated in May 2011 a set of ERKS functional requirements, namely *Functional Requirements of an Electronic Recordkeeping System* (version 1.0) for reference and compliance by B/Ds in developing or adopting an ERKS, either as a stand-alone system or as a part of an integrated EIM solution.

2. GRS is developing on an ongoing basis further ERM and ERKS and guidelines to support development and government-wide standards In this connection, a standard on recordkeeping implementation of ERKS. metadata, namely Recordkeeping Metadata Standard for the Government of the Hong Kong Special Administrative Region ('RKMS') has been developed in line with international records management standards and best practices and in compliance with relevant government regulations and standards. RKMS (version 1.0) was first promulgated in May 2012 for reference and compliance by B/Ds. RKMS is a living document and will be updated as necessary to incorporate new requirements. Such document has been updated and revised to the current version (version 1.1) taking into account implementation experience of ERKS in B/Ds and reflecting the updated requirements of the Functional Requirements of an Electronic Recordkeeping System.

3. In the context of records management, metadata are defined as **data describing the content, context and structure of records and their management through time**, e.g. 'Title', 'Recipient name' and 'Date sent'.

4. Recordkeeping metadata defined in RKMS provide all the descriptive information required by an ERKS to manage records according to records management standards and best practices and aim to manage security and access control of records up to the security classification of "CONFIDENTIAL" level. The metadata provide information on -

- (a) identifying records (to allow them to be identified, and thus to be retrieved and otherwise managed, for example the metadata element 'System identifier');
- (b) describing records (to assist users in understanding their context and other attributes of the records, for example the metadata element 'Title');

- (c) supporting the use of records, such as technical information required for preservation of records, for example the metadata element 'file format', or access to records, for example the metadata element 'security classification';
- (d) documenting plans for the future management of records, for example the metadata element 'Disposal date future' which gives information on how long records will be retained;
- (e) documenting the history of records, for example the metadata element 'Date opened' which gives information on when a folder (i.e. file) was opened; and
- (f) describing relationships between records, for example the metadata elements 'Relation has attachment' and 'Relation is attachment of'.
- 5. The main purposes of RKMS are to -
 - (a) ensure that B/Ds will use appropriate and sufficient metadata in a consistent manner to manage records in an ERKS to safeguard the authenticity, integrity, reliability and usability of records throughout their life cycle; and support efficient and effective records management in an ERKS;
 - (b) facilitate B/Ds to export or transfer records with the required metadata from an information system (including a business system) to an ERKS for the latter to manage and store the records properly;
 - (c) facilitate B/Ds to export or transfer records with the required metadata from one ERKS to another ERKS either within the B/D itself or among B/Ds to meet business and/or records management needs; and
 - (d) facilitate B/Ds to transfer records with archival value with the required metadata from their ERKSs to GRS for permanent retention.

6. RKMS applies fully to an ERKS and an information system (including a business system) that either integrates with an ERKS for the latter to capture and import records, or exports or transfers records to an ERKS, for proper management

and storage. It is not intended that RKMS should apply to paper-based recordkeeping systems which hitherto most B/Ds primarily rely on in managing government records.

The Standard

7. RKMS is intended primarily for use by records management personnel, system development professionals, IT staff, etc. who are tasked to select an ERKS solution, design the ERKS functionality, manage an ERKS, conduct transfer of records with metadata, etc.

8. RKMS specifies **80 metadata elements**, along with lists of allowed values where appropriate that should be created, captured, used, managed and maintained in an ERKS to support effective and efficient records management and to ensure the authenticity, integrity, reliability and usability of records throughout the life cycle of records. It also -

- (a) explains the key concepts and principles relating to creation, capture, use, management and maintenance of metadata;
- (b) explains the relationship of metadata with the functionality of an ERKS and provides guidance for implementing metadata in an ERKS by B/Ds;
- (c) defines a total of **16 entities** such as a record, a folder, a retention and disposal schedule or a group to which metadata are persistently linked. Metadata provide descriptive information on the entities to facilitate understanding and management of them in an ERKS;
- (d) defines subsets of metadata elements out of the 80 metadata elements that must be exported or transferred together with their associated records, aggregations and other entities (if required) for meeting various business and/or records management purposes;
- (e) provides technical information including an eXtensible Markup Language (XML) schema which defines metadata and relationships among entities in a machine-readable format for use to import, export or transfer metadata; and

(f) recommends the establishment of a proper governance structure with clear roles and responsibilities in B/Ds to monitor the implementation of and compliance with RKMS.

9. A summary of requirements of RKMS is set out at the end of each chapter.

Compliance with RKMS and benefits

10. To ensure that creation, capture, use, management and maintenance of metadata are fully integrated with the essential ERKS functionality to properly manage and store records in an ERKS throughout the life cycle of records, RKMS should be adopted in conjunction with the functional requirements of an ERKS as prescribed in the *Functional Requirements of an Electronic Recordkeeping System*. The current version (version 1.2) of that publication is accessible at http://grs.host.ccgo.hksarg/erm/s04/435.html.

- 11. Compliance with RKMS will enable B/Ds to -
 - (a) manage records throughout their life cycle in an ERKS efficiently and effectively while maintaining their authenticity, integrity, reliability and usability;
 - (b) ensure that metadata are interoperable, transferrable and system-independent across different ERKS solutions;
 - (c) export or transfer metadata with their associated records in a system-neutral format between ERKSs (for example, in support of a system upgrade), between B/Ds (for example, in support of reorganisation of business among B/Ds) and to the Public Records Office of GRS to meet business and/or records management purposes; and
 - (d) support other processes associated with the management of records, such as tracking the whereabouts and retrieval of physical folders sent to the Records Centres operated by GRS for temporary storage.

Chapter 1 INTRODUCTION



1.1 Background

1.1.1 Government records are valuable resources and vital assets to support effective decision-making, meet operational requirements and protect the legal, financial and other interests of the Government of the Hong Kong Special Administrative Region (HKSARG) and the public. They are essential ingredients of internal and public accountability.

1.1.2 Hitherto, most bureaux and departments (B/Ds) have relied primarily on paper-based recordkeeping systems to manage their records. The widespread use of networked computers to conduct government business has led to an increasing proportion of government records being created in electronic form. This in turn results in challenges that the paper-based recordkeeping systems are unable to address; and yet proper controls over electronic records are as important as controls over paper records. Applying records management principles through the use of electronic systems, notably an electronic recordkeeping system (ERKS), electronic records management (ERM) is a proven solution to manage both electronic and non-electronic records in a consistent, efficient and integrated manner in the public sector of a number of overseas countries such as Australia, Canada, the United Kingdom and the United States of America.

1.1.3 The Government's Electronic Information Management (EIM) Strategy promulgated to B/Ds in May 2011 prescribes, inter alia, that EIM should support effective and efficient records management and B/Ds should adopt or develop an ERKS to drive ERM in HKSARG. To support government-wide implementation of ERKS, the Government Records Service (GRS) promulgated in May 2011 a set of ERKS functional requirements, namely *Functional Requirements of an Electronic Recordkeeping System* (version 1.0) for reference and compliance by B/Ds in developing or adopting an ERKS, either as a stand-alone system or as a part of an integrated EIM solution to meet records management requirements in an unstructured computing environment. GRS is developing further ERM and ERKS standards and guidelines to support development and government-wide implementation of ERKS.

1.1.4 A particular challenge of electronic records is the contextual information, or metadata, that needs to accompany records. To varying extents, the challenge applies to electronic records that are, and that are not, under the management of an ERKS. In some cases the challenge manifests itself as an absence of contextual information and other metadata; in other cases the recordkeeping metadata may be present but are incomplete; and in yet other cases they are complete but are incompatible with the metadata held in other systems, thereby making transfer of records among different systems difficult and requiring extensive customisation. The resulting non-uniformity of metadata means that the

authenticity, integrity, reliability and usability of records cannot be protected, and records cannot easily be exchanged between different technical platforms and systems, or that if they can be exchanged there is no way for their contextual information to accompany them.

1.1.5 To address the challenge specified in paragraph 1.1.4 above, GRS has developed the RKMS to guide B/Ds to create, capture, use, manage and maintain sufficient and essential recordkeeping metadata for records under the ERKS operating environment. RKMS (version 1.0) was first promulgated in May 2012 for B/Ds' reference and compliance. RKMS will be updated as necessary to incorporate new requirements. The version 1.0 has been updated to the current version (version 1.1) taking into account implementation experience of ERKS in B/Ds and reflecting the updated requirements of the Functional Requirements of an Electronic Recordkeeping System.

1.2 Purpose

- **1.2.1** The purposes of RKMS are to -
 - (a) ensure that B/Ds will use appropriate and sufficient metadata in a structured and consistent manner to describe the content, context and structure of records kept in an ERKS so as to ensure that records shall be authentic, accessible, interoperable, reliable and usable over time, irrespective of the B/D or ERKS within which they reside at any given time;
 - (b) support efficient and effective records management in an ERKS;
 - (c) facilitate B/Ds to export or transfer records with the required metadata from an information system (including a business system) to an ERKS for the latter to manage and store the records properly;
 - (d) facilitate B/Ds to export or transfer records with the required metadata from one ERKS to another ERKS either within the B/D itself or among B/Ds to meet business and/or records management needs;
 - (e) facilitate B/Ds to transfer records with archival value with the required metadata from their ERKSs to the Public Records Office (PRO) of GRS to enable the latter to describe and manage archival records for long-term preservation, to provide continued

access to and maintain the authenticity, integrity, reliability and usability of archival records;

- (f) provide reference to B/Ds and contractors involved in the selection, design and implementation of an ERKS solution; and
- (g) provide reference to GRS in developing a standard on bulk import, export and transfer of records with associated recordkeeping metadata and audit trails.

1.3 Scope

1.3.1 RKMS is independent of ERKS solutions and technical platforms. It applies to -

- (a) all records regardless of format and media, e.g. emails, spreadsheets, microfilms, photographs, maps and audio-visual recordings;
- (b) an ERKS (which is able to manage records and aggregations in a hybrid records management environment under which both electronic and non-electronic records co-exist);
- (c) an information system (including a business system) which integrates with an ERKS so as to enable the latter to capture and import records, aggregations and other entities (if required) with associated metadata created/received by and/or stored in the information system for proper management and storage;
- (d) an information system (including a business system) which exports or transfers records, aggregations and other entities (if required) with associated metadata to an ERKS for proper management and storage; and
- (e) transfer of records with archival value together with aggregations and other entities (if required) from an ERKS of a B/D to PRO of GRS.

1.3.2 RKMS is designed to support all the functionality needed to manage and find records up to the security classification of "CONFIDENTIAL" level. This is to ensure that when records are moved from one system to another, they are moved

with sufficient metadata to allow their good management to continue. For example, an upgrade to the latest version of an ERKS might involve transferring millions of records; and those records might be stored in hundreds of thousands of folders that are classified under thousands of classes or sub-classes; and they might be accessed by hundreds of users according to a complex security scheme. RKMS provides a format that allows these classes, sub-classes, folders, users and security needs to be expressed in metadata in a way that can be transferred between systems, along with the records.

1.3.3 RKMS includes only metadata that are required for paragraphs 1.3.1 and 1.3.2 above. Metadata that might be considered useful in some ways, but that are not required for the above reasons, are not included. It is not possible to list all the kinds of metadata that are excluded, but examples include -

- (a) metadata that describe characteristics of the record which are not needed, or are unlikely to be needed, for the purposes of finding and managing records, such as -
 - (i) size of a record (in bytes, or in number of pages, or in number of minutes duration); and
 - (ii) languages;
- (b) metadata required by related standards from another field but which do not contribute to finding and management of records, such as Dublin Core (see **Annex 10**) metadata for -
 - (i) abstract (meaning a brief summary); and
 - (ii) audience (such as schoolchildren, or accountants, or patients); and
- (c) metadata specific to a B/D that are not required across all B/Ds (though note that B/Ds may add B/D-specific metadata, as explained in **Chapter 6**), such as -
 - (i) geographic references; and
 - (ii) asset identifiers.

1.4 Audience

1.4.1 RKMS is intended primarily for government staff, including Departmental Records Managers, records management staff, IT staff of Information Technology Management Units (ITMUs), contractors, software suppliers, software developers, etc. who need to -

- (a) specify or supply an ERKS that complies with RKMS;
- (b) manage an ERKS to protect the authenticity, integrity, reliability and usability of records managed and stored therein;
- (c) understand the requirements of recordkeeping metadata for exports and transfers of records between ERKSs, or between B/Ds and GRS, for example to effect such a transfer;
- (d) develop, implement or maintain an interface that supports such exports and transfers;
- (e) extend RKMS to meet B/D-specific requirements on recordkeeping metadata; and
- (f) maintain RKMS or carry out customisations to it.

1.4.2 All readers are assumed to have a basic knowledge of records management and metadata concepts. **Annex 10** lists several references that may be helpful. Of these, the most useful for many readers may be -

- (a) ISO 15489 Information and documentation Records management Part 1: General;
- (b) ISO 23081 Information and documentation Records management processes – Metadata for records – Part 1: Principles; and
- (c) ISO 23081 Information and documentation Managing metadata for records Part 2: Conceptual and implementation issues.

1.5 **Benefits**

- 1.5.1 Compliance with RKMS will enable B/Ds to -
 - (a) manage records throughout their life cycle in an ERKS efficiently and effectively while maintaining their authenticity, integrity, reliability and usability;
 - (b) ensure that metadata are interoperable, transferrable and interdependent;
 - (c) export or transfer metadata together with their associated records, aggregations and other entities (if required) between ERKSs (for example, in support of a system upgrade), between B/Ds (for example, in support of reorganisation of business among B/Ds) and to PRO of GRS for permanent retention of records with archival value; and
 - (d) support other processes associated with the management of records, such as tracking boxes of non-electronic records sent to the Records Centres operated by GRS for temporary storage.

1.6 Related government standards and guidelines

1.6.1 The *Functional Requirements of an Electronic Recordkeeping System*, first promulgated by GRS in May 2011, sets out the essential recordkeeping functionality of an ERKS. The current version (version 1.2) of the publication is accessible at http://grs.host.ccgo.hksarg/erm/s04/435.html.

1.6.2 B/Ds are required to adopt in full mandatory functional requirements of an ERKS and comply with other ERM and ERKS standards, including RKMS to ensure that an ERKS possesses the essential records management functionality to properly manage and store records throughout the life cycle of records. In case there are inconsistencies between the functional requirements of an ERKS and any ERM and ERKS standards, B/Ds should seek advice from GRS.

1.6.3 GRS is in the process of developing a standard on bulk import, export and transfer of records from one ERKS to another ERKS and from one ERKS of a B/D to GRS. This standard will be used in conjunction with RKMS to support bulk import, export and transfer of records with associated entities and metadata to meet different business and/or records management purposes.

1.7 Compliance

1.7.1 A summary of requirements of RKMS is set out at the end of each chapter for easy reference. As the requirements have significant bearing on designing, developing and implementing ERKS functionality, compliance with RKMS is mandatory for development or adoption of an ERKS by B/Ds and for export or transfer of records, aggregations and other entities (if required).

1.8 Authority

1.8.1 RKMS is one of the government-wide EIM standards for compliance by B/Ds. It is issued by the GRS Director.

1.9 Development methodology

1.9.1 Figure 1 depicts the approach used to develop RKMS, in simplified and idealised form. It is explained in the following paragraphs.

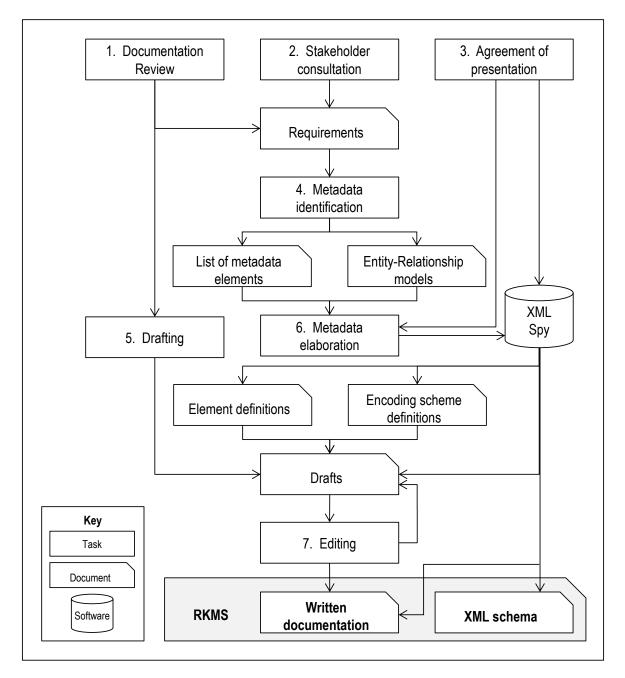


Figure 1: Development methodology

1.9.2 The first substantive task was to review existing documentation (task 1 in the figure), and to consult with stakeholders (task 2) to identify the requirements for recordkeeping metadata, consistent with the principle established in section 1.3. The documentation included GRS' publications on records management, functional requirements of an ERKS and metadata, documentation issued by the Office of the Government Chief Information Officer (OGCIO) on IT security and interoperability framework requirements. Best practice, as expressed in other standards, was also taken into account. Relevant documents are included at **Annex**

10. Stakeholders included a selection of staff from GRS, Efficiency Unit (EU) and five other B/Ds, including Communications and Creative Industries Branch (CCIB) (formerly known as Communications and Technology Branch) of Commerce and Economic Development Bureau, Drainage Services Department (DSD), Legal Aid Department (LAD), OGCIO and Rating and Valuation Department (RVD). The set of requirements that emerged from these activities provided the foundation for the remaining development.

1.9.3 At an early stage, the requirements for presentation of RKMS were developed (task 3). This included the structure of the present written documentation, and the technical requirements of the eXtensible Markup Language (XML) schema (explained in **Chapter 5**) for compliance with government standards.

1.9.4 Each requirement led to the identification of one or several metadata elements (task 4). For example, a requirement to implement retention and disposal schedules led to several metadata elements that define retention and disposal schedules and mandates; and a requirement to be able to impose a 'hold' on disposal resulted in metadata elements that define the disposal hold process. As they were developed, the metadata elements were related to each other in formal entity-relationship models (explained below in section 3.5). This modelling process helped to explain and clarify several detailed points concerning the metadata elements.

1.9.5 The metadata elements were then elaborated in detail (task 6). As a good practice in metadata standards, the detail included all the attributes of each metadata element needed to explain it to readers and software developers, and enough detail to allow the generation of an XML schema that expresses the metadata in a machine-readable form. The outcome was a series of metadata element definitions. At the same time, several necessary encoding schemes were identified. Wherever possible these were adopted from existing schemes (for example the list of B/D codes). Wherever no suitable list existed, it was developed for RKMS (for example, the list of 'events' to be recorded). Each encoding scheme was documented to the same level of detail, and for the same purposes, as the element definitions.

1.9.6 A specialist tool (i.e. Altova XMLSpy) was used during this process. It was configured for RKMS, and the definitions of elements and encoding schemes were entered into this tool. XMLSpy thereafter allowed changes to be made, and allowed the production of various figures and logical views of the metadata with total consistency. Crucially, one of these views is the XML schema itself. Other views include the tabular presentations of the metadata elements and encoding schemes included at Annexes to RKMS.

1.9.7 In parallel with the above development, RKMS was drafted (task 5). Its contents are determined by the metadata elements and encoding schemes, by good practice in information governance, and by the presentation agreed in task 3. The draft was reviewed, refined and revised iteratively (task 7). During each review cycle, both the written parts and the XML schema of RKMS were evolved together.

1.10 Design considerations

Records management in the Government

1.10.1 Practising good records management is an important common function of B/Ds. In the past, this has meant managing records in physical form (mainly paper records). However, the adoption of electronic systems to create records, to send them (e.g. through email) and to store them (e.g. in an ERKS) introduces the need to manage electronic records also. Electronic records are best managed in electronic form, for reasons that include technical, cost and practical considerations.

1.10.2 Policies, procedures, standards and practices for the management of paper records have evolved over centuries. The discipline of paper records management is thus now considered to be stable and mature in the Government. By contrast, the management of electronic records – in HKSARG and governments elsewhere – is relatively new. The practice of electronic records management as a widespread discipline can be traced back only to 1997, when the United States Department of Defense published its military standard for ERKS, known as US DoD 5015.2 (described from paragraphs 1.10.49 to 1.10.55).

1.10.3 RKMS is one measure from several being taken by the Government in response to this need.

1.10.4 In developing RKMS, including the recordkeeping metadata elements, extensive reference has been made to Government regulations and guidelines, international records management standards, etc. Those references and source documentation are summarised below.

Implications of Security Regulations

1.10.5 RKMS is consistent with the requirements of the Security Regulations, (updated in August 2015). This is achieved in the model by several features -

(a) metadata that reflect the security classification of records;

- (b) metadata that reflect the security clearance of staff;
- (c) encoding schemes for points (a) and (b) above; and
- (d) metadata that reflect the assembly of users into groups, for the purpose of managing access using the security classification.

Records management standards and guidelines issued by HKSARG

General circulars on records management

1.10.6 General Circulars No. 5/2006 and No. 2/2009 set out B/Ds' responsibilities in regard to records management, and explicitly state mandatory requirements relating to records classification, records retention and disposal and protection of vital records. The requirements have been incorporated into RKMS.

Functional Requirements of an ERKS developed by GRS

1.10.7 This document presents precise requirements.

1.10.8 The *Functional Requirements of an Electronic Recordkeeping System*, first promulgated by GRS in May 2011, includes numerous requirements that have explicit implications for recordkeeping metadata (for example permitting authorised users to process metadata values, Requirement 6(d), and metadata inheritance, Requirement 9(b)) and others that represent implicit requirements (for example capturing multiple versions of a document, Requirement 13, and retention management, Requirement 42 et al). These requirements were taken into account in the development of RKMS and ensure that RKMS is commensurate with the functional requirements of an ERKS.

1.10.9 The updated *Functional Requirements of an Electronic Recordkeeping System* (version 1.2) was promulgated in September 2016 for reference and compliance by B/Ds. RKMS is commensurate with the updated functional requirements set out in the updated *Functional Requirements of an Electronic Recordkeeping System* (version 1.2).

OGCIO standards and guidelines

HKSARG Interoperability Framework [S18]

1.10.10 This document presents precise requirements.

1.10.11 The interoperability framework (IF) supports the Government's strategy of providing client-centric joined-up services by facilitating the interoperability of technical systems between B/Ds. It aims to define the set of specifications to facilitate Government systems to communicate and interoperate. In addition, it promotes and fosters the adoption of XML to enable the exchange of data between applications.

1.10.12 The framework includes a set of technical standards and data standards that help define the interface across different systems; and other standards documents that define infrastructure architecture, conventions and procedures.

- 1.10.13 Compliance of RKMS with the guidelines includes the following -
 - (a) Section 6.3 Principles for selecting technical standards under the IF -
 - (i) item (a) requires 'The specifications adopted should be either internationally recognised or de facto standards...'. RKMS uses ISO 8601 for the representations of dates and times;
 - (ii) item (c) requires 'The specifications adopted should be vendor and product neutral as far as possible...'. The XML schema in RKMS is product-neutral. It was developed using an XML editing tool 'XMLSpy' from Altova, which is fully conformant with all XML standards. However, any conformant XML editing tool can be used to maintain the schema;
 - (iii) item (d) requires 'For any particular purpose, the number of specifications allowed should be limited as far as practicable...'. RKMS uses XML schema 1.0; and
 - (iv) item (f) requires 'The specifications should be well aligned with Internet (e.g. W3C and IETF) standards...'. RKMS uses URI as the identifier scheme, as specified in the IETF RFC 3986, and ISO 8601/W3C for date and time; and
 - (b) Section 7.3 Information access and interchange domain -

- (i) 'Character sets and encoding for Web content' recommends use of ISO 10646 (Unicode) UTF-8. The XML schema uses UTF-8;
- (ii) 'E-Business document / data message formatting language' recommends use of XML 1.0. The XML schema uses XML 1.0; and
- (iii) 'XML schema definition' recommends that XML Schema 1.0 is used for data definitions. RKMS uses XML schema 1.0.

XML Schema Design and Management Guide [G55]

1.10.14 This document presents precise requirements.

1.10.15 This four-part guide is designed to facilitate data interoperability in joined-up services implementation using XML. It provides a methodology for defining and sharing information models and XML schemas, thereby maximising the reusability of data elements. Specifically, the guide provides a methodology and guidelines to model business process and information, generate the XML Schema Definition code, and align and manage data elements and schemas.

- 1.10.16 Compliance of RKMS with part II of the guide includes the following -
 - (a) Section 5.3.1. Core Component Type -
 - (i) the guide states that each 'Core Component Type' shall be coded as an xs:complexType. A Core Component Type is directly analogous to an 'Entity' in RKMS and as such is defined using xs:complexType; and
 - (ii) the guide states that each 'Content Component' shall be coded as an xs:simpleType. A Content Component is directly analogous to an 'Element' in RKMS and as such is defined using xs:simpleType;
 - (b) Table 5-1 lists recommended data types. These include xs:date (Date), xs:dateTime (Date and Time), xs:Boolean (Yes/No), xs:string (String), xs:anyURI (URI). All these data types are used in the XML schema;

- (c) Section 5.4.3 Versioning requires that 'A schema should be assigned with a version number by using the version attribute of the xs:schema ... A released schema is recommended to have its version number in the form n.m...'. This has been implemented;
- (d) Section 5.4.4. Documentation of Meta-Data requires the use of xs:documentation and xs:annotation elements be used to provide context for the metadata of XML schema elements. The XML schema of RKMS makes extensive use of this to allow highly detailed information about each entity, element and encoding scheme; and
- (e) Section 5.5.1. Name a Complex Type specifies naming conventions, all of which are followed in RKMS -
 - (i) all dot and space characters are removed from names;
 - (ii) upper camel convention for multiple words is used; and
 - (iii) '.CT' is appended to the entity name.

Implications of international standards and guidelines related to records management and metadata

Introduction

1.10.17 Many standards are relevant to RKMS; and many others have some bearing on RKMS. The following paragraphs describe the most important of these.

- 1.10.18 Broadly, standards can be divided into two kinds -
 - (a) standards that list precise requirements (such as safety standards, or standards of code lists); and
 - (b) standards that describe good practice.

1.10.19 The impact of complying with precise mandatory standards is clear. B/Ds should comply with the standards that describe good practice as far as practicable. The standards below are identified as containing precise mandatory requirements or good practice. In the event of any conflict between standards, RKMS should prevail against other standards in the context of HKSARG.

1.10.20 All standards are referred to by number or common name, as appropriate. **Annex 10** includes bibliographic details.

ISO 8601: Data elements and interchange formats – Information interchange – Representation of dates and times and W3C XML Schema part 2: Datatypes Second Edition

1.10.21 ISO 8601 and the W3C XML Schema Part 2 both define ways of stating dates, times and intervals.

1.10.22 ISO 8601 is a large standard covering a wide range of potential needs, which allows great variation in implementation. The W3C has therefore developed a profile of the standard which allows greater precision. RKMS uses the W3C formats for date and time, and for duration, since they are simple to understand, while still conforming to the ISO standard.

ISO 13028: Information and documentation – Implementation guidelines for digitization of records

1.10.23 This standard presents good practice.

1.10.24 ISO 13028, titled 'Implementation guidelines for digitization of records', establishes guidelines for creating and maintaining records in digital format where the original paper record has been scanned. It describes processes and controls intended to maximise the trustworthiness and evidential weight of such records. The metadata elements in RKMS relevant to scanning are consistent with ISO 13028.

ISO 14721: Space data and information transfer systems – Open archival information system – Reference model

1.10.25 This standard presents good practice.

1.10.26 ISO 14721, titled 'Open archival information system – Reference model' describes good practice for the long term preservation of digital information in a long term archive. It establishes a conceptual reference model for such archives. The metadata in RKMS is consistent with ISO 14721, so as to allow implementation of a long term digital preservation system in the future.

ISO 15489: Information and documentation – Records management

1.10.27 This standard presents good practice.

1.10.28 Part 1 of ISO 15489, titled 'Records management', is a standard that defines records management. It also provides the accepted definition of 'record' and states that authoritative records must have the following four characteristics -

- (a) authenticity: an authentic record is one that can be proven -
 - (i) to be what it purports to be;
 - (ii) to have been created or sent by the person purported to have created or sent it; and
 - (iii) to have been created or sent at the time purported;
- (b) reliability: a reliable record is one whose contents can be trusted as a full and accurate representation of the transactions, activities or facts to which they attest;
- (c) integrity: the integrity of a record refers to its being complete and unaltered; and
- (d) usability: a usable record is one that can be located, retrieved, presented and interpreted.

1.10.29 ISO 15489 establishes the broad principles by which records should be managed to achieve these properties. These principles include systematic management, classification, access control, retention and disposal scheduling, and vocabulary controls.

1.10.30 ISO 15489 addresses records management in general, at a high level. It makes little mention of issues that are specific to non-electronic records or to electronic records, and makes little mention of metadata.

1.10.31 Readers who are not familiar with records management are advised to read ISO 15489 Part 1, which is short and accessible.

1.10.32 Part 1 is accompanied by Part 2, which is a Technical Report that describes one methodology for implementing recordkeeping systems to comply with Part 1. It therefore is of limited relevance to RKMS.

1.10.33 RKMS is consistent with the records management practices defined in ISO 15489 Part 1.

ISO 23081-1: Information and documentation – Records management processes – Metadata for records – Part 1: Principles and ISO 23081-2: Information and documentation – Managing metadata for records – Part 2: Conceptual and implementation issues

1.10.34 This standard presents good practice.

1.10.35 ISO 23081 is a Technical Specification (i.e. not formally a standard) that presents 'a guide to understanding, implementing and using metadata within the framework of ISO 15489'.

1.10.36 Part 1 explains the purpose of recordkeeping metadata, and briefly covers the roles, responsibilities and management processes that are called for. It also describes the kinds of metadata that are needed.

1.10.37 Focusing on conceptual and implementation issues, Part 2 examines numerous conceptual and implementation issues in greater depth. It provides several different views and perspectives on recordkeeping metadata. One of these views defines six categories of metadata. The categories are depicted diagrammatically at Figure 2, and are explained in section 2.4.

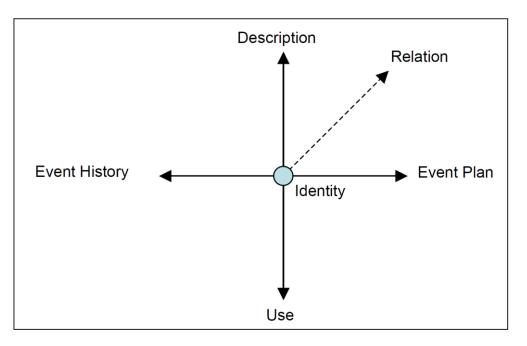


Figure 2: The six categories of recordkeeping metadata defined in ISO 23081 Part 2

1.10.38 This model, and the definition of the category refinements from ISO 23081, was used as the basis for the categorisation of the metadata elements defined in RKMS. Other concepts and ideas in this technical specification also influenced the design of RKMS.

1.10.39 Readers who are not familiar with issues concerning recordkeeping metadata may find parts of ISO 23081 helpful.

ISO 15836: Information and documentation – The Dublin Core metadata element set

1.10.40 This standard presents precise requirements which occupy an important place in the metadata standards landscape, although their relevance to recordkeeping is low. It is included here because document-based systems frequently use it as a basis for modelling metadata, and the mapping of this type of metadata to an ERKS will become important for B/Ds if content management is integrated with records management.

1.10.41 ISO 15836, titled 'The Dublin Core metadata element set', establishes a standard for cross-domain resource description and is focused on resource description and rights management, as it originates from the libraries sector. It is not designed to apply to records management; it omits some key metadata required

for this purpose, such as metadata for retention and disposal scheduling, aggregation, and history. Consequently some of its structures are inappropriate to the management of government records. While Dublin Core concepts, such as some of its naming principles, have been influential in metadata design – including for RKMS – RKMS is not designed to comply with it.

MoReq, MoReq2 and MoReq2010

1.10.42 'MoReq' is the commonly-used name of a European specification for electronic records management systems. In its earlier editions, MoReq was a contraction of 'Model requirements for the management of electronic records'. In its most recent edition it is a contraction of 'Modular Requirements for Records Systems'. The contracted name MoReq is used to refer both to the first edition of MoReq, and to the series of all the editions.

1.10.43 MoReq defines a set of standard functional requirements for electronic records management systems. Published by the European Commission and intended to be applicable across all sectors throughout all countries in the European Union, it has been used and adopted more widely. It includes a metadata model intended to support the requirements, precisely as the metadata defined in RKMS are intended to support the functional requirements of an ERKS developed by GRS.

1.10.44 The first edition of MoReq was published in 1999. It was superseded by MoReq2, published in 2008. The metadata in the first edition of MoReq were therefore not referenced in developing RKMS; the model in MoReq2 was influential in the design.

1.10.45 At the time of developing RKMS, a project was under way to develop MoReq2010, a successor to MoReq2; a consultation draft, version 0.92 was published in December 2010. The metadata model in the draft was incomplete, but several of the concepts it embodied have influenced the design of RKMS. A final version of MoReq2010, version 1.0, was published when RKMS was at an advanced stage of development.

PREMIS Data Dictionary for Preservation Metadata

1.10.46 This standard presents precise requirements.

1.10.47 Titled 'PREMIS Data Dictionary for Preservation Metadata' and commonly referred to as PREMIS, this guidance has been produced by an ad hoc committee of digital preservation experts from around the world. PREMIS originally was an acronym for Preservation Metadata: Implementation Strategies.

1.10.48 The scope of PREMIS is strictly limited to preservation actions. It is based on a data model that is difficult to relate to records management. PREMIS therefore has not been influential in RKMS, though it seems possible that RKMS could prove to be compatible with PREMIS.

US DoD 5015.2: Electronic Records Management Software Applications Design Criteria Standard

1.10.49 This standard presents precise requirements.

1.10.50 The 'Electronic Records Management Software Applications Design Criteria Standard' published by the United States Department of Defense is covered briefly here as it occupies an important place in the recordkeeping standards landscape.

1.10.51 Known as US DoD 5015.2, this standard defines functional requirements for electronic records management, along with metadata. In this respect it resembles MoReq; but in many other respects they differ.

1.10.52 US DoD 5015.2 is important because it was the first widely known, and widely used, standard specification of this kind. It originally was developed for the United States Department of Defense, but its adoption rapidly spread to civil government and beyond. Because of this rate of adoption it is widely viewed as one of the leading standards.

1.10.53 Despite its importance, US DoD 5015.2 is not relevant to the HKSARG's needs. It is highly specific to the American environment (relying on dozens of American laws, national archives guidance, executive orders and other documents) and to the defense establishment in particular (relying on dozens of military standards, Department of Defense and other directives). It is based on concepts, vocabulary and requirements that differ greatly from those of HKSARG; for example it contains requirements for specific record formats (such as only some versions of PDF format) rather than being technology-neutral.

1.10.54 US DoD 5015.2 does include metadata requirements; however, the requirements are stated only at an outline level, stopping well short of the level of detail required for RKMS. Additionally, the metadata elements defined are linked closely to the requirements and vocabulary which are not appropriate for Hong Kong.

1.10.55 For all these reasons, US DoD 5015.2 was not influential in the development of RKMS.

1.11 Organisation of RKMS

1.11.1 Apart from the Introduction, RKMS consists of the chapters and annexes set out below.

Content

- Chapter 2 Explains the main principles and concepts underpinning RKMS. The principles include brief explanations of metadata and their role in records management. Principles that are especially important such as inheritance and extensibility are emphasised.
- Chapter 3 Explains the terminology used and the conceptual design of the metadata defined in RKMS. Includes descriptions of several decisions taken in respect of the metadata design, and other aspects of the metadata defined in RKMS.
- Chapter 4 Explains how RKMS defines the metadata elements in the form of tables. Each attribute of the tables is described.
- Chapter 5 Explains technical aspects of the XML schema that forms a part of RKMS. After defining selected terms, it explains the structure of the schema and of its related documentation, along with a description of how it was produced and considerations for its maintenance.
- Chapter 6 Contains guidance on the implementation, use and maintenance of RKMS. It explains the considerations that apply to using RKMS in the context of ERKSs and other applications. The assessment of compliance with RKMS is examined, and the chapter concludes by explaining how B/Ds can customise RKMS by adding some business-specific metadata element definition(s) to it.
- Chapter 7 Defines the governance framework for RKMS and departmental recordkeeping metadata standards. The framework is designed to ensure its integrity and consistency and hence its value in the future.
- Annex 1 Lists the metadata elements that apply to each Application Profile defined in RKMS (each Application Profile defines one way in which RKMS can be used).
- Annex 2 Lists the metadata elements that make up RKMS, in a format that shows which elements apply to which entities.

- Annex 3 Contains a series of tables, one per element, that define the metadata elements. This constitutes the core of RKMS.
- Annex 4 Contains a cross-reference listing that relates the two naming conventions used to identify the metadata elements, entities and encoding schemes (one naming principle is intended to be user-friendly, the other is for technical use).
- Annex 5 Contains a series of tables that define the encoding schemes to be used by some metadata elements.
- Annex 6 Contains definitions for event types.
- Annex 7 Contains a listing of the XML schema, with its accompanying documents.
- Annex 8 Contains a glossary of terminology used in RKMS.
- Annex 9 Lists abbreviations and acronyms used in RKMS.
- Annex 10 Lists standards and guidelines referred to in RKMS.

1.12 Summary of requirements

Т

1.12.1 The requirements of RKMS set out in Chapter 1 are summarised below -

1.	B/Ds must apply RKMS to all records regardless of format and media, e.g. emails, spreadsheets, microfilms, photographs, maps and audio-visual recordings.	applicable to AP1 to AP4 [Note: See the
	Note: RKMS is not intended to be applied to records managed and stored in a paper-based recordkeeping system. (See section 1.3 for details.)	definition of an application profile (AP) and AP1 to AP4 in Chapter 3].

2.	B/Ds must apply RKMS to an ERKS. (See section 1.3 for details.)	applicable to AP1, AP3 and AP4
3.	 Where B/Ds choose to - (a) integrate an information system with an ERKS so as to enable the latter to capture and import records, aggregations and other entities (if required) with associated metadata created/received by and/or stored in the information system; or (b) export or transfer records, aggregations and other entities (if required) with associated metadata from an information system to an ERKS for proper management and storage, they must apply RKMS to the information system. (See section 1.3 for details.) 	applicable to AP2
4.	B/Ds must apply RKMS to transfer records with archival value with aggregations and other entities (if required) from an ERKS of a B/D to the Public Records Office of GRS.(See section 1.3 for details.)	applicable to AP4

Chapter 2 KEY PRINCIPLES



2.1 Introduction

2.1.1 This chapter explains key principles relating to recordkeeping metadata and their creation, capture, use, management and maintenance. It also explains their relationship with an ERKS, and covers some principles that apply to recordkeeping metadata.

2.2 Metadata and recordkeeping metadata

2.2.1 In general, metadata means information that is used to describe other information. In the context of records management, the formal definition – taken from the international standard that defines records management, ISO 15489, is data describing context, content and structure of records and their management through time (ISO 15489 and all other standards referenced in the present document are listed at Annex 10; the terms 'context', 'content' and 'structure' are defined at Annex 8). This definition of metadata has been adopted in RKMS. Metadata in records management context are also named as recordkeeping metadata. This term is used interchangeably with metadata in RKMS.

2.2.2 Metadata in records management fulfil many functions not required in non-recordkeeping applications; key points in the above definition include -

- (a) context, content and structure: the context of a record, meaning how it relates to other records can be described in metadata, as are the content, and also the structure of the record;
- (b) management: metadata about records are used to describe their management. As examples -
 - (i) the folder, sub-class and class in which a record is stored can be expressed as metadata;
 - (ii) other attributes such as its security classification and retention rules can be expressed in metadata; and
 - (iii) metadata are used to describe other entities that are needed to manage records comprehensively, such as users and mandates; and

(c) through time: a major rationale for formalising RKMS is to establish formats for metadata that will endure over the long periods commensurate with the expected lifetime of many records – decades or longer. Over this period, a succession of systems will be used to manage the same records, so having common formats that permit exchange of records with their metadata assumes considerable importance.

2.2.3 In the records management and metadata management communities, the word 'metadata' is used to mean two completely different concepts. Both meanings are similarly used in RKMS. The two concepts are -

- (a) a data structure, or 'container' for information. Examples of this for records are 'Title' and 'Date created'. The common term for this is 'metadata element'; and
- (b) specific values (i.e. metadata values) of information that apply to a record or other entity. Examples of this for records, to match the above examples, are 'Arrangements for initiating the ABC project' and '2011-04-30'.

2.3 Significance of metadata in the electronic environment

2.3.1 Metadata assume particular importance in systems that manage electronic records. This is because under some circumstances it can be possible to change or delete electronic records without leaving any trace. If this is allowed it clearly negates any attempt to demonstrate the authenticity, integrity and reliability of records. Complete metadata play an important part in ensuring that the authenticity, integrity and reliability of the records to which they apply can be demonstrated successfully. Complete metadata also play a part in facilitating management actions intended to assure long-term usability of electronic records.

2.4 Kinds of recordkeeping metadata

2.4.1 The metadata elements included in RKMS fall into six categories, as defined in ISO 23081 (see **Annex 10** for the full reference) -

(a) **identity metadata**: identify entities, differentiating them from other entities. An example is the 'System identifier' assigned to each record (much as each paper record in a paper folder is assigned an enclosure number);

- (b) **description metadata**: provide information that helps records users to understand which entity they are dealing with. An example is the 'Title' assigned to a record;
- (c) **use metadata**: facilitate long-term use. An example is the 'File format' metadata which supports long-term preservation activities;
- (d) **event plan metadata**: allow future records management actions to be managed. An example is the 'Disposal date future' applied to an aggregation;
- (e) **event history metadata**: document past records management actions. An example is the 'Date opened' of a folder; and
- (f) **relation metadata**: allow different entities to be related. Examples include 'Relation - has attachment' and 'Relation - is attachment of' metadata that link an email record with its attachment(s); and 'Relation - entity' metadata that shows to which folders a disposal hold is applied.

2.4.2 The categories are recognised in metadata XML names, as explained in section 4.4.

2.5 When metadata values are created or captured

2.5.1 RKMS makes no assumption about the sources of metadata values. Metadata values can be created and captured through various means including inheritance, system generation, automatic capturing and manual input or selection. As a general principle, metadata values about records and other entities should be captured as early as possible. In practice this means that -

- (a) where records originate from an electronic document management system, it may be valuable to capture document metadata ('Title', 'Creator', etc.) in the document management system, before the document becomes a record;
- (b) for an ERKS, it will in most cases be advantageous to capture as many metadata values as possible as soon as the record is created or captured; and

(c) other metadata values, e.g. 'Date closed' for closure of a folder, may be captured at later stages in the life cycle of records.

2.5.2 For each metadata element prescribed in RKMS, the modes of creation, capturing and inheritance of its metadata value(s) are specified in its corresponding metadata element definition table at **Annex 3** under the properties '**capturing mode**', '**inheritance**' and '**source**'. B/Ds must create or capture permitted values for metadata elements defined in RKMS accordingly. See also section 2.7 for sources of metadata and section 2.8 for inheritance of metadata.

2.6 When metadata values should be maintained

2.6.1 Metadata values of records and other entities must be maintained properly by B/Ds throughout the life cycle of records, so as to ensure their authenticity, reliability, integrity and usability. The values must be maintained to reflect changes (for example, changes of retention and disposal schedules and reclassification) and other events that affect the records and other entities (for example, configuration changes, creation of new disposal hold).

2.7 Sources of metadata

2.7.1 RKMS makes no assumption about the sources of metadata values. However, as a principle, as many metadata values as possible should be captured automatically, system-generated or inherited rather than being entered manually because they afford large benefits for completeness, correctness, and efficiency.

2.7.2 Metadata values about records and other entities can come from several sources. These include -

- (a) from users of an ERKS who enter the metadata values manually (for example, 'Vital record status');
- (b) from a computer operating system (for example, 'Date sent' and 'Time sent');
- (c) from the record being captured (for example, 'Title');
- (d) from the network directory (for example, 'User name');
- (e) from legacy applications (for example, 'Case identifier');

- (f) from barcode software (for example, 'GRS box number'); and
- (g) from other entities in the ERKS, by inheritance or by some other form of interdependency.
- 2.7.3 These ideas are explored in more detail in Chapter 6.

2.8 Inheritance

2.8.1 Records are managed in aggregations (for example, parts and folders; see section 3.3). These aggregations are arranged in a hierarchy made of classes and sub-classes. It is a principle of recordkeeping that some management information – metadata – needed to manage records can by default be 'inherited' in the hierarchy, from the aggregation at which it is applied to all the aggregations and hence records below it in the hierarchy. This is good practice because, as stated by ISO 23081, 'this is a technique which serves to ensure consistency of metadata attribution.'

2.8.2 For example, a (fictitious) sub-class titled 'Travel' might have an Owner called 'Division A'; by default this value would then be inherited by the folders, sub-folders and parts below this sub-class. This is illustrated in Figure 3.

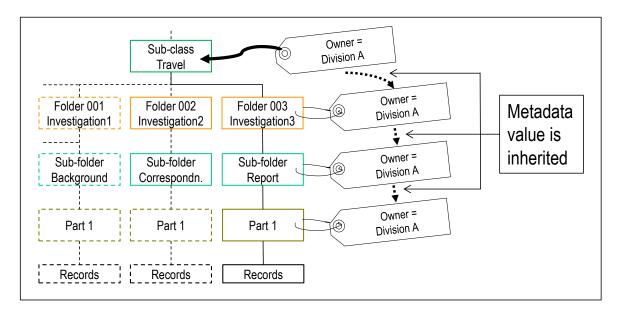


Figure 3: Inheritance example

2.8.3 Inheritance can be implemented by ERKSs in several ways. In particular, inheritance may be implemented with or without the inheritance being 'retrospective'. Retrospective inheritance means that a change in the inheritable

metadata values of an aggregation can optionally be reflected in the inherited values of all objects already contained by the aggregation.

2.8.4 B/Ds should determine how inheritance features are implemented in their ERKSs. For further details of implementation approaches see ISO 23081 part 2 clause 7.2.

2.9 Extensibility

2.9.1 As a matter of principle, RKMS defines all the metadata identified as required across all B/Ds for records management functions common to B/Ds. This principle recognises the fact that individual B/Ds may identify requirements specific to their business and/or records management requirements, or to the business and/or records management requirements of a number of B/Ds. In this event they may consider extending RKMS to develop their own departmental recordkeeping metadata standards, for example by adding B/D-specific metadata elements and encoding schemes to meet their specific requirements. The procedures to be followed are described in **Chapter 6**.

2.10 Interdependency

2.10.1 Recordkeeping metadata elements may be linked to other elements. Values of metadata elements are in some way interdependent on values of other metadata elements. Such interdependence can take following forms such as -

- (a) an element can have a value for a particular object only if another element has a specific value. As an example, the 'Location current' metadata element that shows the physical location of a part is interdependent with the metadata element that shows whether it contains non-electronic records. Because only physical and hybrid parts can have a location, and because they must have a location, for a given part the location can only be present when the part contains non-electronic records; and
- (b) elements can be mutually exclusive, or have mutually exclusive values. As an example, two metadata elements are used to record 'triggers' for retention and disposal schedules; one is used for internal triggers and the other for external triggers (the latter element is a relationship element, named 'Relation entity', that connects the schedule with a trigger). Internal and external triggers are mutually exclusive, so each retention and disposal schedule can have either a value for an internal trigger, or it may

have a value for a 'Relation - entity' element that relates to an external trigger, but not both (note however that a retention and disposal schedule can have both a value for an internal trigger and any number of values for 'Relation - entity' elements that relate to entities other than external triggers).

2.11 Reuse of metadata values

2.11.1 Some recordkeeping metadata values will be useful for purposes other than records management. Reuse of metadata for such purposes is desirable, as it may enhance business efficiency. As specific examples, metadata elements intended to support retrieval (e.g. 'Title' and 'Keyword') may be used by other business systems. If B/Ds develop an integrated EIM solution including an ERKS and a knowledge management system (KMS), B/Ds may consider whether metadata values, e.g. the 'Creator name' and 'Keyword' of a record captured by the ERKS can be reused by the KMS.

2.12 Summary of requirements

2.12.1 The requirements of RKMS set out in Chapter 2 are summarised below -

1.	<i>Where</i> B/Ds add recordkeeping metadata elements to meet their specific records management and/or business needs, they must ensure that the metadata elements to be added fall within the six categories of metadata elements as defined in section 2.4.	applicable to AP1 to AP4
	 Note: Please see also requirements regarding development of a departmental recordkeeping metadata standard set out in Chapter 6. (See section 2.4 for details.) 	

2.	B/Ds must create or capture permitted values for metadata elements as early as possible for records and	applicable to AP1 to AP4
	other entities defined in RKMS.	
	Notes:	
	(a) For each metadata element prescribed in RKMS, the modes of creation, capturing and inheritance of its metadata value(s) are specified in its corresponding metadata element definition table at Annex 3 under the properties 'capturing mode', 'inheritance' and 'source'.	
	(b) Please see also requirements regarding creation, capture, use, management and maintenance of metadata set out in Chapter 4 .	
	(See sections 2.5, 2.7 and 2.8 for details.)	
3.	B/Ds must maintain accurate, complete and consistent values for metadata elements of records and other entities throughout the life cycle of records to ensure the authenticity, integrity, reliability and usability of records and to reflect changes and other events that have affected the records and other entities. (See section 2.6 for details.)	applicable to AP1
4.	B/Ds must ensure that the interdependencies among metadata elements and their values as defined in RKMS, particularly at Annex 3 and Annex 7 are always maintained properly so as to ensure the authenticity, integrity, reliability and usability of records and to reflect changes and other events that have affected the records and other entities.	applicable to AP1 to AP4
	Note: The relationships including interdependencies among metadata elements are also expressed and described in the XML schema at Annex 7.	
	(See section 2.10, Annex 3 and Annex 7 for details.)	

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Chapter 3 KEY TERMINOLOGY AND CONCEPTS



3.1 Introduction

3.1.1 This chapter introduces key terms and concepts. This includes the key terminology used to describe records management activities, the model underlying RKMS, and other concepts needed for a complete understanding of RKMS.

3.1.2 Refer to the glossary at **Annex 8** for formal definitions of key terms.

3.2 Application profiles

3.2.1 Different subsets of metadata elements are needed for different purposes. A subset is referred to as an 'Application Profile' (AP). Four APs included in RKMS are for the following purposes -

- (a) **ERKS management** (referred to hereinafter as **AP1**): to manage records as they are created, captured, managed, stored and maintained by an ERKS. B/Ds must ensure that an existing ERKS, an ERKS being developed or an ERKS to be developed comply with the requirements applicable to AP1. This means that B/Ds must comply with the requirements prescribed for entities and their metadata set out in RKMS for an ERKS;
- Export to ERKS (referred to hereinafter as AP2): to manage the (b) export or transfer of records from an information system to an ERKS (regardless of whether the information system is or is not integrated with an ERKS that manages records stored in the information system's repository). The requirements of AP2 are applicable only to the exporting system, to define the metadata to be exported or transferred; the ERKS which imports it should conform to the requirements of AP1. Where B/Ds export or transfer records, aggregations and instances of other entities (if required) together with their associated metadata from an information system to an ERKS for the latter to manage and store the records, they must comply with the requirements applicable to AP2. This means that B/Ds must comply with the requirements prescribed for entities and their metadata set out in RKMS for the said purpose;
- (c) **Transfer to B/D** (referred to hereinafter as **AP3**): to manage records as they are exported or transferred between ERKSs, either within a B/D or between B/Ds. Requirements of AP3 are applicable only to the exporting system, to define the metadata to

be exported or transferred; the ERKS which imports it should conform to the requirements of AP1. *Where* B/Ds export or transfer records, aggregations and instances of other entities (if required) together with their associated metadata from an ERKS to another ERKS either within the B/D or to another B/D, B/Ds must comply with the requirements applicable to AP3. This means that B/Ds must comply with the requirements prescribed for entities and their metadata set out in RKMS for the said purpose; and

(d) **Transfer to GRS** (referred to hereinafter as **AP4**): to manage records as they are transferred from ERKSs in B/Ds to PRO of GRS as archival records for permanent retention. Requirements of AP4 are applicable only to the transferring system, to define the metadata to be transferred. B/Ds must comply with the requirements applicable to AP4 to transfer records and aggregations with archival value and instances of other entities (if required) together with their associated metadata to GRS. This means that B/Ds must comply with the requirements prescribed for entities and their metadata set out in RKMS for the said purpose.

3.3 Aggregations

3.3.1 For the purposes of RKMS, an aggregation is defined as an organised set of records that is managed as a unit. An aggregation can be any of the following -

- (a) class;
- (b) sub-class;
- (c) folder;
- (d) sub-folder; and
- (e) part.

3.3.2 RKMS exists to facilitate the good management of records, and accordingly much of the metadata it specifies applies to records. However, because records are so numerous, they cannot realistically be managed individually; accordingly records are assembled into folders, sub-folders and parts to ease their

management. Likewise, folders are collected into sub-classes and classes. Parts, sub-folders, folders, sub-classes and classes are referred to as aggregations, and all are explained further in the ensuing paragraphs.

Folders and parts

3.3.3 Paper records are conventionally aggregated into folders; these folders can be divided into parts when folders become unmanageably large. The same approach can be followed with electronic records. RKMS assumes the use of folders and parts, and the metadata are structured accordingly.

3.3.4 RKMS mandates the existence of metadata for at least one part within each folder. However, it does not mandate whether parts are or are not visible to users; and it does not mandate whether, or how, the functionality of parts is used in B/Ds. So, all records are stored in a part which is stored in a folder (or sub-folder, see paragraphs 3.3.10 to 3.3.14); but the existence of the parts could, if desired, be transparent to users.

Hybrid folders and parts

3.3.5 The term 'hybrid folder' is used to express the idea that some folders contain records for both non-electronic and electronic objects (referred to, for ease of use, as non-electronic and electronic records). In fact, as explained above, all records are managed in parts rather than in folders (because every folder must contain at least one part). Therefore the rest of this section refers to parts, rather than folders.

3.3.6 Any part can contain -

- (a) only electronic records (so-called 'electronic parts');
- (b) only non-electronic records (so-called 'physical parts'); or
- (c) both electronic and non-electronic records (so-called 'hybrid parts').

3.3.7 Many or most electronic parts can, without warning, have a non-electronic record added to them. So a part might at first be an electronic part but later become a hybrid part. Likewise, a physical part might become a hybrid part.

3.3.8 The metadata model underlying RKMS recognises this by assigning one metadata element, 'Folder type', to represent the content of a part – hybrid, electronic or physical. The value of this element for a part varies if necessary as the content of the part varies.

- **3.3.9** Further points arise from this -
 - (a) some non-electronic records, such as large maps or physical models, will be stored on their own, without any filing container, though possibly with metadata handwritten on the object or on a label. This metadata should reflect the metadata of the record as stored in the ERKS;
 - (b) other non-electronic records, such as some paper records, will be filed in file jackets. The container should be marked with metadata identical to that of the corresponding physical or hybrid part as stored in the ERKS;
 - (c) each physical or hybrid part should have a maximum of one physical container;
 - (d) each non-electronic record will have a home location and a current location. In principle these can all be different (this might happen with large architectural models, for example). RKMS specifies that the default value of the home location for new non-electronic records should be the same as the value most recently used for the part, as this will be the most frequent scenario; and
 - (e) given the above, hybrid, electronic and physical parts have the same metadata, save that a few elements are used only for hybrid and physical parts (namely the metadata elements of 'Location current' and 'Location home').

Sub-folders

3.3.10 RKMS allows for the use of 'sub-folders'. Their use is optional – the fact that they are included in RKMS does not imply that sub-folders must be implemented in any B/D.

3.3.11 B/Ds may implement the Sub-folder entity which is used primarily to deal with records of case nature if deemed useful. *Where* B/Ds choose to adopt the

Sub-folder entity, they must adopt the definitions, naming and numbering conventions, rules, metadata elements, encoding schemes and requirements set out in RKMS for the Sub-folder entity and its associated metadata.

3.3.12 Sub-folders are used to divide folders into various headings (case folders are explained from paragraphs 3.3.15 to 3.3.18). A close equivalent to sub-folders in a paper filing system is the use of paper dividers to divide folders in the same way. As an example based on paper folders, all 'Investigations' case folders might be divided into five as follows -

- (a) reason for investigation (this would contain documentation such as letters and email that gave rise to the complaint);
- (b) correspondence with complainant;
- (c) correspondence with investigated party;
- (d) administration of the investigation (time sheets, etc.); and
- (e) investigation report.

3.3.13 For this example, the corresponding electronic case file would be a folder divided into sub-folders with the following titles -

- (a) background;
- (b) correspondence with complainant;
- (c) correspondence with investigated party;
- (d) administration of the investigation; and
- (e) investigation report.
- **3.3.14** This example is illustrated in Figure 4.

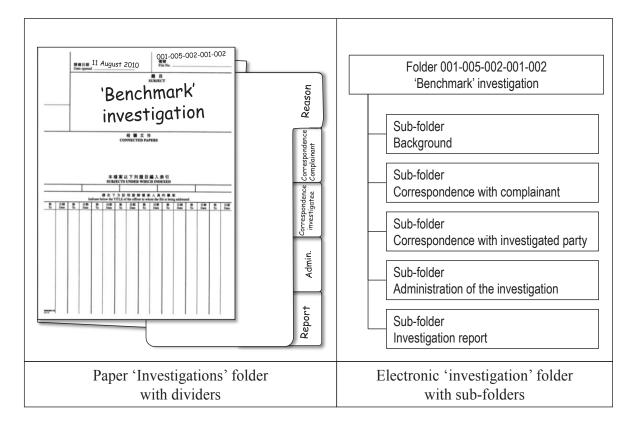


Figure 4: Example of use of sub-folders

Case folders

3.3.15 Case folders are a kind of folder. They therefore are classified to sub-classes, as are all folders. Generally, all the cases of the same kind for one business application are always classified to the same sub-class; so for example all case folders for a particular kind of investigation are classified to one sub-class. Users of the case folders in a records system (be it an ERKS or a paper-based system) typically are unaware of this. The result is that case folders can be managed without reference to, and without awareness of, a hierarchical scheme, as each kind of case is organised with a 'flat' scheme based solely on case identifier; but case folders are still regarded as being classified to sub-classes that are located within the hierarchical records classification scheme. This is illustrated graphically in Figure 5.

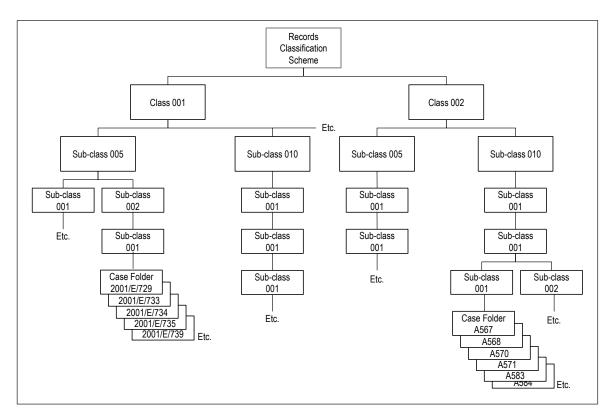


Figure 5: Arrangement of non-hierarchical case folders within a hierarchical records classification scheme

3.3.16 Figure 5 shows a highly simplified hierarchical records classification scheme, in which two sets of case folders are stored. Each set of case folders consists of cases identified by case identifier (2001/E/729 etc. on the left, A567 etc. on the right). These case identifiers may or may not be structured, but in any event do not reflect the hierarchical structure of the records classification scheme.

3.3.17 An ERKS normally performs its functions by applying case identifiers to folders (and therefore to their sub-folders). The case identifiers are separately assigned and do not follow the hierarchical classification code, and so allow the users of case files to work knowing the case identifiers without needing to be aware of the hierarchical classification. RKMS reflects this approach precisely by having folder metadata to store the folder's classification code and – for case folders, sub-folders and parts within it – additional metadata to store a case identifier.

3.3.18 As a concrete example using Figure 13 of section 3.6, the sub-class '001' (the lower of the two sub-classes with this number) might contain case folders relating to investigations, with case folder identifiers that are the investigation numbers, and with sub-folders that reflect the way case records are handled.

Parts and sub-folders

3.3.19 Both parts and sub-folders can divide folders in order to make them more usable. The key difference between them is that -

- (a) parts are used to divide a folder or sub-folder 'mechanically'. This means that records are allocated to a part automatically, without any element of choice and with no subjective input; and
- (b) sub-folders are used to divide a folder 'intellectually'. This means that some human decision-making is needed to allocate a record to the correct sub-folder.

3.3.20 The following section about entities includes a diagrammatic representation that clarifies their relationships (Figure 11 of section 3.5). The bullet points below list some simple rules that may also be used to explain the differences between them. From the metadata point of view -

- (a) a folder must contain sub-folders or at least one part, but cannot contain both directly (subject to the exception explained in section 3.5);
- (b) a sub-folder must contain at least one part (subject to the exception explained in section 3.5);
- (c) when a folder or sub-folder contains more than one part, only one part can be open at the same time the others must be closed;
- (d) when a folder contains sub-folders, the sub-folders can all be open at the same time; and
- (e) all records are contained in a part. Parts can contain nothing else.

3.3.21 Five illustrative example scenarios of valid and invalid folder, sub-folder and part configurations illustrate these rules in Figure 6.

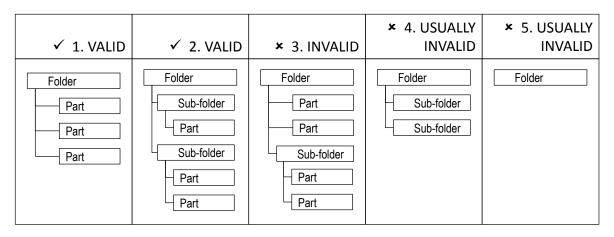


Figure 6: Examples of valid and invalid configurations of folders, sub-folders and parts

3.3.22 In Figure 6 -

- (a) scenarios 1 and 2 are valid; the configuration of folders, sub-folders and parts conforms to the rules in paragraph 3.3.20;
- (b) scenario 3 is invalid because a folder contains both parts and a sub-folder directly, thus contravening the rule at paragraph 3.3.20(a);
- (c) scenario 4 is usually invalid because the sub-folders contain no parts, thus contravening the rule at paragraph 3.3.20(b); as an exception, it can be valid in the rare case of sub-folders that are newly-created and so do not yet contain parts, as explained in section 3.5;
- (d) scenario 5 is usually invalid because the folder contains no parts or sub-folders, thus contravening the rule at paragraph 3.3.20(a); as an exception, it can be valid in the rare case of folders that are newly-created and so do not yet contain any parts or sub-folders, as explained in section 3.5.

3.4 Entities

3.4.1 The term 'entity' is used in RKMS with its normal meaning of something that can be thought of as having a distinct, separate existence, and which can be uniquely identified by a set of attributes. This term is commonly used in metadata modelling, as it is helpful in explaining how and where metadata elements

apply. For example, aggregations of records are retained for defined periods; they are subject to retention and disposal schedules; and they are created and accessed by people, such as ERKS users. An ERKS has to manage metadata about retention and disposal schedules and system users in order to manage the records themselves. For simplicity, and as is normal in metadata modelling, anything that has to be managed – including records, retention and disposal schedules, users and various other things – is referred to as an entity. Continuing the above examples, in RKMS aggregations, records, retention and disposal schedules, and users are all regarded as entities. Each word in the name of an entity hereafter begins with a capital letter and continues in lower case.

- 3.4.2 The entities used in RKMS are -
 - (a) **Records Classification Scheme**: the hierarchical arrangement of Classes, Sub-classes, Folders, Sub-folders, Parts and Records;
 - (b) **Class**: a series of related Sub-classes;
 - (c) **Sub-class**: a series of related Sub-classes or Folders;
 - (d) **Folder**: a series of related Records;
 - (e) **Sub-folder**: an optional sub-division of Folders used primarily in case management;
 - (f) **Part**: sub-division of Folders or Sub-folders used to break large Folders or Sub-folders into smaller and more manageable units;
 - (g) **Record**: a government record which is any recorded information in any physical format or media created or received by a B/D during its course of official business and kept as evidence of policies, decisions, procedures, functions, activities and transactions;
 - (h) **Component**: a distinct bit stream that, alone or with other bit streams, makes up a Record;
 - (i) **Disposal Hold**: a rule that prevents the execution of disposal actions of Records including destruction or transfer of records;

- (j) Retention and Disposal Schedule: a rule governing how long specified Record(s) and/or aggregation(s) are retained, and the disposal action to be followed at the end of this time (this is an abbreviated definition; for the full definition refer to the glossary at Annex 8);
- (k) **Event History**: an entity used to record events in an audit trail;
- (1) **Event Trigger**: an entity used to record the external event which triggers the calculation of the due date for the disposal action;
- (m) **Mandate**: a law, regulation or policy that justifies a Retention and Disposal Schedule;
- (n) **Stub**: an entity used to record the fact that a Class, Sub-class, Folder, Sub-folder or Part has been destroyed or transferred;
- (o) User: an individual who uses an ERKS; and
- (p) **Group**: a set of Users. A Group may include Users with the same, or different roles. A Group may also include one or more other Groups.

3.4.3 The different types of entity have different metadata elements; the metadata elements attributed to each entity in AP1 used in RKMS are shown at **Annex 2**.

3.4.4 B/Ds must adopt the definitions, naming and numbering conventions, rules, metadata elements, encoding schemes and requirements set out in **Chapter 3** and **Chapter 4** to create, use, manage and maintain all entities defined in RKMS (except for the entities **Sub-folder** which is optional for use and **Event History** which is recommended for implementation) in an ERKS.

3.5 Entity-relationship model

Modelling conventions

3.5.1 This section introduces an entity-relationship model, which is a way to represent the entities recognised in RKMS together with a view of how they are related. The graphical representation of this model, and its explanations, are a

useful aid to understanding the metadata model; they are not intended to introduce any additional compliance requirements.

3.5.2 The entities identified for RKMS are related together in various ways. For example, a Part entity 'contains' Record entities. To be more precise, a Part entity contains zero, one or more Record entities. For some purposes, such as system development, it can be helpful to represent the entities and their relationships in diagrammatic form. This is referred to as an entity-relationship figure. These figures may also assist some readers in understanding the metadata.

3.5.3 Entity-relationship figures supporting RKMS are shown below, preceded by explanations of the diagrammatic conventions used. A detailed understanding of these figures is essential only for readers with a technical interest.

3.5.4 In an entity-relationship figure, entities – Folder, Record, User and so on – are represented by rectangles. The lines connecting them represent the relationships between the entities. At each end of the relationship line is a symbol to represent the number of occurrences of the entity at that end of the relationship. The key in Figure 7 shows, at the bottom of each line, the three line endings used.

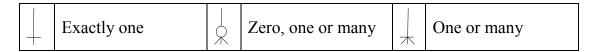


Figure 7: Relationship key

3.5.5 These relationship line endings may be combined in any way. So, for example, Figure 8 is a simple entity-relationship figure that indicates 'one Record entity can be related to zero, one or many Component entities; and each Component entity is related to only one Record entity.'

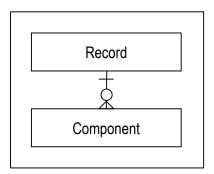


Figure 8: Entity-relationship example

3.5.6 A curved line crossing two or more relationships indicates that the relationships are mutually exclusive, for any given instance (technically referred to as an 'exclusive OR' relationship). So, for example, the curved line in Figure 9 means 'each Folder entity contains zero, one or more Sub-folder entities, or else zero, one or more Part entities, but not both; and each Sub-folder contains zero, one or more Part entities'.

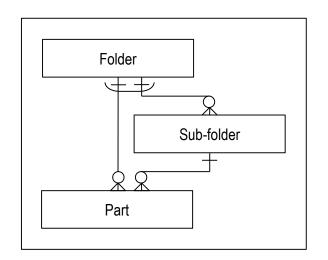


Figure 9: 'Exclusive OR' relationship

3.5.7 An entity can be related to itself. This is called a 'recursive' relationship. As an example, Figure 10 shows that Sub-class entities are related to Sub-class entities. In practice, this means that Sub-class entities form a hierarchy, where one Sub-class entity contains other Sub-class entities, each of which contains further Sub-class entities, and so on. The last Sub-class entity in the hierarchy has no Sub-class entities; so the relationship line shows that each Sub-class entity contains zero, one or many Sub-class entities.

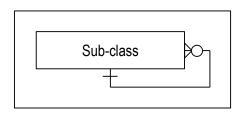


Figure 10: Recursive relationship

The entity-relationship model

3.5.8 The above conventions have been used to develop the entity-relationship figures that underlie RKMS. The first of these figures, which shows the Records

Classification Scheme, aggregations, Record and Component, is shown at Figure 11.

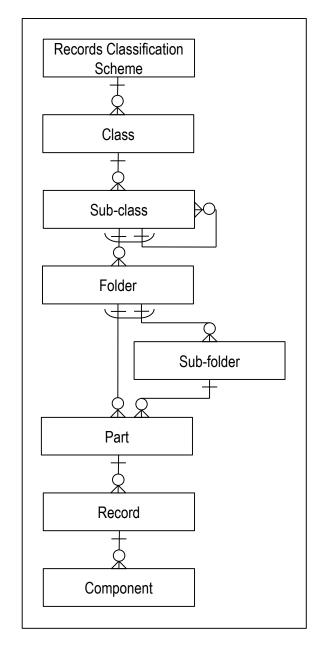


Figure 11: Underlying entity-relationship model

3.5.9 The different kinds of aggregation – Class, Sub-class, Folder, Sub-folder and Part – have similar metadata. For convenience, the metadata definitions bring these together into a single entity called 'aggregation', as shown in Figure 12.

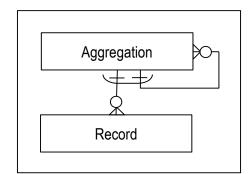


Figure 12: Aggregations

3.5.10 The different types of aggregation (Class, Folder etc.) are identified in the XML schema, but are not overtly identified by metadata. See section 5.5 for further details.

3.5.11 Note that Figure 12 shows that an aggregation may be empty – its two relationships allow for zero occurrences. It would not be good records management practice to configure empty entities in this way; however, the situation can arise exceptionally, and usually for a limited time period, when an aggregation is created and before it receives any content. For the same reason, the relationships in other figures (Figure 9, Figure 11 etc.) show relationships that allow zero, one or many occurrences.

3.5.12 Figures elsewhere in RKMS explain the relationships of other entities.

3.5.13 These data models represent a theoretical view of the entities associated with records as they are represented in RKMS. B/Ds must describe and persistently maintain the relationships among the specified entities in accordance with the entity-relationship models prescribed in this chapter. The models need not represent actual structures stored in an ERKS, and need not affect the internal operation of any system using the metadata model or RKMS.

3.6 Records Classification Scheme

3.6.1 Records are managed in aggregations. These are arranged hierarchically as shown in Figure 13; the hierarchy constitutes the Records Classification Scheme.

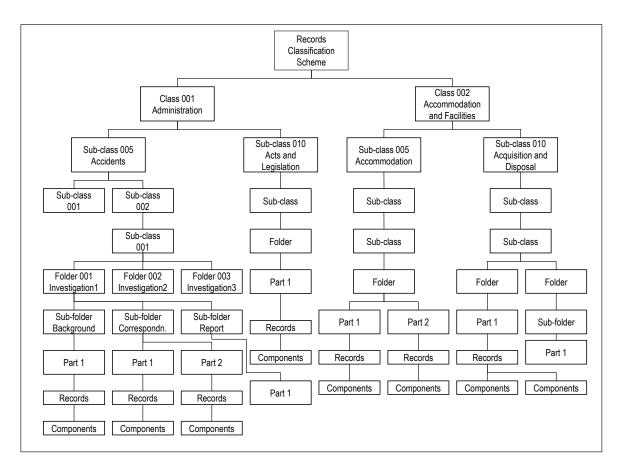


Figure 13: Hierarchical records classification scheme and its contents

3.6.2 Figure 13 depicts a fictitious records classification scheme (real schemes are much larger). It shows that -

- (a) this fictitious records classification scheme is made up of classes (labelled 001 and 002 in the figure);
- (b) each class is made up of sub-classes. Class 001 in the figure is made up of sub-classes 005 and 010;
- (c) sub-classes can be made up either of other sub-classes, or of folders, but not both;
- (d) folders are made up of one or more parts, or sub-folders, but not both;
- (e) sub-folders are made up of one or more parts;
- (f) parts contain records;

- (g) records are made up of components (see explanation in section 3.7); and
- (h) classes, sub-classes, folders, sub-folders and parts may be empty (though this is only in the rare circumstances explained in section 3.5).

3.6.3 RKMS supports the use of more than one records classification scheme in a B/D. Good practice suggests that each B/D should have only one records classification scheme, but practical considerations dictate that there sometimes is more than one, for example -

- (a) for a limited period following merger of two B/Ds; and
- (b) for a limited period while a new ERKS is being introduced.

3.7 Component

3.7.1 Each electronic Record entity is considered to consist of one or more 'Component' entity. A Component is usually a 'file' as recognised by the Windows operating system or other computer operating systems. For example -

- (a) an electronic record made up of a single Microsoft Word document without any embedded links to external objects will have only one component, namely that document; and
- (b) an electronic record made up of a web page usually will have several components. An example might be one HTML component, 20 JPEG components, and 6 GIF components.

3.8 Component file format

3.8.1 The reason for recognising components as entities is so that they can be managed according to the needs implied by their file format.

3.8.2 The file format is the internal structure of a component. It is closely related, though not identical, to the filename suffix (such as .PDF, .DOCX, .JPG, .MP3) which is sometimes visible on directory listings. These formats are relatively short lived, as is the software used to access them. Where records are kept for long periods – longer than the life span of the software used to read them – it is likely that there will be a need to migrate them to more

current formats. Migration in this context means migrating some or all components of a particular file format. For this reason, RKMS includes the file format of components.

3.8.3 File formats are relatively complex; they are determined not by the filename suffix, but by the internal structure of a component. So, for example, a suffix might be .PDF; but this can imply any one of many file formats (PDF v1.0, v1.1, v1.2, v1.3, v1.4, v1.5, v1.6, v1.7, PDF/A v1, PDF/X, etc.). Development of a comprehensive encoding scheme for these file formats is a costly and difficult task. RKMS therefore relies on an existing encoding scheme that is internationally accepted as definitive, and which is in the public domain. The scheme employed is PRONOM, developed by The National Archives of the UK (available at http://nationalarchives.gov.uk/pronom). The definitive and trustworthy nature of PRONOM is demonstrated by the fact that it has been selected as the basis for an international project known as the Unified Digital Format Registry (UDFR, see http://www.udfr.org/).

3.9 Retention and Disposal Schedule and Mandate

3.9.1 RKMS treats a Retention and Disposal Schedule as an entity. A Retention and Disposal Schedule entity therefore has metadata, and each Retention and Disposal Schedule can be managed and used. Each Retention and Disposal Schedule can apply to many aggregations of records, but each aggregation can only have one Retention and Disposal Schedule. This is shown in Figure 14.

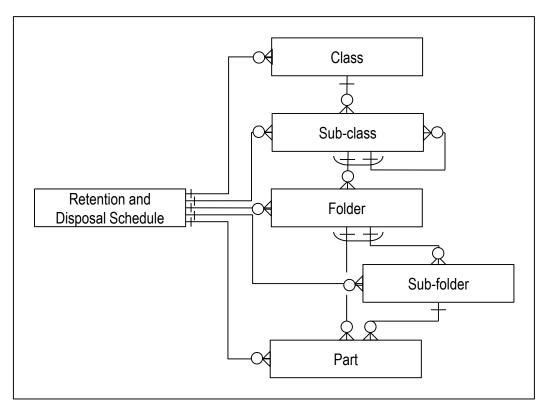


Figure 14: Retention and Disposal Schedule

3.9.2 The metadata for the Retention and Disposal Schedule entity describe either an absolute date or its trigger (the event that initiates the countdown to disposal of records) together with its retention period (the length of the countdown), and its disposal action (what is to happen to the records at the time of disposal).

3.9.3 It is also possible to indicate under what mandate the retention and disposal schedule is created and applied by relating the schedule to the appropriate Mandate entity. The Mandate shows the law, regulation or policy that justifies the Retention and Disposal Schedule.

3.10 Disposal Hold

3.10.1 A Disposal Hold entity is a business rule that prevents the execution of disposal actions of Record entities, usually for legislative or regulatory reasons. Holds can be placed on any level of aggregation and will relate to all 'child' aggregations, records and components.

3.11 Encoding scheme

3.11.1 An encoding scheme is defined as a set of constrained values for an element (sometimes referred to as a controlled vocabulary), or the definition of the syntax of the values for an element.

3.11.2 Certain metadata elements require rules for their element values. For example, an element that has values to indicate a disposal action will have a rule that mandates the use of a controlled vocabulary of disposal actions; as another example, an element that expresses a date and time will have rules that govern its format. These rules are called encoding schemes.

3.11.3 Encoding schemes may include or reference vocabularies that define the values which can be used to populate specific elements, or syntax which define the structure or syntax of the expression of the values of the metadata elements. Each encoding scheme is defined using a standard template and is identified by the encoding scheme's simple name. Details are shown in Table 7 of section 4.9.

3.11.4 Each encoding scheme is cited where appropriate in the element definitions of RKMS, and specified in detail at **Annex 5**.

3.12 Stub

3.12.1 It is good practice for recordkeeping systems to keep a record of the destruction and transfer of records. In RKMS, the record takes the form of metadata referred to as a 'Stub' or 'metadata Stub'. A Stub entity consists of metadata only; it describes an aggregation that existed in the past, but that no longer exists because the entity has been destroyed or transferred. Together with the Event History entities and associated metadata that describe the destruction or transfer, the Stub entity describes what has been destroyed or transferred; when it was destroyed or transferred; who was responsible for the destruction or transfer; and the reason for its destruction or transfer. See Figure 15.

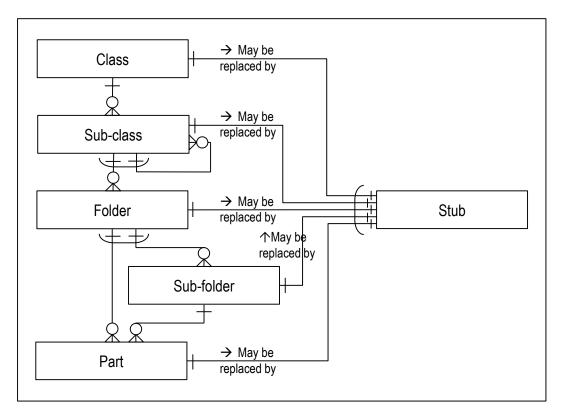


Figure 15: Stub

3.12.2 The Stub relationships in Figure 15 are all labelled 'may be replaced by' (reading the relationship from left to right). This indicates that Stub and their related aggregation cannot co-exist: a stub is created only if and when an aggregation is destroyed or transferred.

3.12.3 An aggregation may contain a combination of stubs and aggregations. If such an aggregation is exported or transferred, the stubs should be exported or transferred with it, in the same way as aggregations it contains. RKMS does not require that stubs are created to record the export or transfer of stubs.

3.13 User and Group

3.13.1 Metadata elements are required to support the attribution of access controls that permit and deny access by users, and groups of users, to aggregations (including all the records they contain) and stubs. For these purposes, records managers, administrators and others are all considered to be users.

3.13.2 Users can be allowed access to aggregations and stubs as individuals, or they may be part of one or more groups that are allowed access. In RKMS, 'role' (for example the system administrator) is handled as a group. Further, each group

may be a member of one or more other groups. This is illustrated by Figure 16. Because this relationship is recursive, it allows for infinitely looping structures. B/Ds making use of this recursion must avoid the possibility of infinite loops by ensuring that they do not design group structures in which one group is a member of a second group which is a member of the first group, either directly or indirectly through membership of some other group(s).

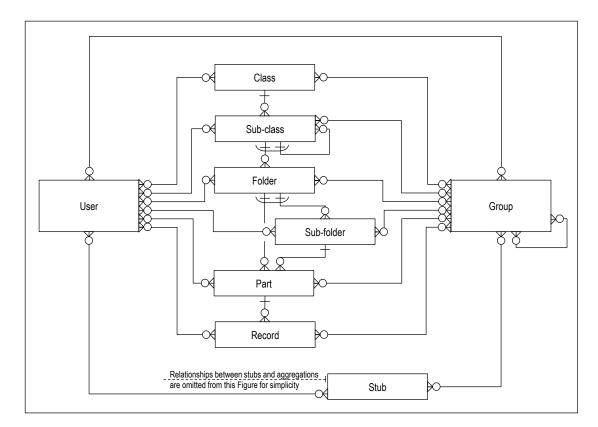


Figure 16: User and group access controls

3.13.3 Additionally, users are assigned a security clearance which can be matched against the security classification of an aggregation or stub, to ensure that the correct level of access is permitted.

3.14 Relationships between entities

- 3.14.1 RKMS describes three different types of relationship -
 - (a) Parent/child: used for hierarchical relationships between aggregations, Record and Component, as described in sections 3.5 and 3.15 (see also section 5.10 for a more technical description).

- (b) Event-driven: between entities involved in an event, to record a history of the event, as described in section 3.16.
- (c) Associative: used to relate Records together, and also to relate Records to aggregations for purposes other than the hierarchical relationship described above, as described from sections 3.17 to 3.19.

3.14.2 B/Ds must describe and persistently maintain the relationships among instances of entities throughout the life cycle of records as prescribed from sections 3.14 to 3.19.

3.15 **Parent/child relationships**

3.15.1 Parent/child relationships are built into the XML structure, rather than as elements, as the schema has been designed to provide the structure shown in Figure 11 (see section 3.5 regarding the entity-relationship model). This model dictates that a Records Classification Scheme entity contains Class or Stub entities, a Class entity contains Sub-class or Stub entities, a Sub-class entity contains Sub-class, Folder or Stub entities, etc. to the bottom of the hierarchy. This containment is represented in the XML as a set of tags which explicitly show that the child entity is contained by the parent entity, as shown in the example in Figure 17 (XML tag names are explained in section 5.6, and further technical detail is given in section 5.10).

Figure 17: Parent/child relationships for Class

3.15.2 The tags in the above example work as follows -

<xs:complexType name="Class.CT"> indicates that this entity is a Class. <xs:sequence> indicates that the Class is made up of (contains) the following two items.

<xs:element name="Stub.CT" type="grs:Stub.CT""/> indicates
that one contained entity is Stub.

<xs:element name="SubClass.CT" type="grs:SubClass.CT"/>
indicates that there is a second contained entity called SubClass.

</xs:sequence> indicates the end of the sequence of items (indicated by the / symbol).

</xs:complexType> indicates the end of the Class container (indicated by the / symbol).

3.15.3 The example in Figure 18 uses simplified descriptions of elements (called simple names) to demonstrate how the XML might store the structure for 'Records Classification Scheme 01' which contains a class called 'Administration', which contains one sub-class called 'Office machines and equipment' and one stub called 'Medical equipment and supplies' (the structure and labels are simplified for ease of understanding: the actual XML will contain more information).

```
<Records Classification Scheme 01>
  <Class.CT>
        <Classification code>3</Classification code>
        <Classification path>Administration</Classification path>
        <Title>Administration</Title>
      <SubClass.CT>
         <Classification code>3-45</Classification code>
         <Classification path>Administration - Office machines and equipment
</Classification path>
        <Title>Office machines and equipment</Title>
     </SubClass.CT>
      <Stub.CT>
         <Classification code>3-40</Classification code>
        <Classification path>Administration - Medical equipment and
supplies</Classification path>
        <Stub type>Sub-class</Stub type>
        <Title>Medical equipment and supplies</Title>
      </Stub.CT>
   </Class.CT>
</Records Classification Scheme 01>
```

Figure 18: Simplified XML demonstrating the structure for the class 'Administration' within records classification scheme 01

3.15.4 As Figure 18 shows, the inherent structure of the XML makes it clear that Stub and Sub-class here are child entities of Class ('Administration'), and that Class is a child of 'Records Classification Scheme 01'. Providing a separate element to define the parent/child relationship would be to duplicate what the XML already makes explicit. The relationship between other aggregations, and between Record and Component, will be identical.

3.15.5 The developer of an ERKS will understand this structure immediately from the XML. The user of an ERKS will never need to know about the XML structure, or see an element describing the parent/child relationship: they will see only the actual parent/child relationship as expressed by the hierarchical container structure of the Records Classification Scheme.

3.16 Event-driven relationships

3.16.1 Several other situations relate two or more instances of entities together (for example, cross-referencing one Record entity to another Record entity). The relationship between these entities is described using the 'Relation - entity' element. The design of the schema ensures that only one relationship between each entity type is possible, to avoid ambiguity. This is explained in Table 1 and Table 2 below. Table 1 shows which entities can be related to which others using this element. For each pair of entities that can be related in this way, it shows a twodigit number that indicates the nature of the relationship. Where no number is shown, no relationship is expected. So, for example, a Retention and Disposal Schedule entity can be related to a Class, Sub-class, Folder, Sub-folder or Part entity to manage retention and disposal; it can also be related to a Mandate entity to indicate the policy or ordinance under which the schedule is drawn up and applied; it can also be related to a Stub entity, to indicate the reason for the deletion or transfer of the aggregation that gave rise to the stub; and it can also be related to an Event History entity, which records an amendment to the Retention and Disposal Schedule. Further technical detail is given in section 5.10.

3.16.2 Table 2 expands on this by showing the meaning of each of these relationships; for each of the two-digit numbers in Table 1 it shows the nature of the relationship.

	Class	Component	Disposal Hold	Event History	Event Trigger	Folder	Group	Mandate	Part	Record	Records Classification Scheme	Retention and Disposal Schedule	Stub	Sub-class	Sub-folder	User
Class	-															
Component	-	-														
Disposal Hold	09	-	-													
Event History	10	10	10	-												
Event Trigger	-	-	-	10	-											
Folder	-	-	09	10	-	01										
Group	07	-	-	10	-	07	-									
Mandate	-	-	-	10	-	-	-	-								
Part	-	-	09	10	I	01	07	-	01							
Record	-	-	-	10	-	01	07	-	01	01						
Records Classn.Scheme	-	-	09	10	-	-	-	-	-	-	-					
Retention & Disp. Sched.	02	-	-	10	03	02	-	04	02	-	-	-				
Stub	-	-	-	10	-	01	07	-	01	01	-	05	01			
Sub-class	-	-	09	10	I	-	07	-	-	-	-	02	-	-		
Sub-folder	-	-	09	10	-	01	07	-	01	01	-	02	01	-	01	
User	06	-	-	10	-	06	08	-	06	06	-	-	06	06	06	-

Key:

nn See Table 2 for explanation

- Not defined

Table 1: Entities related by 'Relation - entity'

01	The two entities have been cross-referenced to each other.
02	The Retention and Disposal Schedule has been applied to the other entity.
03	The Event Trigger applies to the Retention and Disposal Schedule.
04	The Mandate applies to the Retention and Disposal Schedule.
05	The Stub was created when the Retention and Disposal Schedule was effected.
06	The User has access to the other entity, subject to security classification and clearance.
07	The Group has access to the other entity, subject to security classification.
08	The User is a member of the Group.
09	The Disposal Hold has been applied to the other entity.
10	An auditable event involving the other entity occurred, the kind of event shown by the Event type.

Table 2: Rationale for 'Relation-entity' combinations

3.17 Associative relationships

3.17.1 RKMS can relate records together using the 'associative relationships' to express 'compound records', for records with attachments, enclosures, or similar or identical intellectual content, as described from section 3.18 to section 3.19.

3.17.2 The associative relationships permitted by RKMS are -

Relationship	Reciprocal	Purpose
Relation - has attachment	Relation - is attachment of	To relate an email, e-Memo or other electronic record and attachment(s) in electronic form.
Relation - has enclosure	Relation -is enclosure of	To relate a record and enclosure(s) in physical form.
Relation - has format	Relation - is format of	To relate records with the same content issued in different formats (e.g. Word and PDF).
Relation - has language	Relation - is language of	To relate records with same content issued in different languages or dialects or scripts.
Relation - has version	Relation - is version of	To relate different versions of the same record.

3.18 Compound records

3.18.1 The term 'compound record' is used to refer to records that themselves consist of more than one record. In some cases, an imaginary or 'virtual record' is created in metadata to support this. Compound records are considered in the following scenarios -

- (a) an email message, e-Memo or other electronic record with attachment(s) in electronic form, each of which is a separate record, managed together as a single compound record (noting that the email message, e-Memo or other electronic record can be in a native format or it can be a rendition of the original into, for example, PDF). B/Ds must manage an email or an e-Memo record with attachment(s) in electronic form in the form of a compound record in an ERKS so that they can be managed as a single unit. For other electronic records with attachment(s) in electronic form, it is recommended that B/Ds should manage them as a single unit in the form of a compound record in an ERKS as far as practicable;
- (b) a record with enclosure(s) in physical form, for example a book, each of which is a separate record, managed together as a single compound record. B/Ds should manage a record with enclosure(s) in physical form as a single unit in the form of a compound record in an ERKS as far as practicable;
- (c) several documents with the same intellectual content but expressed in different languages, dialects or scripts, each of which is a separate record, which are managed together as a single compound record. *Where* B/Ds choose to manage a record with the same intellectual content but expressed in different languages, dialects or scripts as a single unit, they must create a compound record (of which its parent record is a virtual record) for such purpose in an ERKS;
- (d) a document with multiple versions, each of which is a separate record, which are managed together as a single compound record. *Where* B/Ds choose to manage a record with multiple versions as a single unit, they must create a compound record (of which its parent record is a virtual record) for such purpose in an ERKS;
- (e) a record with rendition(s), each of which is a separate record, managed together as a single compound record. *Where* B/Ds choose to manage a record with rendition(s) as a single unit, they must create a compound record (of which its parent record is a virtual record) for such purpose in an ERKS; and
- (f) two or more compound records that are managed together (for example, one compound record that is an email in its native

format plus attachments in their original formats, and another compound record that is the email plus attachments all rendered into PDF). *Where* B/Ds choose to manage two or more compound records as a single unit, they must create a compound record (of which its parent record is a virtual record and its child records are two or more compound records) for such purpose in an ERKS.

3.18.2 This section describes the common principles by which the above scenarios are described by metadata, and then describes each scenario.

Common principles

3.18.3 The essence of the design of the metadata for compound records is that it supports all the usability functionality desired when the records are managed by a suitable ERKS. The metadata allow an ERKS to provide the following functionality -

- (a) every record (parent and child) is fully searchable;
- (b) a listing of the contents of the part that contains the compound record shows only the parent record;
- (c) users can easily see that they are dealing with a compound record, and can navigate between the records that make it up; and
- (d) the records that make up a compound record are permanently bound together.

3.18.4 A compound record is purely conceptual - it is the representation of other, real, records that comprise it. The concept is defined by RKMS solely to enable representation of closely-related records in the contents of a part; it is not a record as defined in the glossary at **Annex 8**.

3.18.5 A compound record does not have any specific metadata; it is described by the metadata of the parent record within it.

3.18.6 The metadata express each compound record as one 'parent' record and one or several 'child' records. All these records are permanently bound to each other by metadata that describe their relationships. Both parent and child records

are normal instances of the Record entity, with no special features other than these relationships.

3.18.7 This is represented by the model in Figure 19, which applies only to compound records.

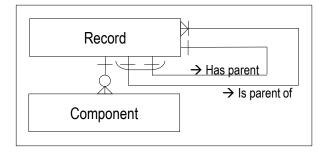


Figure 19: Parent and child record relationships

3.18.8 In this model, the two recursive relationships to the right indicate the 'has parent record' relationship (the inner line) and the 'is parent of' relationship (the outer line). The relationships are crossed by an 'exclusive OR' curve, indicating that one Record entity cannot be both child and parent within one compound record. The names given to the relationships vary according to the kind of compound record, as explained below. Note this represents only how the compound record is modelled from a metadata perspective; this is used by the ERKS only, and ERKS users would not normally be exposed to this model. Compound records are not represented by entities; they are merely a concept that can be used by an ERKS to implement the usability features described in paragraph 3.18.3.

3.18.9 Some details of the implementation of this vary for the kinds of compound record identified; this is explained below.

An email message, e-Memo or other electronic records with attachment(s)

3.18.10 An email message, e-Memo or other electronic record with attachment(s) in electronic form can be treated as a compound record. The parent record is the email message, e-Memo or other electronic record itself. The child record(s) are the attachment(s). The relationship metadata elements are named 'Relation - has attachment' and 'Relation - is attachment of'. This remains the case whether the email message, e-Memo or other electronic record is in its original native format, or whether it has been rendered into another format such as PDF. B/Ds must manage an email or an e-Memo record with attachment(s) in electronic form as a single unit in the form of a compound record in an ERKS. For other

electronic records with attachment(s) in electronic form, it is recommended that B/Ds should manage them as a single unit in the form of a compound record in an ERKS as far as practicable. Requirement 19 of the *Functional Requirements of an Electronic Recordkeeping System* (FR) developed by GRS stipulates the capture of an email record (including e-Memo) with its attachment(s) as a compound record by an ERKS is relevant. Please refer to FR for details.

A record with enclosure(s) in physical form

3.18.11 One or more physical objects kept as records (such as an architect's model, or a DVD), together with a document that describes them (such as a covering memo) can be treated as a compound record. The parent record is the descriptive document. The child record(s) are the physical object(s). The relationship metadata elements are named 'Relation - has enclosure' and 'Relation - is enclosure of'. It is recommended that B/Ds should manage a record with enclosure(s) in physical form as a single unit in the form of a compound record in an ERKS as far as practicable. Requirement 11 of FR stipulates the capture of compound records by an ERKS is relevant. Please refer to FR for details.

A document with different languages, dialects or scripts which are captured together as a single record

3.18.12 Two or more records that have the same intellectual content but that are expressed in different languages, dialects or scripts (for example, translations in English, Chinese and Japanese) are treated as a compound record. The parent record is a fictitious metadata object called a virtual record (see section 3.19). The child records are the actual records in different languages, dialects or scripts. The relationship metadata elements are named 'Relation - has language' and 'Relation - is language of'. *Where* B/Ds choose to manage a record with the same intellectual content but expressed in different languages, dialects or scripts as a single unit, they must create a compound record (of which its parent record is a virtual record) for such purpose in an ERKS. Requirement 20 of FR stipulates the capture of records with more than one manifestation by an ERKS is relevant. Please refer to FR for details.

A document with multiple versions which are captured together as a single record

3.18.13 Two or more versions of the same document can be treated as a compound record. The child records are actual versions. The parent record is a virtual record (see section 3.19). The relationship metadata elements are named 'Relation - has version' and 'Relation - is version of'. *Where* B/Ds choose to manage a record with multiple versions as a single unit, they must create a

compound record (of which its parent record is a virtual record) for such purpose in an ERKS. Requirement 13 of FR stipulates the capture of records with multiple versions by an ERKS is relevant. Please refer to FR for details.

<u>A record with rendition(s)</u>

3.18.14 Two or more records that have the same intellectual content but that are expressed in different file formats (such as a Word document and a PDF/A document) are treated as a compound record. The parent record is a virtual record (see section 3.19). The child records are renditions. The relationship metadata elements are named 'Relation - has format' and 'Relation - is format of'. *Where* B/Ds choose to manage a record with rendition(s) as a single unit, they must create a compound record (of which its parent record is a virtual record) for such purpose in an ERKS. Requirement 20 of FR stipulates the capture of records with more than one manifestation by an ERKS is relevant. Please refer to FR for detail.

Two or more compound records

3.18.15 Two or more compound records can be treated as a compound record. The parent record is a virtual record (see section 3.19). The child records are the two or more compound records. An example is one compound record that consists of an email message and a spreadsheet attachment, both in native file format; and a second compound record that consists of the same email message and spreadsheet rendered into PDF; in this example, both the compound records can be brought together as a compound record, both being children of a virtual record. *Where* B/Ds choose to manage two compound records as a single unit, they must create a compound record (of which its parent record is a virtual record and its child records are two or more compound records) for such purpose in an ERKS. Requirement 11 of FR stipulates the capture of compound records by an ERKS is relevant. Please refer to FR for details.

3.19 Virtual records

3.19.1 A virtual record exists in metadata only. It is defined by RKMS solely to enable representation of the compound record in the contents of a part; it is not a record as defined in the glossary at **Annex 8**.

3.19.2 A virtual record differs further from other records in having no components.

3.19.3 The metadata values for a virtual record are expected to be taken from its child records. RKMS does not define how this is achieved.

3.20 Creators, senders and recipients

3.20.1 There are three types of people involved in creating and receiving records -

- (a) creators;
- (b) senders; and
- (c) recipients.

3.20.2 A distinction is made between creators and senders. The former is used to describe the person with intellectual responsibility for the content of the record; the latter refers to the person who sent the record. In most cases, the creator and the sender are the same person; in these cases the values for the elements relating to creator will be used to populate the values relating to the sender. However, in some cases (for example) an email may be sent out by an officer on behalf of the person responsible for the content of the record: in this case the details of the sender should be captured, as explained below.

Creators

3.20.3 The metadata describe creators by name and organisation. 'Creator name' takes its value usually from the user login details of the system in which the record is created. Where the record was created by an employee of the government, that employee's organisation should also be captured automatically. Where the record was originally created by someone other than the person inputting the record into the system (e.g. by a directorate officer who asks a personal secretary to input the record, or by a member of the public), this value will need to be edited to give the correct information. Where the creator's name is not known, the value 'unknown' is used.

Senders

3.20.4 Senders are persons who issue a record, but who may not be responsible for its intellectual content. For example, a directorate officer may dictate an email (and is therefore its creator); the email is then sent out by another officer (who is therefore its sender).

3.20.5 The metadata describe senders by name and email address if relevant.

Recipients

3.20.6 There are three categories of recipients, each with its own metadata elements -

- (a) the person (or group) to whom the record is primarily addressed;
- (b) additional people (or groups) to whom the record is addressed (carbon copy, or cc recipients); and
- (c) other people to whom the record is addressed, but whose details are not shown to the other recipient(s) (blind carbon copy, or bcc recipients).

3.20.7 Separate elements are used for each category.

3.20.8 For category (a), the metadata describe the name, email address and organisation; for categories (b) and (c) one metadata element stores all relevant information about the recipient, in each case.

3.20.9 For records that are emails, the recipient name and organisation name are taken from the email header where available; otherwise they must be added manually.

3.20.10 The email address is always taken from the email header, where available.

3.21 Dates and times

3.21.1 All dates, times and intervals are expressed in a format that complies with ISO 8601 and the W3C DateTime Profile.

3.21.2 Some dates employ a format that incorporates the time, so that sequences of events can be reconstructed if necessary by examining histories. The format is -

YYYY-MM-DDThh:mm:ss±hh:mm

where -

- (a) **Y** stands for 'Year';
- (b) **M** stands for 'Month';
- (c) **D** stands for 'Day';
- (d) **T** stands for 'Time';
- (e) **h** stands for 'Hour';
- (f) **m** stands for 'Minute';
- (g) **s** stands for 'Second'; and
- (h) ± hh:mm is either '+', for a positive offset from Coordinated Universal Time, or '-' for a negative offset. The '±' symbol, and everything following it, is optional and should be omitted by default; so times may be stated with or without an offset, but the offset should be used only where required. hh is the offset from Coordinated Universal Time in hours and mm is the offset from Coordinated Universal Time in minutes.

3.21.3 For example, the 30th April 2011 at 4:17pm in Hong Kong can be expressed as -

2011-04-30T16:17:00+08:00

3.21.4 For some actions the time may or may not be known (for example, the time of receipt of a non-electronic record). In these cases the date and time are employed separately, with the latter being optional.

3.21.5 Time periods are expressed with a code that indicates a unit of measure, in the format -

P[n]Y[n]M[n]D

where -

- (a) **P** stands for 'period';
- (b) **[n]** is a two-digit number indicating the number of units of measure; and
- (c) Y, M and D are the units of measure, as follows -
 - (i) $\mathbf{Y} =$ Year;
 - (ii) $\mathbf{M} = \text{Month}; \text{ and }$
 - (iii) $\mathbf{D} = \text{Day.}$
- **3.21.6** For example, a period of 6 years is expressed as -

P06Y

3.21.7 A period of 11 months and 15 days is expressed as -

P11M15D

3.21.8 As demonstrated in the examples above, it is unnecessary to include values for any units of measure for which the value is 00.

3.22 XML schema

3.22.1 An XML schema forms a part of RKMS. The XML schema is a purely technical product, intended only for system developers and integrators.

3.22.2 An XML schema is a means to formally define a data model (in this case RKMS is the data model in question) in a technology neutral, machine-readable, unambiguous manner. A human language definition of RKMS cannot be automatically used by a system as human language may be ambiguous and ill-defined. By contrast an XML schema is inherently non-ambiguous and completely prescriptive. The XML schema is used to specify the data entities, elements, attributes etc. that make up the data model. System developers and integrators may use this XML schema to define the formats and layouts of imports and exports of data, with the guarantee that these imports/exports are transferrable

between systems that use RKMS. Thus data interoperability and compatibility of data are ensured. System developers and integrators may also use the XML schema to define the underlying conceptual model in an ERKS or other application; they can then implement this model as a specific physical model (databases, fields, etc.) in order to create the actual system storage and functionality (although they may prefer to use their own model).

3.22.3 XML schema and XML in general is a W3C (World Wide Web Consortium) recommendation, and is extensively and internationally used to describe data structures. It is also the mechanism by which OGCIO's Registry of Data Standards defines and facilitates the reuse of government information models. RKMS therefore conforms to W3C and OGCIO standards.

3.22.4 The XML schema is presented at Annex 7.

3.23 Audit trail and event history

Event history

3.23.1 As prescribed at Requirement 38(a) of FR, an ERKS must automatically capture and keep unalterable audit trails about the type of actions, including but not limited to those listed at Appendix 5 of FR. The maintenance of an audit trail by ERKSs and other systems is an essential feature that enables the demonstration of authenticity, integrity and reliability of records. Conventional audit trail is system-specific and may not be transferrable to other ERKSs. To facilitate export or transfer of audit trail data with their associated entities to demonstrate the authenticity, integrity and reliability of records, it is recommended that B/Ds should create, use, manage and maintain the Event History entity and its associated metadata and implement event history objects to record audit trail data in a system-neutral format; this is a recommendation rather than a mandatory requirement. GRS will suitably test the Event History entity and its associated metadata and then consider whether such requirement should be made mandatory in future.

3.23.2 *Where* an Event History entity is adopted, B/Ds must comply with the definitions, naming and numbering conventions, rules, encoding schemes and requirements set out in RKMS for the Event History entity and event history objects and their associated metadata.

3.23.3 The entity named Event History expresses potentially all changes to all entities and their metadata. It thus serves as a mechanism to express audit trail data in a system-neutral way, so that audit trail data can be exchanged between

compliant systems. The design is intentionally generic and permissive rather than prescriptive, so as to accommodate the different approaches to documenting auditable events that may be encountered with different brands of ERKS software. Event history objects are not intended to replace the audit trail produced by an ERKS, which typically produces a finer level of detail; however, they may replace audit trails provided that they fully serve the purpose of audit trails as agreed by all stakeholders.

3.23.4 In simple terms, event history metadata express what happened to an entity; when it happened; what the result was; and who did it. This includes creating, changing or deleting the entity. So for example the following are events -

- (a) creating a new class;
- (b) closing a part;
- (c) capturing a record;
- (d) rendering a component to a new file format;
- (e) reclassifying a folder;
- (f) changing the access rights of a user;
- (g) removing a user from a group; and
- (h) changing a retention and disposal schedule.

3.23.5 A complete list of events is contained in the 'Event type encoding scheme'. The encoding scheme is intended to represent a superset of all the events that may be recorded by ERKSs in HKSARG; RKMS does not require that all of the events in the encoding scheme are recorded in any single ERKS.

3.23.6 All auditable events should be recorded as metadata in event history objects. RKMS specifies the structure of the event history object(s) which arise from each event. The structure of an event history object depends on the kind of the event it describes; there are four kinds of event, as follows -

(a) **simple event**: an event in which something happens to an entity instance which must be recorded but which does not result in the creation, change to or deletion of a value of the instance's

metadata. Examples include accessed, action approved, and reviewed for disposal;

- (b) **metadata change event**: an event in which something happens to an entity instance which creates, changes or deletes the value(s) of one or more metadata elements of the instance. One event history object is needed for each affected metadata element. Examples include charged in, closed, created, destroyed and migrated;
- (c) **relation change event**: an event in which a relationship between two entity instances is created or destroyed. Examples include access rights changed, disposal hold applied or lifted, and group membership changed; and
- (d) **system action event**: an action which relates to the batch processing of entity instances but which does not change their metadata. Examples include export concluded, other auditable event, and transfer initiated.
- **3.23.7** These are described below, and tabulated in Table 3.

Common features of all events

3.23.8 All events give rise to event history objects with (among others) the following metadata -

- (a) Event type: the kind of event described in the event history object;
- (b) Event agent: the 'System identifier' of the user who initiated the event; null if the event is initiated by the system rather than by a user;
- (c) Event date past: the date at which the event took place;
- (d) Event time past: the time at which the event took place;
- (e) Reason: a reason for the event, if one has been entered or generated;
- (f) Remark: a remark, if one has been entered or generated;

- (g) Uniform resource identifier (URI): URI of the event history object (URIs are explained in section 4.5); and
- (h) System identifier: the 'System identifier' of the event history object.

Simple event

3.23.9 In addition to the metadata specified in paragraph 3.23.8, simple events include the following metadata element -

Relation - entity: stores the 'System identifier' of the affected entity instance.

3.23.10 See sections 3.14 and 3.16 for a fuller description of relationships and use of the 'Relation - entity' element.

Metadata change event

3.23.11 In addition to the metadata specified in paragraph 3.23.8, metadata change events include the following metadata elements -

- (a) Relation entity: the 'System identifier' of the affected instance;
- (b) Affected element: the 'Element ID' of the metadata element which has been changed in the affected instance;
- (c) Event metadata previous value: the value of the above metadata element for the instance before the event. If this is null, then the metadata value has been created; and
- (d) Event metadata new value: the value of the above metadata element for the instance after the event. If this is null, then the metadata value has been deleted.

Relation change event

3.23.12 In addition to the metadata specified in paragraph 3.23.8, relation change events include the following metadata elements -

(a) Relation - entity: the 'System identifier' of one affected entity instance; and

(b) Relation - entity: the 'System identifier' of the other affected entity instance.

System action event

3.23.13 System action events are described completely by the metadata specified at paragraph 3.23.8. It is assumed that the ERKS producing the event history objects includes any additional descriptive information in the 'Reason' element; the format of this descriptive information is not specified by RKMS.

Number of event history objects

3.23.14 Each event may be recorded in a single event history object, or in several such objects. For example -

- (a) changing the file format of a component results in only one event history object related to that component;
- (b) reclassifying a compound record may give rise to one event history object for the compound record and one for each of its constituent records, and further objects for the previous and new parent parts. Exactly how this is handled may vary from one ERKS to another; and
- (c) events affecting an aggregation, such as changing the title of a folder, may give rise to one event history object for the folder and one for each of the instances it contains (as the change is inherited). Exactly how this is handled may vary from one ERKS to another.

Tabulation of event history object structures

3.23.15 The above composition of event history objects is summarised in Table 3.

	Simple event	Metadata change event	Relation change event	System action event
Event type	\checkmark	✓	\checkmark	\checkmark
Event agent	✓	\checkmark	\checkmark	\checkmark

	Simple event	Metadata change event	Relation change event	System action event
Event date - past	\checkmark	✓	\checkmark	\checkmark
Event time - past	✓	✓	\checkmark	\checkmark
Reason	✓	✓	\checkmark	\checkmark
Remark	\checkmark	✓	\checkmark	✓
Uniform resource identifier (URI)	\checkmark	✓	\checkmark	✓
System identifier	\checkmark	✓	\checkmark	✓
Relation - entity	\checkmark	✓	\checkmark	
Relation - entity (for the second entity)			\checkmark	
Affected element		✓		
Event - metadata previous value		✓		
Event - metadata new value		\checkmark		

Table 3: Metadata elements in the four kinds of event history object

3.23.16 If B/Ds do not adopt the Event History entity and event history objects to record audit trail data, B/Ds may choose not to implement the following metadata elements which are solely applicable for the Event History entity, namely 'Affected element', 'Event - metadata new value', 'Event - metadata previous value', 'Event agent', 'Event date - past', 'Event time - past' and 'Event type'.

Configuration of event types

3.23.17 The list of events that are to be recorded in the event history audit trail can be configured by making changes to the 'Event type encoding scheme' (see section 3.11 for explanation of encoding schemes in general; refer to **Annex 5** for details of the 'Event type encoding scheme'). This encoding scheme will be reviewed and updated when necessary.

Use of event history objects as an audit trail

3.23.18 The outcome of the above is that the collection of all event history metadata for any entity instance – any record, folder, disposal hold, user, etc. – thus

constitutes a comprehensive audit trail for that instance. All the event history objects together form an audit trail for the entire system that produces them.

3.23.19 Using event history objects and metadata to express the audit trail data means that compliant systems must be able to export and transfer their audit trail data in this format. It does not necessarily mean that an ERKS has to store its audit trail data in this format.

Critical events

3.23.20 For some critical events in the life cycle of records and aggregations, essential metadata values are additionally stored with the records and aggregations. This is intentionally redundant with the metadata values stored as event history objects. Its purpose is to ensure that the critical metadata are always available, even if the event history metadata objects are not immediately available (for example, if they have been moved offline to reduce the size of the ERKS database). The critical events are (using the terminology for event types from the 'Event type encoding scheme') -

- (a) created;
- (b) captured;
- (c) opened;
- (d) closed; and
- (e) destroyed.

3.23.21 These metadata values are stored in metadata elements that bear self-explanatory simple names such as 'Date opened', 'Date time captured', etc. These elements are all in the event history metadata category defined in section 2.4.

3.24 Summary of requirements

3.24.1 The requirements of RKMS set out in Chapter 3 are summarised below -

Appl	ication Profiles	
1.	B/Ds must ensure that (i) an existing ERKS; (ii) an ERKS being developed or (iii) an ERKS to be developed should comply with all requirements applicable to AP1 set out in Chapter 3, Chapter 4, Annex 1, Annex 2, Annex 3, Annex 5 and Annex 7.	applicable to AP1
	(See section 3.2, Chapter 3, Chapter 4, Annex 1, Annex 2, Annex 3, Annex 5 and Annex 7 for details.)	
2.	 Where B/Ds export or transfer records, aggregations and instances of other entities (if required) together with their associated metadata from an information system to an ERKS for the latter to manage and store the records, B/Ds must ensure that the information system should comply with all requirements applicable to AP2 set out in Chapter 3, Chapter 4, Chapter 5, Annex 1, Annex 2, Annex 3, Annex 5 and Annex 7. Note: B/Ds must ensure that the definitions of metadata elements and entities for which their values and instances to be exported or transferred are equivalent to the definitions of the corresponding metadata elements and entities defined in RKMS. (See section 3.2, Chapter 3, Chapter 4, Chapter 5, Annex 7 for details.) 	applicable to AP2

3.	Where B/Ds export or transfer records, aggregations and instances of other entities (if required) together with their associated metadata from an ERKS to another ERKS either within the B/D or to another B/D, the B/Ds must comply with all requirements applicable to AP3 set out in Chapter 3, Chapter 4, Chapter 5, Annex 1, Annex 2, Annex 3, Annex 5 and Annex 7. (See section 3.2, Chapter 3, Chapter 4, Chapter 5, Annex 1, Annex 2, Annex 3, Annex 5 and Annex 7 for details.)	applicable to AP3
4.	 B/Ds must comply with all requirements set out in Chapter 3, Chapter 4, Chapter 5, Annex 1, Annex 2, Annex 3, Annex 5 and Annex 7 applicable to AP4 to transfer records with archival value, aggregations and instances of other entities (if required) together with their associated metadata to PRO of GRS. (See section 3.2, Chapter 3, Chapter 4, Chapter 5, Annex 1, Annex 2, Annex 3, Annex 5 and Annex 7 for details.) 	applicable to AP4
<u>Entit</u>	<u>ies</u>	
5.	B/Ds must adopt the definitions, naming and numbering conventions, rules, metadata elements, encoding schemes and requirements set out in Chapter 3 , Chapter 4 , Annex 1 , Annex 2 , Annex 3 , Annex 5 and Annex 7 to create, use, manage and maintain all entities defined in RKMS (except for the entities Sub-folder which is optional for use and Event History which is recommended for implementation) in an ERKS. (See sections 3.3 to 3.13, 3.20, 3.21 and 4.2 to 4.5, Annex 1 , Annex 2 , Annex 3 , Annex 5 and Annex 7 for details.)	applicable to AP1 to AP4

Relat	ionships between entities	
6.	B/Ds must describe and persistently maintain the relationships among entities and instances of entities throughout the life cycle of records in accordance with the followings -	applicable to AP1 to AP4
	(a) entity-relationship models detailed from sections 3.5 to 3.10 and from sections 3.12 to 3.13;	
	(b) parent-child relationship set out from sections 3.14 to 3.15;	
	(c) event-driven relationship set out in sections 3.14 and 3.16; and	
	(d) associative relationship set out in sections 3.14, 3.17, 3.18 and 3.19.	
	(See sections 3.5 to 3.10 and 3.12 to 3.19 for details.)	
7.	B/Ds must manage an email or an e-Memo record with attachment(s) in electronic form as a single unit in the form of a compound record in an ERKS.	applicable to AP1
	(See sections 3.14, 3.17 and 3.18 for details.)	
8.	It is recommended that B/Ds should manage an electronic record (other than an email/e-Memo record) with attachment(s) in electronic form as a single unit in the form of a compound record in an ERKS as far as practicable.	applicable to AP1
	(See sections 3.14, 3.17 and 3.18 for details.)	
9.	It is recommended that B/Ds should manage a record with enclosure(s) in physical form as a single unit in the form of a compound record in an ERKS as far as practicable.	applicable to AP1
	(See sections 3.14, 3.17 and 3.18 for details.)	

10.	<i>Where</i> B/Ds choose to manage the following records as a single unit in an ERKS, B/Ds must create a compound record (of which its parent record is a virtual record) to describe and maintain their relationship -	applicable to AP1
	(a) a record with the same intellectual contents but expressed in different languages, dialects or scripts;	
	(b) a record with multiple versions;	
	(c) a record with rendition(s); and	
	(d) two or more compound records.	
	(See sections 3.14, 3.17, 3.18 and 3.19 for details.)	
<u>Sub-f</u>	<u>older</u>	
11.	B/Ds may adopt the Sub-folder entity in an ERKS which is used primarily to deal with records of case nature if deemed useful.	applicable to AP1
	(See section 3.3 for details.)	
12.	 Where the Sub-folder entity is adopted, B/Ds must - (a) adopt the definitions, naming and numbering conventions, rules, metadata elements, encoding schemes and requirements set out from sections 3.3 to 3.6, 4.2 to 4.5 and at Annex 1, Annex 2, Annex 3, Annex 5 and Annex 7 for the Sub-folder entity and its associated metadata; and 	applicable to AP1 to AP4
	(b) describe and persistently maintain the relationships of the Sub-folder entity with other entities in accordance with requirements set out in sections 3.5, 3.6, 3.9, 3.10 and from 3.12 to 3.16.	
	(See sections 3.3 to 3.6, 3.9, 3.10, 3.12 to 3.16 and 4.2 to 4.5, Annex 1, Annex 2, Annex 3, Annex 5 and Annex 7 for details.)	

Event	t history	
13.	It is recommended that B/Ds should create, use, manage and maintain the Event History entity and event history objects with their associated metadata specified in section 3.23, Annex 1 , Annex 2 , Annex 3 , Annex 5 and Annex 7 to record audit trail data in a system-neutral format to facilitate export or transfer of audit trail data with their associated instances of entities to demonstrate the authenticity, integrity and reliability of records. (See section 3.23, Annex 1 , Annex 2 , Annex 3 , Annex 5 and Annex 7 for details.)	applicable to AP1 to AP4
14.	 Where the Event History entity is adopted, B/Ds must - (a) adopt the definitions, naming and number conventions, rules, encoding schemes and requirements for the Event History entity and event history objects and their associated metadata set out in sections 3.23 and 4.2 to 4.5, Annex 1, Annex 2, Annex 3, Annex 5, Annex 6 and Annex 7; and (b) describe and persistently maintain the relationships of the Event History entity with other entities in accordance with requirements set out in sections 3.14 	applicable to AP1 to AP4
	and 3.16. (See sections 3.14, 3.16, 3.23 and 4.2 to 4.5, Annex 1, Annex 2, Annex 3, Annex 5, Annex 6 and Annex 7 for details.)	

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Chapter 4 RECORDKEEPING METADATA ELEMENTS



4.1 Introduction

4.1.1 This chapter explains how the metadata elements that make up RKMS are defined. It includes sections on the element identifiers, and on the properties used to define elements.

4.2 Naming and numbering conventions

4.2.1 Every metadata element, encoding scheme and entity is uniquely identified by -

- (a) a simple name see section 4.3;
- (b) an XML name see section 4.4; and
- (c) a unique code, in the form of a uniform resource identifier (URI) - see section 4.5.

4.2.2 URIs are also used to identify records and other objects managed by an ERKS; see section 4.5.

4.2.3 Simple names, XML names and URIs are defined below.

4.3 Simple name

4.3.1 Simple names are intended to be readily understood by humans. Metadata are referred by their simple names in RKMS unless specified otherwise. In general the simple name is the final part of the XML name (see section 4.4), but in some cases it takes both the second and third part if required for clarity. In the annexes to RKMS, metadata elements and encoding schemes are presented in a sequence that is alphabetical by simple name.

- (a) For cross-reference from simple name to XML name of metadata elements and encoding schemes, see **Annex 3** and **Annex 5**.
- (b) For cross-reference from XML name to simple name of metadata elements, encoding schemes and entities, see **Annex 4**.
- **4.3.2** Examples of simple name for metadata elements are -

Sender name

File format

4.4 XML name

4.4.1 Elements, encoding schemes and entities have XML names. These are intended for processing by computer programs; they are not intended for users or administrators.

4.4.2 The naming convention is consistent with OGCIO XML standards and ISO 23081, and follows the approach adopted by MoReq2 (except for the minor detail that this last uses lower camel case).

4.4.3 The formats of the XML names are described below.

Elements

4.4.4 The XML name of an element consists of two or three parts, as follows -

FirstPart.SecondPart.ThirdPart

where -

- (a) **FirstPart** is one of the six categories described in section 2.4;
- (b) **SecondPart** is a name relevant to the category. Wherever possible the names are taken from ISO 23081-2; where this is not possible, names have been developed expressly for RKMS; and
- (c) **ThirdPart** is an optional refinement to the second part. The refinements are developed expressly for RKMS.
- 4.4.5 The parts are separated by the '.' delimiter.

4.4.6 Every word in the name always begins with a capital letter and continues in lower case (with the sole exception of the word 'ID' which is always in capitals). Within each part of the name, words can be concatenated without spaces, as is a common convention in metadata models (this is sometimes referred to as 'upper camel case').

4.4.7 Example of XML name for metadata 'Sender name' -

Description.Sender.Name

Encoding schemes

4.4.8 The XML name of an encoding scheme consists of three or four parts, as follows -

Encoding.SecondPart.ThirdPart.FourthPart

where -

- (a) **Encoding** indicates the name of an encoding scheme;
- (b) **SecondPart** is one of the six categories described in section 2.4;
- (c) **ThirdPart** is either a name similar to the encoding scheme's simple name; or a name relevant to the category, taken from ISO 23081-2; and
- (d) **FourthPart** is present only when the ThirdPart is a name relevant to the category; it is a name similar to the encoding scheme's simple name.

4.4.9 The number of parts is not significant; the parts are chosen solely to aid understanding.

4.4.10 The parts are separated by the '.' delimiter.

4.4.11 Every word in the name always begins with a capital letter and continues in lower case. Within each part of the name, words can be concatenated without spaces.

4.4.12 Example of XML name for 'File Format Encoding Scheme' -

Encoding.Use.TechnicalEnvironment.FileFormat

Entities

4.4.13 The XML name of an entity consists of two parts, as follows -

FirstPart.CT

where -

- (a) **FirstPart** is a name that is similar to the simple name of the entity; and
- (b) **CT** indicates the name of a complex type in XML (see section 5.10).
- 4.4.14 The parts are separated by the '.' delimiter.

4.4.15 Every word in the name always begins with a capital letter and continues in lower case. Within each part of the name, words can be concatenated without spaces.

4.4.16 Example of XML name for 'Folder' entity -

Folder.CT

4.5 Uniform resource identifier

4.5.1 The use of a consistent, standard, unique code (URI in the case of RKMS) is beneficial for electronic records management in several scenarios. These scenarios include -

- (a) a B/D needs to combine more than one instance of the same ERKS software product, due to an organisational change. In this scenario, the URI prevents the situation in which records or other entities from the two ERKSs have the same identifier, a situation that would cause problems;
- (b) a B/D needs to transfer records between ERKSs. If the ERKSs use the same software product, the URI avoids the situation in which records or other entities from the two ERKSs have the same identifier, a situation that could cause problems such as the inability to complete the transfer. If the ERKSs use different

software products, the URI ensures that the identifiers are mutually comprehensible to the two systems; and

(c) the B/D customises RKMS by adding metadata elements required for its specific business and/or records management processes. A different B/D adds metadata elements for its business and/or records management processes. The additions in the two B/Ds are similar, but different. The URI embedded into the metadata element identifiers ensures that there is no confusion between them, for example when examining an audit trail.

4.5.2 The URI scheme used in RKMS conforms to IETF RFC 3986 (see **Annex 10**). It is designed to produce identifiers that are unique across HKSARG, without requiring any communication between systems.

4.5.3 The URIs are not designed to be user-friendly. This is acceptable because there is no reason to believe that users will need to be exposed to them. On rare occasions, technical staff may need to use them; a possible, though rare, example is tracing an event or record through an audit trail.

4.5.4 The URI takes one of two forms, depending on whether it applies to -

- (a) elements (the URI is expressed in the property 'Element ID' of the metadata element definition table provided at Table 6 of section 4.7), encoding schemes (the URI is expressed in the property 'Encoding ID' of the encoding scheme template provided at Table 7 of section 4.9) and entities; or
- (b) instances of Component, Record, aggregations or other entities managed by an ERKS (the URI is expressed as a metadata element 'Uniform resource identifier (URI)').

4.5.5 Note that of these two forms, the first (elements, encoding schemes and entities) represents conceptual structures that exist only for the purposes of communicating and using RKMS; whereas the second (records, mandates etc.) represents digital objects that are managed by an ERKS as strings of bytes, table entries, paper records etc.

4.5.6 These two forms are defined below.

Elements, encoding schemes and entities

4.5.7 The URI for elements, encoding schemes and entities takes the form -

uri://recordsmanagement.gov.hk/BBBBBBBB-X-9999

where -

- (a) **uri://recordsmanagement.gov.hk**/ defines the namespace of the URI;
- (b) **BBBBBBBB** is -
 - (i) 'MS00' for elements, encoding schemes and entities that form a part of RKMS; and
 - a B/D identifier of up to 8 characters, taken from the Government B/D encoding scheme, for elements, encoding schemes and entities created by B/Ds as customisations to RKMS;
- (c) **X** is -
 - (i) 'M' for an element;
 - (ii) 'E' for an encoding scheme; and
 - (iii) 'T' for an entity; and
- (d) **9999** is a four-digit non-meaningful sequence number see section 6.6.
- 4.5.8 Examples of URIs for elements, encoding schemes and entities are -
 - (a) for the element 'Stub type' that is a part of RKMS -

uri://recordsmanagement.gov.hk/MS00-M-0071

(b) for the encoding scheme 'Medium encoding scheme' that is a part of RKMS -

uri://recordsmanagement.gov.hk/MS00-E-0009

(c) for the first encoding scheme defined by the Rating and Valuation Department as a customisation to RKMS -

uri://recordsmanagement.gov.hk/RVD-E-0001

(d) for the entity sub-class that is a part of RKMS -

uri://recordsmanagement.gov.hk/MS00-T-0014

Instances of Component, Record, aggregations and other entities managed by an <u>ERKS</u>

4.5.9 The URI for entities managed by an ERKS takes the form -

uri://recordsmanagement.gov.hk/BBBBBBBBB-RR-JJ-ObjectID

where -

- (a) **uri://recordsmanagement.gov.hk**/ defines the namespace of the URI;
- (b) **BBBBBBBB** is a B/D identifier of up to 8 characters taken from the Government B/D encoding scheme;
- (c) **RR** is a two-digit identifier assigned by the B/D to distinguish between different records classification schemes and/or ERKSs in one B/D;
- (d) **JJ** is a two-letter code identifying the kind of object to which the URI refers. Values of this code are given in Table 4; and

Entity	Entity Code
Class	CL
Component	СМ
Disposal Hold	НО
Event History	EH

Entity	Entity Code
Event Trigger	ET
Folder	FO
Group	GR
Mandate	MA
Part	PA
Record	RE
Records Classification Scheme	CC
Retention and Disposal Schedule	RS
Stub	ST
Sub-class	SC
Sub-folder	SB
User	US

Table 4: Codes for kinds of entities

- (e) **ObjectID** is a unique system identifier assigned to the object by the ERKS. RKMS does not prescribe the length or format of this identifier, as it will vary from ERKS to ERKS.
- 4.5.10 Examples of URIs for objects managed by ERKSs are -
 - (a) for a record managed by an ERKS in the Drainage Services Department's first classification scheme (this example uses a fictitious ObjectID for illustrative purposes) -

uri://recordsmanagement.gov.hk/DSD-01-RE-72fc68f0-5437-4d8e-a719-b4c4ecd1b678

(b) for a folder managed by an ERKS in the Legal Aid Department's second classification scheme (this example uses a fictitious ObjectID for illustrative purposes) -

uri://recordsmanagement.gov.hk/LAD-02-FO-T000000175

Note that the character '**T**' at the beginning of the ObjectID in this example bears no relation to, and should not be confused with, the same character used to signify 'entity' in the other form of URI. In this example, '**T**' is an arbitrary character assigned by the ERKS, beyond the control of the B/D; and

(c) for a retention and disposal schedule managed by an ERKS in OGCIO's second ERKS (this example uses a fictitious ObjectID for illustrative purposes) -

uri://recordsmanagement.gov.hk/OGCIO-02-RS-193238672

4.5.11 B/Ds must assign a unique URI according to the specified format to instances of Components, Records, aggregations and other entities managed by an ERKS for transfer or export so as to facilitate exchange of records among B/Ds and transfer of records with archival value from B/Ds to GRS.

4.6 Levels of obligation for metadata

4.6.1 Different entities including aggregations need different metadata elements in order to ensure that they can be found, managed and disposed of appropriately. In some cases it is mandatory for an element to have a value for a particular entity; in other cases it is not. This is referred to as the level of obligation for the metadata element. The permitted levels of obligation for metadata are -

- (a) **mandatory:** this element must have a value;
- (b) **conditional mandatory:** this element must be given a value if the condition stated in the element's property 'Use conditions' is met (see Table 6). For instance, a value must be given for the element 'Time created' if the time for creation of a record is known; or a value must be given for the element 'Sender email' if the record is an email or an e-Memo;
- (c) **recommended:** this element is useful and should be given a value as far as practicable when the information is available; and
- (d) **optional:** this element may be given a value if the information is available and if the B/D considers it useful.

4.6.2 The obligation level of a metadata element may be different under AP1 to AP4 to address different business and/or records management needs.

4.6.3 Table 5 shows an extract of the table relating the levels of obligation of elements for the four APs.

Element	AP1	AP2	AP3	AP4
Creator name	Mandatory	Recommended	Mandatory	Mandatory
Date closed	Conditional mandatory	Optional	Conditional mandatory	Mandatory
GRS box item number	Optional	Optional	Optional	Optional

 Table 5: Sample obligation levels for the four Application Profiles

4.7 Definition of metadata elements

4.7.1 Each metadata element is defined by a set of properties. These properties and their definitions are shown in Table 6.

Element properties	Explanation	
Element ID	URI assigned to the element.	
Simple name	A simple, user-friendly name of the element for understanding by readers.	
XML name	The XML name of the element intended for processing by computer programs.	
Definition	A definition of the element.	
Purpose	The business and records management processes that the element is intended to support.	
Applicability	The entities to which the element applies (e.g. Class, Record, Component).	
Values	Rule(s) relating to the permitted content or format of the values, including a reference to an encoding scheme where relevant.	
Default value	Whether there is a default value for the element in AP1, and if so, what it is.	

Element properties	Explanation		
Example	An example of a typical value.		
Capturing mode	For AP1, method(s) of capturing the value of the element, e.g. system-generated (the ERKS generates the value internally, such as a system identifier), automatic (the value is taken automatically from an existing piece of information such as a sent date in an email), or manual. System-generated or automatic should be preferred wherever possible.		
Application Profile 1	For AP1, whether mandatory (a value must be included for any entity to which the element applies), conditional mandatory (a value must be included if other factors apply), recommended (a value should be given as far as practicable when the information is available) or optional (a value may be included).		
Application Profile 2	For AP2, whether mandatory (a value must be included for any entity to which the element applies), conditional mandatory (a value must be included if other factors apply), recommended (a value should be given as far as practicable when the information is available) or optional (a value may be included).		
Application Profile 3	For AP3, whether mandatory (a value must be included for any entity to which the element applies), conditional mandatory (a value must be included if other factors apply), recommended (a value should be given as far as practicable when the information is available) or optional (a value may be included).		
Application Profile 4	For AP4, whether mandatory (a value must be included for any entity to which the element applies), conditional mandatory (a value must be included if other factors apply), recommended (a value should be given as far as practicable when the information is available) or optional (a value may be included).		
Inheritance	The preferred rules for inheritance of metadata values for the entity from its parent entity in AP1.		
Occurrence	Whether there can be one or more values for the element in each Application Profile (AP).		

Element properties	Explanation
Source	Where the information used to populate the value comes from, in AP1. Systems may vary in whether or how this can be implemented, so this is a recommendation only.
Use conditions	Conditions and rules that govern the use and value(s) of the element, including whether the element value(s) can be amended or updated and under what circumstances.
Comments	Any other comments required to promote clarity about the meaning or implementation of an element.

 Table 6: Properties used to define a metadata element

4.7.2 The length of the metadata values is not specified, as good practice does not require it to be specified.

4.7.3 B/Ds must adopt the definitions, naming and numbering conventions, rules, encoding schemes and requirements specified in the metadata element definition tables listed at **Annex 3** to create, capture, use, manage and maintain metadata elements and their permitted values throughout the life cycle of records.

4.8 **B/D-specific metadata elements**

4.8.1 RKMS defines a set of metadata elements for each of the four application profiles. B/Ds should comply with the metadata for each application profile. B/Ds may add business-specific metadata that is not reflected in RKMS (see Chapter 6 for details).

4.9 **Definition of encoding schemes**

4.9.1 Each encoding scheme is defined by a set of properties. These properties and their definitions are shown in Table 7.

Encoding scheme properties	Explanation
Encoding ID	URI of the encoding scheme (see section 4.5).
Simple name	A simple, user-friendly name of the encoding scheme for understanding by readers.
XML name	Name of the encoding scheme intended for processing by computer programs.

Encoding scheme properties	Explanation
Definition	Definition of the encoding scheme.
Owner	Name of the role, department, or external body responsible for maintaining the encoding scheme.
Format	Whether the scheme uses text, dates etc.
Applicability	Elements which use the encoding scheme.
Values	Where appropriate, the permitted values for the element.
Example	Example of a permitted value.
Comments	Comments required to promote clarity about the meaning or implementation of the encoding scheme.

Table 7: Encoding scheme template

4.9.2 Use of an encoding scheme to create or capture a permitted value(s) for metadata elements is specified in the metadata element definition tables at Annex
3. B/Ds must adopt the definitions, naming and numbering conventions, rules and requirements specified for the properties of encoding schemes set out at Annex 5.

4.10 Summary of requirements

4.10.1 The requirements of RKMS set out in Chapter 4 are summarised below -

Entit	Entities			
1.	 Where B/Ds export or transfer records, aggregations and instances of other entities (if required) together with their associated metadata managed and stored by an ERKS to meet business and/or records management purposes of AP3 or AP4, they must assign a unique uniform resource identifier (URI) to each record and each instance of entities to be exported or transferred according to the specified format defined in Chapter 4 so as to identify records and instances of entities uniquely across the whole of HKSARG. (See section 4.5 for details.) 	applicable to AP3 and AP4		

2.

Metadata

3.

<i>Where</i> B/Ds export or transfer records, aggregations and instances of other entities (if required) together with their associated metadata from an information system to an ERKS to meet the records management purpose of AP2 , they must export or transfer the unique uniform resource identifiers (URI) (if available) for those affected records, aggregations and instances of other entities according to the specified format defined in Chapter 4 so as to identify records and instances of entities uniquely across the whole of HKSARG.	applicable to AP2
Note: B/Ds must ensure that the definitions of metadata elements and entities for which their values and instances to be exported or transferred are equivalent to the definitions of the corresponding metadata elements and entities defined in RKMS.	
(See section 4.5 for details.)	
lata	
B/Ds must adopt the definitions, naming and numbering conventions, rules, encoding schemes and requirements specified at Annex 1 (Metadata elements by application profile), Annex 2 (Entities and their metadata elements), Annex 3 (Metadata element definition tables) and Annex 5 (Encoding schemes) to create, capture, use, manage and maintain metadata elements and their permitted values throughout the life cycle of records for -	applicable to AP1
(a) metadata of mandatory and conditional mandatory obligation levels of all entities (except for the entities Sub-folder which is optional for use and Event History which is recommended for implementation) defined in section 3.4;	

(b) metadata of recommended and optional obligation levels (if these metadata have been implemented by B/Ds in their ERKSs) of all entities (except for the entities Sub-folder which is optional for use and Event History which is recommended for implementation) defined in section 3.4;

 (c) metadata of mandatory and conditional mandatory obligation levels of entities, namely Sub-folder and Event History (if these entities have been implemented by B/Ds in their ERKSs); and 	
 (d) metadata of recommended and optional obligation levels (if these metadata have been implemented by B/Ds in their ERKSs) for entities, namely Sub-folder and Event History which have been implemented by B/Ds in their ERKSs. 	
(See sections 4.6 and 4.7, Annex 1, Annex 2, Annex 3 and Annex 5 for details.)	
4. <i>Where</i> B/Ds export or transfer records, aggregations and instances of other entities (if required) together with their associated metadata to meet business and/or records management purposes of AP2, AP3 or AP4, they must export or transfer metadata in accordance with the naming and numbering conventions, rules, encoding schemes and requirements specified at Annex 1 (Metadata elements by application profile), Annex 2 (Entities and their metadata elements) and Annex 3 (Metadata element definition tables) Annex 5 (Encoding schemes) for -	applicable to AP2, AP3 and AP4
 (a) metadata of mandatory and conditional mandatory obligation levels of all entities (except for the entities Sub-folder which is optional for use and Event History which is recommended for implementation) defined in section 3.4; 	
 (b) metadata of recommended and optional obligation levels (if these metadata have been implemented by B/Ds in their ERKSs) of all entities (except for the entities Sub-folder which is optional for use and Event History which is recommended for implementation) defined in section 3.4; 	
 (c) metadata of mandatory and conditional mandatory obligation levels of entities, namely Sub-folder and Event History (if these entities have been implemented by B/Ds in their ERKSs); and 	
(d) metadata of recommended and optional obligation	

levels (if these metadata have been implemented by B/Ds in their ERKSs) for entities, namely **Sub-folder** and **Event History** which have been implemented by B/Ds in their ERKSs.

Note: B/Ds must ensure that the definitions of metadata elements and entities for which their values and instances to be exported or transferred are equivalent to the definitions of the corresponding metadata elements and entities defined in RKMS.

(See sections 4.6 and 4.7, Annex 1, Annex 2, Annex 3 and Annex 5 for details.)

Encoding schemes

5.	B/Ds must adopt encoding schemes with definitions, naming and numbering conventions, rules and requirements specified for the properties of encoding schemes set out at Annex 5 to create or capture permitted value(s) for specific metadata elements defined at Annex 3 .	applicable to AP1
	(See section 4.9, Annex 3 and Annex 5 for details.)	

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Chapter 5 **TECHNICAL STANDARD**



5.1 Introduction

5.1.1 This chapter is intended for readers with a technical background or interest, for example when implementing an ERKS using RKMS, or when developing interface software to convert metadata to or from RKMS-compliant form. It starts with a highly summarised overview of the XML environment.

5.1.2 An XML schema is used to describe the constituents, structure, data types and other characteristics of the recordkeeping metadata in a clear and unambiguous way. It can be used to specify metadata requirements in both human and machine-readable forms. This allows system developers and integrators to use its structures as a basis for exporting and importing records and their metadata. An XML schema forms a part of RKMS.

5.1.3 Chapter 4 describes the conceptual structure, components and conventions used in the metadata standard, in a representation-neutral manner i.e. using natural language rather than XML. This chapter explains how the same structure, components and conventions are used with the technical mechanism chosen – XML and XML schema.

5.1.4 The XML schema is presented at **Annex 7**, in electronic form.

5.2 Key XML terminology

5.2.1 XML (eXtensible Markup Language) is a set of rules for encoding documents in machine-readable form, and more generally for the representation of arbitrary data structures including data models. In RKMS, XML is used in the XML Schema Document (XSD, see below). The following paragraphs give a brief explanation of some of the key terminology used in this chapter.

Tag

5.2.2 XML employs user-defined tags. Each tag includes a tag identifier enclosed in angle brackets, '<' and '>'. A tag containing a slash (also known as solidus) character '/' indicates the end of a value. For example, an author data item might be represented as '<author>William Shakespeare</author>'. See http://www.w3.org/TR/xml/ for more information.

<u>XSD</u>

5.2.3 XSD (XML Schema Document) is a type of XML document that allows the specification of the constraints and structure of the content of a document or data model. XML schema thus goes above and beyond the syntactical constraints imposed by XML in general. The constraints in the XML schema are grammatical rules that govern the order of elements, data types and the content of elements and attributes. In effect the XML schema is a means to specify data standards of arbitrary complexity and size. See http://www.w3.org/TR/xmlschema-0/ for more information. In RKMS, the XML schema is used to define documents that will contain metadata values.

5.2.4 The XML schema is used to describe the constituents, structure, data types and other characteristics of the recordkeeping metadata in a clear and unambiguous way. Although technically the XML Schema standard is a W3C (World Wide Web Consortium) recommendation, it is extensively and internationally used to describe data structures, and is also the mechanism by which OGCIO's Registry of Data Standards defines and facilitates the reuse of government information models. The recordkeeping schema therefore conforms to W3C and OGCIO standards in order to ensure compliance and consistency.

<u>XSLT</u>

5.2.5 XSLT (eXtensible Stylesheet Language Transformations) is an XML-based language used to transform any XML document or data model into new documents or models in any format. The output formats can be other XML documents, or more commonly, HTML or PDF documents. XSLT therefore has the ability to generate human-readable formats from the machine-readable XML (or XML schema) format. It does this whilst preserving the source XML format. Thus a metadata standard defined in an XML schema can exist in many output forms with the assurance that the formal, non-ambiguous XML model itself is the primary definition from which these output formats are generated.

<u>CSS</u>

5.2.6 CSS (Cascading Style Sheets) is a style sheet language used to describe the formatting of an HTML document. CSS is designed to enable the separation of document content (such as an XML or HTML document) from document presentation, such as layout, colours, and fonts. This separation improves content accessibility and provides flexible control in the output characteristics.

5.3 XML schema structure

5.3.1 RKMS is defined in a single XML schema document. In addition, the XML schema has an accompanying XSLT document and a CSS document. See Table 8, in which 'X.Y' denotes the major and minor version number.

Document	Description
Recordkeeping Metadata Schema vX.Y.xsd	The XML schema document that defines RKMS.
Recordkeeping Metadata Schema Transformation vX.Y.xslt	The XSLT document that displays the Recordkeeping Metadata Schema in a human readable format.
Recordkeeping Metadata Schema Style Sheet vX.Y.css	The CSS document that controls fonts and colour characteristics of the human readable format.

Table 8: XML schema documents

5.3.2 Usage of these documents is explained in section 5.12.

5.3.3 The XML schema document is divided into four sections, namely the document header, the entities, the element data types and the encoding schemes. These sections are not mandated by XML schema syntax but are used to help with ease of maintenance of RKMS. The XML schema sections are described in Table 9.

Section	Description
Document header	States the version of the XML schema document and other relevant documentation notes, such as author, and time of publishing.
The entities	A list of XML schema xs:complexType items, one for each entity in the metadata standard, with all the elements (xs:simpleType items) used by each. See section 5.4 for schema conventions used.
The element data types	A list of XML schema element data types represented as xs:simpleType items. See section 5.4 for schema conventions used.
The encoding schemes	A list of XML schema encoding schemes represented as xs:simpleType items. See section 5.4 for schema conventions used.

Table 9: XML schema sections

5.4 XML schema conventions

- 5.4.1 To improve readability the following conventions are used -
 - (a) The element and element data types are named identically. This need not be the case to comply with the XML schema standard, but to do otherwise increases the complexity of RKMS.
 - (b) XML schema does not draw a distinction between data types in general and encoding schemes in particular. Thus encoding schemes are distinguished from element data types using the naming convention 'Encoding...' as the first part of their name.

5.5 XML schema entity structure

5.5.1 Each entity is defined in the XML schema as an xs:complexType. By way of illustration, Figure 20 and Figure 21 show a Mandate entity in textual form and as a figure.

```
<xs:complexType name="Mandate.CT">
 <xs:annotation>
   <xs:documentation source="SimpleName">Mandate</xs:documentation>
   <xs:documentation source="uri">uri://recordsmanagement.gov.hk/MS00-T-
      0008</xs:documentation>
 </xs:annotation>
 <xs:sequence>
   <xs:element name="Description.Description"</pre>
   type="grs:Description.Description" minOccurs="0" maxOccurs="1"/>
   <xs:element name="Relation.Entity" type="grs:Relation.Entity"</pre>
   minOccurs="1" maxOccurs="unbounded"/>
   <xs:element name="Description.Remark" type="grs:Description.Remark"</pre>
   minOccurs="0" maxOccurs="unbounded"/>
   <xs:element name="Identity.SystemID" type="grs:Identity.SystemID"</pre>
   minOccurs="1" maxOccurs="1"/>
   <xs:element name="Description.Title" type="grs:Description.Title"</pre>
   minOccurs="1" maxOccurs="1"/>
   <xs:element name="Identity.URI" type="grs:Identity.URI" minOccurs="0"</pre>
   maxOccurs="1"/>
 </xs:sequence>
```

Figure 20: XML example: Mandate entity in textual form

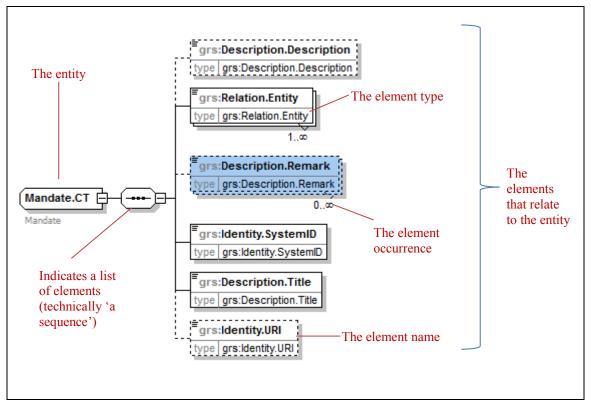


Figure 21: XML example: Mandate entity in diagrammatic form

5.6 XML schema element data type structure

5.6.1 Each element data type is defined in the XML schema as an xs:simpleType. By way of illustration, Figure 22 shows the definition of the 'Classification code' [Description.Classification.ClassificationCode] element in the XML schema.

```
<xs:simpleType name="Description.Classification.ClassificationCode">
  <xs:annotation>
   <xs:documentation source="Definition">The classification code applied to an
   aggregation or a Stub.</xs:documentation>
    <xs:documentation source="uri">uri://recordsmanagement.gov.hk/MS00-M-0005
    </xs:documentation>
    <xs:documentation source="SimpleName">Classification code</xs:documentation>
    <xs:documentation source="Purpose">To provide a code (unique except for
   Parts) to describe the position of the aggregation or Stub within the
   Records Classification Scheme down to Part level.</xs:documentation>
    <xs:documentation source="Values">String</xs:documentation>
    <xs:documentation source="DefaultValue">None</xs:documentation>
    <xs:documentation source="Example">002-005-010-007</xs:documentation>
    <xs:documentation source="CapturingMode">Automatic or
   manual</xs:documentation>
    <xs:documentation source="Inheritance">None</xs:documentation>
    <xs:documentation source="AP1">Mandatory</xs:documentation>
    <xs:documentation source="AP2">Recommended</xs:documentation>
    <xs:documentation source="AP3">Mandatory</xs:documentation>
    <xs:documentation source="AP4">Mandatory</xs:documentation>
```

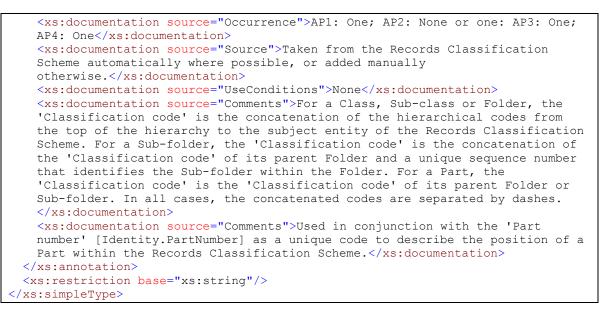


Figure 22: XML example: Description.Classification.ClassificationCode

5.7 XML schema encoding structure

5.7.1 Each encoding scheme is defined in the XML schema as an xs:simpleType. By way of illustration, Figure 23 defines the encoding scheme for the 'Security classification encoding scheme' in XML schema.

```
<xs:simpleType name="Encoding.Use.Access.Classification">
  <xs:annotation>
   <xs:documentation source="Definition">Encoding scheme to provide values for
    the security classification of an aggregation, Stub or
   Record.
    <xs:documentation source="uri">uri://recordsmanagement.gov.hk/MS00-E-
   0013</xs:documentation>
   <xs:documentation source="SimpleName">Security classification encoding
   scheme</xs:documentation>
    <xs:documentation source="Owner">HKSARG</xs:documentation>
   <xs:documentation source="Format">String</xs:documentation>
   <xs:documentation source="Example">CONFIDENTIAL</xs:documentation>
   <xs:documentation source="Comments">Must be further refined by the 'Security
   classification type' [Use.Access.ClassificationType] when the suffixed forms
   of 'RESTRICTED' are in force.</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xs:string">
    <xs:enumeration value="UNCLASSIFIED"/>
   <xs:enumeration value="RESTRICTED"/>
    <xs:enumeration value="CONFIDENTIAL"/>
    <xs:enumeration value="SECRET"/>
    <xs:enumeration value="TOP SECRET"/>
  </xs:restriction>
</xs:simpleType>
```

Figure 23: XML example: Encoding.Security.Classification encoding scheme

5.8 XML data types

5.8.1 The data types (common formats) used for metadata values of metadata elements can be seen in Table 10. The formats used adhere to best practice and are required for compliance with XML Schema design and management guide part II: XML Schema design guide, table 5-1.

Format	XML schema data type	Considerations of use
Date	xs:date	For use when a date value is needed, namely, day, month and year. This does not include textual date values such as 'Q1', 'Summer' etc. Where a partial date needs to be represented such as month and year only (but no day), then xs:date cannot be used and a text string must be used instead.
Date and Time	xs:dateTime	For use when a date and time value is needed, namely, day, month, year, hour, minute and second. If any part of the date or time is not known, then the xs:dateTime format cannot be used. Occasions where a date and time is usually known, but on occasion the time may not be, must be dealt with by having separate date and time elements, the time part of which would be optional.
Time	xs:time	For use when a time value is needed, namely hour, minute and second. If any part of the time is not known, then the xs:time format cannot be used and a text string must be used instead.
Yes/No	xs:Boolean	For use when a simple yes/no option is required.
String	xs:string	For use when any arbitrary value is required, including purely textual values. xs:string may also be used for numeric and other characters (such as punctuation), either separately or with other text characters. Also used for general identifiers.
URI	xs:anyURI	For use when a URI is required.

Table 10: XML data types

5.8.2 The rationale for selecting the appropriate format for any element value is that it should provide maximum specificity, but not exclude possible values. This combination makes RKMS sufficiently flexible, and sufficiently constrained.

5.9 XML schema annotations

5.9.1 XML schema is a general purposed data definition language, and as RKMS has specific characteristics over and above this, a number of annotations are used to represent these characteristics within the XML schema. The mechanism used to define these characteristics is the xs:annotation XML schema term. The xs:annotation term in the XML schema standard exists specifically to address such detailed levels of definition as might be required by specialised data models.

5.9.2 By way of illustration, Figure 24 shows the xs:annotation term and xs:documentation sub-term defining the simple name of a metadata element.

```
<xs:annotation>
  <xs:documentation source="SimpleName">Recipient type</xs:documentation>
</xs:annotation>
```

Figure 24: XML example: Definition of a simple name

5.10 XML aggregation relationships

5.10.1 The XML schema uses two kinds of parent-child relationships, both of which are intrinsic to the modelling paradigm of XML schema. These are 'reference' and 'containment'.

5.10.2 Reference is used to model the areas of RKMS where another entity is related to the subject entity but the values remain in the referenced entity. The reference usually takes the form of a 'link' or 'pointer' to the entity being referenced. For example, a Disposal Hold entity references the aggregation (entity) that the Disposal Hold applies to using a 'Relation - entity' element that contains the value of the 'System identifier' of the aggregation. The use of a reference relation is predicated on a consistent and unique identification mechanism for all entities.

5.10.3 Containment is used to model the areas of RKMS where the values of another entity are entirely contained in the parent entity. This is more akin to a conventional parent-child relationship. For example, a Class entity has within it the definition of zero or more Sub-class entities. Thus if the entirety of the Class entity was exported, then it would contain all metadata element values for Sub-classes, and all contained metadata element values of Sub-classes, such as Folder etc.

5.10.4 As a fundamental principle of the metadata design, the types of aggregation (Class, Sub-class, etc.) are built into the schema, and so types are expressed by the XML when a schema is used. There are therefore no metadata elements that explicitly state the type of an aggregation. Each entity is defined as a Complex Type within the XML structure, e.g. Class.CT. This has no practical drawback, as the metadata alone will never be viewed without the context provided either by the XML or by an ERKS application, either of which will make clear the aggregation type.

5.11 XML schema metadata element mapping

5.11.1 Each metadata element has two names. These are the 'simple name', which is used throughout RKMS and in the element definitions; and the 'XML name' which is used to name the XML elements. The element definition tables at **Annex 3** (arranged alphabetically by simple name) show both names for each element. The names are cross-referenced from XML name to simple name at **Annex 4**.

5.12 XML generation

5.12.1 In order to produce human readable outputs of the XML schema, whilst preserving the principle that at any one time there is only one version of the schema, an XSLT document is used.

5.12.2 The purpose of the XSLT document is to read, or more accurately 'parse', the entire XML schema, and in doing so can generate/output human readable text. The XSLT document contains a set of executable statements; it can be developed to output any item in the XML schema. The XSLT supplied with RKMS outputs all items in the XML schema.

5.12.3 The advantage of this XML/XSLT approach is that it is possible to develop other XSLT documents, each one of which could generate specific outputs or views of RKMS, depending on user requirements. At the same time all these outputs are based on the single XML schema that defines RKMS.

5.12.4 To generate the human readable output from RKMS a single XSLT file is used in conjunction with a single CSS file. The XSLT transforms the XML schema to HTML for ease of output. A figure of the files and their relationships is shown in Figure 25.

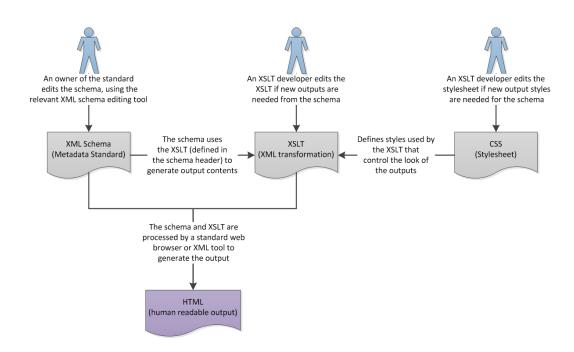


Figure 25: Generation of human-readable XML

5.12.5 Most web browsers are able to execute XSLT documents automatically when an XML file that uses an XSLT document is opened. Other XML tools, such as XMLSpy, are also able to generate outputs when presented with an XML document and its XSLT document.

5.12.6 XML, XML schema, XSLT and CSS formats are all text-only formats at the character level. In principle they can be edited with any simple text editor such as Notepad. Word processors such as Word typically add non-text formatting so their use is not recommended. As the syntax for XML schema can be complex, a dedicated XML editing tool was used to develop the schema for RKMS.

5.12.7 The software tool used to define the XML schema is XMLSpy Professional Edition Version 2011. XMLSpy is an Altova product (see http://www.altova.com/xmlspy.html). XMLSpy is a fully conformant XML editing tool; thus it produces XML schema files that strictly adhere to the W3C XML standard. The use of XMLSpy is widespread although any XML conformant tool can be used to maintain the XML schema for RKMS.

5.12.8 XMLSpy additionally can produce figures that show the structure of the XML schema. These figures are extremely useful in showing XML schema to non-technical users, although the visual notation is proprietary to Altova. An

example is at Figure 21 of section 5.5. No standard exists for diagrammatic XML schema.

5.12.9 XMLSpy also allows the editing of XSLT files and CSS files. It is equally conformant in the formal standards for each of these formats. Similarly any editing tool could be used to edit files of these types; it is not mandatory to use XMLSpy.

5.13 XML schema maintenance

5.13.1 Maintenance of the XML schema and related files is required whenever any entity, element, or encoding scheme is added, deleted or changed in any way (as shown in Table 11). Maintenance should include the following steps -

- (a) copy the file;
- (b) increment the version number in the new file. For major changes such as new elements, the major version number should be incremented. For minor changes such as changes to annotations the minor number should be incremented;
- (c) update the header information in the file version number and date information being especially important;
- (d) effect the desired changes;
- (e) record the changes in a conventional change log;
- (f) check the syntactic validity of the files before they are saved. All XML editing tools do this as a matter of course, including XMLSpy; and
- (g) retain a copy of the superseded file version(s).

5.13.2 It is likely that new output formats of RKMS may be required over time. This can be simply achieved by updates to the original XSLT file, or the creation of new XSLT files. Note that XSLT files can be developed separate to maintenance of RKMS itself.

5.13.3 In some cases it may be necessary to revise the CSS file which defines the formatting of the table outputs. This would be needed to change the font

colours, font size or font family used, if a different presentation style of the tables is required. Additionally, the spacing within the tables can be modified within the CSS. Note that changes to the CSS do not affect the text values being output in the tables nor the underlying Standard itself.

5.13.4 *Where* B/Ds extend RKMS to develop their departmental recordkeeping metadata standards, they must follow steps set out in this Chapter to maintain the XML schema of their standards.

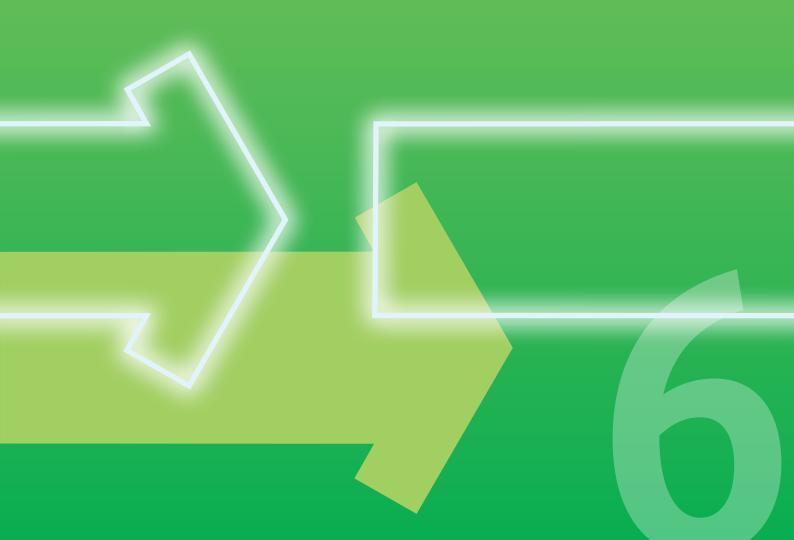
5.14 Summary of requirements

5.14.1 The requirements of RKMS set out in Chapter 5 are summarised below-

1.	<i>Where</i> B/Ds import instances of entities and the values of their associated metadata from an information system or an ERKS to their ERKSs, B/Ds must adopt the specified XML schema and comply with other related requirements set out in Chapter 5 and Annex 7 .	applicable to AP1
	Note: B/Ds must ensure that the definitions of metadata elements and entities for which their values and instances to be imported are equivalent to the definitions of the corresponding metadata elements and entities defined in RKMS.	
	(See sections 5.2 to 5.13 and Annex 7 for details.)	
2.	<i>Where</i> B/Ds export or transfer instances of entities and the values of their associated metadata to meet business and/or records management purposes specified under AP2 , AP3 or AP4 , B/Ds must adopt the specified XML schema and comply with other related requirements set out in Chapter 5 and Annex 7 .	applicable to AP2 to AP4
	Note: B/Ds must ensure that the definitions of metadata elements and entities for which their values and instances to be exported or transferred are equivalent to the definitions of the corresponding metadata elements and entities defined in RKMS.	
	(See sections 5.2 to 5.13 and Annex 7 for details.)	

3.	<i>Where</i> B/Ds extend RKMS to develop their departmental recordkeeping metadata standards, they must follow steps set out in this Chapter to maintain the XML schema of their standards.	applicable to AP1 to AP4
	(See sections 5.2 to 5.13 and Annex 7 for details.)	

Chapter 6 IMPLEMENTING RKMS



6.1 Introduction

6.1.1 This chapter explains how RKMS should be implemented in various scenarios.

6.2 General considerations

6.2.1 The successful implementation of a standard of this nature requires commitment. It requires, for example, the establishment of a governance structure, and the acquisition or development of appropriate skills; see **Chapter 7** for details.

6.2.2 Attempts to comply with RKMS on the basis of technology only may not realise the full benefits expected from RKMS. Full benefits of electronic records management also rely on accurate classification of records, and complete and accurate metadata. This in turn calls for effective and proportionate training of staff responsible for the entry of metadata, and monitoring of the metadata they enter.

6.2.3 However, experience with ERKSs shows that manual entry of metadata is both costly and error prone. B/Ds should therefore ensure that an ERKS is able to automatically capture, system-generate and inherit metadata values as much as possible. Metadata created or captured from these modes are not subject to the errors inherent in manual data entry, and the cost of creation and capture is essentially zero. So while automated metadata capture and creation may entail increased costs for configuration and integration initially, in the long term it is likely to increase the value of the records captured. Metadata can be captured automatically in several ways, including -

- (a) from the operating system: some metadata values can be captured from a computer operating system at the moment of a transaction, such as -
 - (i) date and time of an event (such as capturing of a record and opening of a folder); and
 - (ii) identity of the user executing a transaction;
- (b) from the record being captured: many metadata values can be captured automatically from the records as they are captured, though not all such values are captured by ERKSs 'out of the box'; it may require configuration. For records created within the

government, the range of values that can be captured is even greater if some combination of document templates and word processor macros is used to enter the metadata into the records in a machine-usable way. Particularly for email records, important metadata can be captured from headers. Examples include -

- (i) Title;
- (ii) Creator name or Sender name;
- (iii) Recipient name, Carbon copy recipient, Blind carbon copy recipient;
- (iv) Date sent, Date received, Time sent, Time received; and
- (v) Record reference.
- (c) from the network directory: the directory can automatically provide metadata about the user executing a transaction;
- (d) from legacy applications: where B/Ds integrate an ERKS with an application, the application should provide metadata automatically. This usually includes case identification metadata, and may include other metadata such as title; and
- (e) from barcodes: where non-electronic records are involved, barcodes and barcode scanners can be employed to reduce manual data entry, by capturing identifiers of, for example -
 - (i) parts;
 - (ii) records; and
 - (iii) locations.
- 6.2.4 For inheritance of metadata values, please see section 2.8.

6.2.5 It is also important to reduce reliance on manual data entry by appropriate use of other techniques which reduce the volume of data entry, and which thus increase accuracy. Techniques include -

- use of encoding schemes: in some cases, manual entry of free text (a) is difficult or impossible to avoid. One example is the title of scanned correspondence. But wherever possible, an encoding scheme should be used to remove data entry errors and inconsistency. Typically an encoding scheme is implemented as a 'pull-down' or 'drop-down' menu, requiring a user to choose one or more terms from a controlled vocabulary. An example is the of security classification suffixes ('ADMIN', list 'APPOINTMENT', etc.);
- (b) use of default values: consistency, accuracy and efficiency can be increased by appropriate use of default values in the ERKS user interface. An example would be the capture date defaulting automatically to the current date. Another possibility for some elements is to set defaults to the most-recently used value; and
- (c) use of 'favourites' and 'most-recently-used' lists: consistency, accuracy and efficiency can be increased by implementation of these features in the ERKS interface. Their use makes it easy for a user to choose from a short list of metadata values which has a high probability of including the desired value.

6.3 Implementing RKMS when acquiring and developing an ERKS

6.3.1 Development or procurement of an ERKS specified after the promulgation of RKMS should comply with it. This should be achieved by specifying compliance with the requirements applicable to AP1 at the time of procurement. At this time, B/Ds should also consider the capabilities of their ERKSs to meet requirements of AP2, AP3 and AP4. Please see section 3.2 for requirements regarding implementation of AP1 to AP4.

6.4 Implementing RKMS for an existing ERKS

6.4.1 The management of records in an ERKS – including existing systems – should comply with the requirements applicable to AP1 so that mandatory and conditional mandatory metadata are available in the ERKS to ensure the authenticity, integrity, reliability and usability of records and facilitate effective management of records stored therein. B/Ds are advised to ensure compliance with the requirements applicable to AP3 and AP4 as soon as practicable. In any event, compliance with the requirements applicable to AP3 and AP4 should be achieved no later than the time when B/Ds execute the export or transfer of records,

aggregations and instances of other entities (if required) with associated metadata. Please see section 3.2 for requirements regarding implementation of AP1 to AP4. In all cases, compliance both may be achieved by -

- (a) customisation of the ERKS software (for example, but not limited to, customisation of parts of the software that deal with export of metadata); and/or
- (b) development of custom software to convert metadata from ERKS's native format to RKMS-compliant format.
- 6.4.2 Both of these approaches require -
 - (a) analysis to map existing metadata to RKMS. This involves working out how the existing metadata and metadata as defined in RKMS relate, and what transformations have to be applied to the former so as to export it in the format required by RKMS; and
 - (b) custom development of software and procedures to convert metadata into the format required by RKMS.

6.4.3 In some metadata export and import situations, manual data entry or other manual intervention may be necessary, for example to provide metadata values that are absent, or to correct any inappropriate values. These situations will be revealed during the analysis.

6.4.4 If the analysis determines that the cost of compliance will be unacceptably high, then the appropriate governance role (see **Chapter 7**) should be consulted. In these cases, costs associated with non-compliance, for example, the manual entry of metadata, must be considered.

6.5 Implementing RKMS for a business system

6.5.1 Business systems that are not ERKSs are not required to implement metadata as specified by RKMS. It is not appropriate to seek to customise such business systems so that they implement compliant metadata internally.

6.5.2 However, if (and only if) a business system is expected to integrate with an ERKS for the latter to capture and import records, or export or transfer records to an ERKS, for proper management and storage, then compliance with the requirements applicable to AP2 should be sought at that time. Please see section

3.2 for requirements regarding implementation of AP2. As with an ERKS, this may be achieved by -

- (a) customisation of the application software; and/or
- (b) development of custom software to convert the metadata from application's native format to RKMS-compliant format.
- 6.5.3 Either of these approaches requires -
 - (a) analysis to map existing metadata to RKMS; and
 - (b) custom development of software and procedures.

6.5.4 In some cases, a business system may not contain all the required metadata and B/Ds are required to fill in those metadata elements required for AP1 if records created/stored in a business system are exported or transferred to an ERKS for proper management and storage. Under this circumstance, manual data entry or other manual intervention may be required.

6.6 Customising RKMS in a B/D

6.6.1 RKMS prescribes a core set of metadata elements of different obligation levels primarily required of an ERKS to meet common records management needs of B/Ds. B/Ds may wish to add to RKMS to develop their departmental recordkeeping metadata standards to allow for B/D-specific requirements, for example geographic location metadata, or metadata to identify services or process status.

6.6.2 B/Ds must examine and determine as to whether they need to extend the requirements of RKMS including metadata elements to meet their specific records management and/or business needs. *Where* B/Ds extend the requirements of RKMS to meet their specific records management and/or business needs, they must develop their own departmental recordkeeping metadata standards setting out recordkeeping metadata and entities (including those defined in RKMS); and principles, requirements and rules governing the creation, capture, use, management and maintenance of recordkeeping metadata and entities that have been specified by the B/D concerned. B/Ds must ensure that their departmental recordkeeping metadata standards always comply with the requirements of RKMS.

6.6.3 *Where* B/Ds develop their departmental recordkeeping metadata standards, they must comply with guiding principles, rules and the permitted scope of changes and additions to RKMS set out in the following paragraphs. In case of doubts, B/Ds should seek advice from GRS.

Overriding principles

6.6.4 The following paragraphs set out the guiding principles and rules to revise RKMS in the government-wide context. These requirements and rules are also applicable to B/Ds when developing or revissing their departmental recordkeeping metadata standards. *Where* B/Ds develop, revise or update their departmental recordkeeping metadata standards, they must comply with the guiding principles and rules set out below.

6.6.5 The most important principle that applies when revising RKMS at the central level and when developing, revising or updating a departmental recordkeeping metadata standard at B/D level is to maintain consistency. Take updating and revising RKMS as an example, it is imperative that whenever changes are made -

- (a) consistency must be maintained between all the constituent parts of RKMS, namely -
 - (i) the body of RKMS;
 - (ii) RKMS annexes;
 - (iii) the XML schema;
 - (iv) XSLT and CSS documents accompanying the schema; and
 - (v) any encoding scheme(s) maintained externally of RKMS (such as the Government B/D encoding scheme).
- (b) consistency must be maintained within RKMS. For example -
 - the present chapter, dealing with implementation issues, is closely related to, and makes reference to, roles defined in Chapter 7 which deals with governance of RKMS and the departmental recordkeeping metadata standard;

- (ii) Annex 3, which defines the metadata elements, makes numerous references to encoding schemes defined at Annex 5; and
- (iii) the body of RKMS contains numerous cross references.
- (c) consistency of naming must be maintained, for metadata elements and encoding schemes; and
- (d) consistency with preceding versions of RKMS must be understood, with any incompatibilities being clearly documented (backwards compatibility).

6.6.6 It is also essential to maintain the integrity of RKMS, by ensuring that the element definitions, encoding scheme definitions, and XML documents are correct and complete.

6.6.7 As a consequence, a detailed understanding of RKMS, and in particular how its constituents relate to each other, is a prerequisite for successful revision of RKMS.

6.6.8 B/Ds must follow the principles set out above to develop, revise or update their departmental recordkeeping metadata standards so as to ensure consistency of their departmental recordkeeping metadata standards.

Considerations for developing and maintaining departmental recordkeeping metadata standards

6.6.9 In addition to the overriding principles set out from paragraphs 6.6.4 to 6.6.8, B/Ds should take into account the following considerations in developing and maintaining their departmental recordkeeping metadata standards -

(a) whether the proposed change would carry any government-wide implications. *Where* the B/D considers that the proposed change is likely to have government-wide implications, it must inform GRS of any proposed changes in advance. GRS will then assess whether the suggested changes should be taken up by GRS if they would carry government-wide implications or those changes are specific to individual B/D that B/D might handle by itself;

- (b) whether the proposed change will affect other B/Ds. If so, a B/D may consider consulting any other B/D (e.g. among works departments or departments under the same bureau) who has already managed a similar change, or is about to do so. There may be scope for efficiency savings by pooling effort. An example of where this might be worthwhile is geographic metadata; and
- (c) whether the proposed change will affect records managed by some system(s) that ultimately may transfer records to PRO of GRS. If so, the implications should be considered thoroughly by the B/D concerned. By default, metadata that is additional to RKMS will be lost during its transfer (along with records) to PRO of GRS using the XML schema specified in RKMS. In many cases this may be acceptable or even intentional; if not, PRO of GRS should be consulted before any additions are made to RKMS for B/D-specific use.

Scope of permitted changes to RKMS for developing a departmental recordkeeping metadata standard

6.6.10 B/Ds can customise RKMS by adding to it for B/D-specific use, and by revising or deleting those additions. B/Ds must not revise or delete entities, metadata elements and encoding schemes defined in RKMS. If a B/D identifies a change that may be desirable to RKMS it should raise it to GRS.

6.6.11 The scope of changes a B/D may make to RKMS to develop its departmental recordkeeping metadata standard include -

- (a) adding new encoding schemes;
- (b) adding new values for encoding schemes developed by B/Ds;
- (c) adding new encoding scheme properties (this would be rare);
- (d) adding new metadata elements;
- (e) adding new metadata element properties (this would be rare);
- (f) adding new entities (this would be rare); and

(g) making changes to, or deletion of, any of the above (B/Ds should not change or delete any part of RKMS save those they have added by customisation).

6.6.12 B/Ds must ensure that the changes made to RKMS in developing their departmental recordkeeping metadata standards are confined to the scope set out in paragraph 6.6.11 above. In case of doubt, B/Ds should seek advice from GRS. Guiding principles and considerations for making specific kinds of changes listed in paragraph 6.6.11 are set out from paragraphs 6.6.32 to 6.6.76.

Overview of the revision and update process

6.6.13 The following paragraphs set out the procedures and steps to revise RKMS at the central level. These procedures and steps are also applicable to B/Ds to develop, revise or update their departmental recordkeeping metadata standards. It is recommended that B/Ds should follow the procedures and steps set out from paragraphs 6.6.14 to 6.6.31 to revise and update their departmental recordkeeping metadata standards.

6.6.14 Revision of RKMS should be considered -

- (a) upon receipt of a request for change; and
- (b) as part of a routine regular review cycle.
- 6.6.15 At the highest level the process consists of the following steps -
 - (a) identify or receive request for change;
 - (b) analyse the request to determine its impact and estimate resources to implement it;
 - (c) determine whether to implement the change;
 - (d) implement the change and revise the relevant documentation; and
 - (e) approve and publish the change.

6.6.16 These steps are explained below. The explanations are followed by considerations that B/Ds should take into account when making specific kinds of

revisions and updates. It is recommended that B/Ds should follow these steps to revise and update their departmental recordkeeping metadata standards.

Identifying or receiving request for change

6.6.17 Proposals for revising RKMS should be addressed to GRS. In terms of a departmental recordkeeping metadata standard, proposals for revising or updating should be addressed to the appropriate governance role holder in the relevant B/D as specified in **Chapter 7**.

Analysing the request

6.6.18 At the central level, GRS is responsible for analysing a request for revising RKMS in conjunction with parties concerned.

6.6.19 At B/D level, the request to revise the departmental recordkeeping metadata standard should be analysed by the appropriate governance role holder of B/Ds specified in **Chapter 7**. The analysis should consider all factors that will lead to a decision on whether or not to implement the proposal. These factors include -

- (a) benefits and disadvantages;
- (b) compatibility with the overall design of the metadata;
- (c) compatibility with legislation, RKMS and other standards;
- (d) conformance with recordkeeping principles;
- (e) any impact on, and impact of, other initiatives;
- (f) estimated resource requirements (cost-effectiveness); and
- (g) any other factors not listed above.

6.6.20 The appropriate governance role holder must ensure that the revisions made will not compromise the purposes of the core set of metadata and entities as specified in RKMS and as specified in the departmental recordkeeping metadata standard. A recommendation as to whether the proposal should be accepted or rejected with a rationale based on the above considerations should be submitted to the appropriate governance role holder specified in **Chapter 7** for consideration.

Determining whether to implement the change

6.6.21 The appropriate governance role holder specified in **Chapter 7** should receive the recommendation and determine whether it should be accepted or rejected based on the evaluation of the factors specified in paragraph 6.6.19. In particular, records management principles – including authenticity, integrity, reliability and usability – as defined in ISO 15489 – should be taken into account.

Implementing the change and revising the relevant documentation

6.6.22 The appropriate governance role holder specified in **Chapter 7** should implement the change. As indicated in paragraphs 6.6.5 and 6.6.6, it is imperative that consistency is maintained throughout.

6.6.23 The considerations for extending the requirements of RKMS to develop a departmental recordkeeping metadata standard vary greatly according to the nature of the change. For example, changes such as adding a metadata element, changing the values in an encoding scheme, and modifying the governance roles would result in different steps. For this reason, this section lists considerations at a high level, necessarily without providing detail or sequence.

6.6.24 The body of RKMS, or its annexes, may need to be changed; and various other constituent parts may also need to be changed, for example the XML schema. Within the body of RKMS there are dependencies on some of these other constituent parts (annexes, figures, tables). Table 11 indicates – as an approximation only – which constituents, and which parts of the body of RKMS are likely to need change for a selection of kinds of change. The table is approximate only, as the actual changes needed may vary.

	Adding, revising and deleting metadata elements (see note 1)	Adding, revising and deleting properties of metadata elements (see note 2)	Adding, revising and deleting encoding schemes (see note 1)	Adding, revising and deleting properties of encoding schemes (see note 3)	Maintaining encoding scheme values	Revising and customising the entity- relationship/metadata model
Chapter 2: Key Principles	✓					~
Chapter 4: Recordkeeping Metadata Elements		✓		✓		✓

	Adding, revising and deleting metadata elements (see note 1)	Adding, revising and deleting properties of metadata elements (see note 2)	Adding, revising and deleting encoding schemes (see note 1)	Adding, revising and deleting properties of encoding schemes (see note 3)	Maintaining encoding scheme values	Revising and customising the entity- relationship/metadata model
Annex 1: Metadata elements by Application Profile	✓					✓
Annex 2: Entities and their metadata elements	✓					✓
Annex 3: Metadata element definition tables	✓	✓	✓			✓
Annex 4: Cross-reference of XML name and simple name	~					~
Annex 5: Encoding schemes	✓		\checkmark	\checkmark	✓	
Annex 6: Event type definitions					✓	
Annex 7: XML Schema	\checkmark	✓	~	~	\checkmark	✓
Table 1: Entities related by 'Relation - entity'	\checkmark					\checkmark
Table 2: Rationale for 'Relation-entity' combinations	✓					✓
Table 4: Codes for kinds of entities						✓
Table 6: Properties used to define a metadata element		✓				
Table 7: Encoding scheme template				✓		
Table 10: XML data types		✓	✓			
XSLT document	✓	✓	✓	✓		✓
URI sequence number counters	✓		✓			✓
Figure 8: Entity-relationship example						✓
Figure 9: 'Exclusive OR' relationship						✓
Figure 10: Recursive relationship	✓					
Figure 11: Underlying entity-relationship model						✓
Figure 14: Retention and Disposal Schedule						✓
Figure 15: Stub						✓
Figure 16: User and group access						✓
Figure 19: Parent and child record relationships						✓
 Figure 17: Parent/child relationships for Class Figure 18: Simplified XML demonstrating the structure for the class 'Administration' Figure 20: XML example: Mandate entity in textual form Figure 21: XML example: Mandate entity in diagrammatic form Figure 22: XML example: 	Only if the change affects the examples in the Figure					

	Adding, revising and deleting metadata elements (see note 1)	Adding, revising and deleting properties of metadata elements (see note 2)	Adding, revising and deleting encoding schemes (see note 1)	Adding, revising and deleting properties of encoding schemes (see note 3)	Maintaining encoding scheme values	Revising and customising the entity- relationship/metadata model
Description.Classification.ClassificationCode						
Figure 23: XML example: Encoding.Security.Classification encoding scheme						
Figure 24: XML example: Definition of a simple name						
Figure 25: Generation of human-readable XML						
Notes to table						

Note 1: B/Ds may add B/D-specific metadata elements or encoding schemes to RKMS for use in their organisations. Once they have been added, a B/D may revise or delete them. B/Ds must not revise or delete any metadata element or encoding scheme as specified in RKMS.

Note 2: B/Ds may add, revise or delete B/D-specific properties to metadata element definitions only for B/D-specific metadata elements that they have added to their departmental recordkeeping metadata standards. B/Ds must not revise or delete any property as specified in RKMS.

Note 3: B/Ds may add, revise or delete B/D-specific properties to encoding schemes only for B/D-specific encoding schemes that they have added to their departmental recordkeeping metadata standards. B/Ds must not revise or delete any property as specified in RKMS.

Table 11: Changes likely to be needed upon maintenance

6.6.25 Further detailed considerations for the different kinds of change shown in Table 11 are given from paragraphs 6.6.32 to 6.6.80.

6.6.26 In all cases, cross-references must be updated and checked.

6.6.27 In all cases, the version number of every changed document needs to be updated. Version numbering of the XML schema follows OGCIO guidelines, and is reflected in the schema.

Approving and publishing the change

6.6.28 RKMS is maintained by GRS. GRS is responsible for approving and publishing changes to RKMS while the appropriate governance role holder specified in **Chapter 7** should review and approve the change to the departmental recordkeeping metadata standard prior to its publication.

6.6.29 Once approval is granted, the new version can be published, complete with -

- (a) an appropriate new version number; and
- (b) a change log.

6.6.30 A copy of the superseded version must be kept as a record, so that the detail of the departmental recordkeeping metadata standard in force at any time can be reconstructed. An appropriate software configuration control tool should be used.

6.6.31 If a B/D extends RKMS to develop a departmental recordkeeping metadata standard, it will produce its own recordkeeping metadata standard and be responsible for approving and publishing changes; in this event the document naming described from paragraphs 6.6.81 to 6.6.83 must be observed.

Changes to encoding schemes

6.6.32 The following paragraphs set out guiding principles and considerations for making permitted changes to encoding schemes as set out in items (a), (b), (c) and (g) of paragraph 6.6.11. Considerations for customising encoding schemes in B/Ds and guiding principles for development and maintenance of encoding schemes are set out from paragraphs 6.6.45 to 6.6.57.

Adding, revising and deleting encoding schemes

6.6.33 *Where* an encoding scheme is added to the departmental recordkeeping metadata standard, a new URI must be allocated to it. See section 4.5 and paragraphs 6.6.78 to 6.6.80.

6.6.34 If an encoding scheme definition is changed in important respects, it is good practice to allocate a new URI to the scheme. See section 4.5 and paragraphs 6.6.78 to 6.6.80. There is no virtue in allocating a new code for minor changes. If a new URI is allocated, it is necessary to check whether related changes are needed for any metadata elements.

6.6.35 *Where* an encoding scheme is added to the departmental recordkeeping metadata standard, or *where* an existing definition (of a B/D-specific encoding scheme added by B/Ds to their departmental recordkeeping metadata standards) is

changed, B/Ds must consider and determine each of the encoding scheme's properties (as defined in section 4.9).

6.6.36 B/Ds must not revise or delete any encoding schemes as specified in RKMS. B/Ds may revise or delete B/D-specific encoding schemes that they have added in their departmental recordkeeping metadata standards subject to the condition as specified in paragraph 6.6.37.

6.6.37 B/Ds must not delete or revise B/D-specific encoding schemes if such deletion or revision will jeopardise the authenticity, integrity, reliability and usability of records.

6.6.38 If an encoding scheme is deleted, a gap is produced in the numbering sequence. No attempt should be made to re-use numbers to avoid such gaps.

Adding, revising and deleting properties of encoding schemes

6.6.39 Careful consideration needs to be given before any property used to describe encoding schemes is added or changed. Such changes have consequent effects throughout RKMS, particularly the XML schema; and the effect on existing records, or existing planned transfers, needs to be taken into account.

6.6.40 B/Ds must not revise or delete any properties of encoding schemes as specified in RKMS and those encoding schemes that have been added by B/Ds. B/Ds may revise or delete B/D-specific properties for B/D-specific encoding schemes that they have added in their departmental recordkeeping metadata standards subject to the condition as specified in paragraph 6.6.41.

6.6.41 B/Ds must not delete or revise B/D-specific properties of encoding scheme for B/D-specific encoding schemes if such deletion or revision will jeopardise the authenticity, integrity, reliability and usability of records.

Maintaining encoding scheme values

6.6.42 Encoding scheme values will be maintained routinely to meet operational needs. For example, if a B/D uses an encoding scheme that lists standard logo colours, then if a new colour is agreed a new value will have to be added to the colour encoding scheme.

6.6.43 The responsibility for maintaining the encoding scheme values lies in different places according to the kind of scheme, namely -

- (a) government-wide schemes are maintained by the owner identified at **Annex 5**;
- (b) any B/D-specific encoding schemes are maintained within the B/D, or by another body, as specified in the encoding scheme developed by the B/D. Where B/Ds are the owners of the encoding schemes, B/Ds must maintain the encoding schemes properly; and
- (c) encoding schemes managed externally to the government, such as ISO code lists, are managed by the external body identified as owner in the encoding scheme. They cannot be maintained by government staff.

6.6.44 When encoding scheme values are maintained, it is necessary to consider the impact on existing metadata values that use the scheme. Specifically, deleting a value that has already been used to describe records in an ERKS would immediately cause those values to appear invalid. For this reason, a value should not normally be deleted unless it is certain that the value has not been used.

Customising encoding schemes

6.6.45 If new metadata elements are introduced to their departmental recordkeeping metadata standards, B/Ds should consider whether their metadata values can be limited by the use of encoding schemes. Encoding schemes provide a very effective and productive way to minimise the risk of incorrect metadata, and to maximise their value (see section 6.2); they should be used whenever appropriate.

6.6.46 Encoding schemes are suitable if an appropriate external encoding scheme exists already (an international standard, a W3C standard, an industry association standard) or when it is feasible and realistic to develop one in-house.

6.6.47 Developing an encoding scheme is feasible and realistic when the following circumstances exist -

(a) the domain addressed by the scheme is limited, not limitless. For example, an encoding scheme of colour shades would be (in effect) limitless and hence unfeasible; but an encoding scheme of colours that have been agreed in advance to be allowable for logos would be feasible;

- (b) the domain is acceptably stable. Complete stability is not required, but normally any encoding scheme should not require unduly frequent updating; and
- (c) the domain is well understood, and the B/D has access to appropriate analytic skills to undertake the development.

6.6.48 Paragraphs 6.6.50 to 6.6.57 contain further guidance on the design and maintenance of encoding schemes.

6.6.49 Encoding schemes may take the form of simple lists. However, if a large number of values are needed – more than can helpfully be accommodated by a pull-down list – then it may be necessary to develop a hierarchical encoding scheme.

Principles for the development and maintenance of encoding schemes

6.6.50 This section sets out guiding principles and best practices for development and maintenance of encoding schemes including adding new values for B/D-specific encoding schemes. B/Ds must follow the principles and best practices set out below in developing and maintaining B/D-specific encoding schemes. Whenever possible, existing encoding schemes should be used in preference to developing new schemes. Existing schemes may be managed by external bodies or internally by HKSARG.

6.6.51 However, it may sometimes be necessary to develop an encoding scheme that is specific to B/D business requirements. In such cases it is important to adhere to principles of good design during both its design and its later maintenance. These principles are described briefly below.

Homogeneity

6.6.52 All the encoding scheme terms must be chosen using the same classification principle. So, for example, a (fictitious) encoding scheme for colours including the terms 'blue', 'red', and 'yellow'; but it would be incorrect to include 'dark' as a term.

Mutual exclusivity

6.6.53 The encoding scheme terms must not overlap when the scheme takes the form of a simple list. So for example a (fictitious) geographical encoding scheme

including the terms 'China', 'Japan' and 'Malaysia' should not include the term 'Asia'. However, overlapping terms related to each other by 'broader' and 'narrower' relationships are permitted when a hierarchical encoding scheme is defined, as in a hierarchical thesaurus.

Consistency

6.6.54 The level of detail implied by encoding scheme terms should be similar. So for example a (fictitious) vehicle encoding scheme could include the terms 'air vehicle', 'marine vehicle' and 'land vehicle'. But it would be inconsistent if it includes the terms 'air vehicle', 'marine vehicle', 'bus', 'bicycle' and 'car'.

Unambiguity

6.6.55 Encoding schemes should include only terms that are unambiguous. Ambiguous terms, such as for example 'big' or 'young' must be avoided. Terms which are known to be ambiguous in a particular business context must especially be avoided.

Persistence

6.6.56 Encoding scheme terms should be chosen so that they will endure. As the retention of many records is measured in decades (and sometimes longer), encoding scheme terms need to be comprehensible for equivalent periods. Abbreviations and acronyms in definitions – particularly of government or other organisations – should especially be avoided for this reason.

Comprehensiveness

6.6.57 All the terms in an encoding scheme, taken together, must cover the entire domain addressed by the encoding scheme, leaving no significant gaps.

Changes to metadata elements

6.6.58 The following paragraphs set out considerations and principles for making permitted changes to metadata elements as set out in items (d), (e) and (g) of paragraph 6.6.11.

Adding, revising and deleting metadata elements

6.6.59 If a requirement is determined for metadata that is not included in RKMS, then it may be desirable to add an element. This may arise for a number of reasons, such as -

- (a) metadata required in the B/D to support searching for entities, such as geographic location metadata, but which are not required outside the B/D (for example by PRO of GRS); and
- (b) metadata required in the B/D for management purposes, such as (hypothetically) metadata describing the premises within a building, but which are not required outside the B/D.

6.6.60 It is important to recognise that any such requirement need not automatically result in some new metadata element(s) being added to RKMS. It is entirely acceptable for metadata configured in an ERKS to be additional to the elements specified in RKMS; indeed this will be commonplace. An element only needs to be added when it is necessary to include the metadata for the explicit purposes of one of the APs listed in section 3.2.

6.6.61 *Where* an element is added to the departmental recordkeeping metadata standard, a new URI must be allocated to it. See section 4.5 and paragraphs 6.6.78 to 6.6.80.

6.6.2 If a metadata element definition of a B/D-specific metadata element added by B/Ds to their departmental recordkeeping metadata standards is changed in important respects, it is good practice to allocate a new URI to signify that the usage of the element may have changed. See section 4.5 and paragraphs 6.6.78 to 6.6.80. There is no virtue in allocating a new code for minor changes. If a new URI is allocated, it is necessary to check whether related changes are needed for any encoding schemes.

6.6.63 *Where* a metadata element is added to the departmental recordkeeping metadata standards, or *where* an existing definition (of a B/D-specific metadata element added by B/Ds to their departmental recordkeeping metadata standards) is changed, B/Ds must consider and determine each of the element's properties (as defined in section 4.7).

6.6.64 B/Ds must not revise or delete any metadata elements as specified in RKMS. *Where* B/Ds add B/D-specific recordkeeping metadata to their departmental recordkeeping metadata standards, it may prove desirable to revise or

delete the definition of an element in their departmental recordkeeping metadata standards subsequently, as requirements change, or if differences between requirements and RKMS emerge. However, before revising or deleting a definition, it is essential to consider the impact on any metadata values already stored that depend upon the definition. Specifically -

- (a) if an element definition is revised, and if a system already stores metadata values in accord with the pre-revision definition, it is possible that metadata values captured after the revision maybe inconsistent with them. The impact of such inconsistency is not defined, as it will vary according to circumstance. The impact must be determined on a case by case basis; and
- (b) if an element definition is deleted, and if a system already stores metadata values in accord with the definition, the metadata values will not be routinely exported or imported. This may be acceptable, or unacceptable, depending on the circumstance. The impact must be determined on a case by case basis.

6.6.65 B/Ds must not delete or revise B/D-specific metadata elements if such deletion or revision will jeopardise the authenticity, integrity, reliability and usability of records.

6.6.66 If a metadata element is deleted, a gap is produced in the numbering sequence. No attempt should be made to re-use numbers to avoid such gaps.

Adding, revising and deleting properties of metadata elements

6.6.67 Careful consideration needs to be given before any property used to describe metadata elements is changed. Such changes have consequent effects throughout RKMS, particularly the XML schema; and the effect on existing records, or existing planned transfers, needs to be taken into account. The nature of the impact is unpredictable, so each potential change must be considered individually.

6.6.68 B/Ds must not revise or delete any properties to metadata elements as specified in RKMS and those metadata elements that have been added by B/Ds. B/Ds may revise or delete B/D-specific properties to metadata elements for B/D-specific metadata elements that they have added in their departmental recordkeeping metadata standards subject to the condition as specified in paragraph 6.6.69.

6.6.69 B/Ds must not delete or revise B/D-specific properties to metadata element for B/D-specific metadata elements if such deletion or revision will jeopardise the authenticity, integrity, reliability and usability of records.

Revising and customising the entity-relationship/metadata model

6.6.70 The following paragraphs set out the considerations and principles for making permitted changes to entities as set out in items (f) and (g) of paragraph 6.6.11.

6.6.71 The entity-relationship model as specified in RKMS can be changed, but such changes will be rare and are not recommended. Careful consideration needs to be given to any such change, as it will have consequent effects throughout RKMS. The effect of such change on the XML documents would be particularly significant. Additionally the effect on existing records, or existing planned transfers, would need to be taken into account.

6.6.72 B/Ds must not revise or delete any entities or change the relationships among entities as specified in RKMS. B/Ds may revise or delete B/D-specific entities that they have added in their departmental recordkeeping metadata standards or change their B/D-specific entity-relationship models subject to the condition set out in paragraph 6.6.73.

6.6.73 B/Ds must not delete or revise B/D-specific entities if such deletion or revision will jeopardise the authenticity, integrity, reliability and usability of records.

6.6.74 Plausible scenarios for changes to the model might include adding entities to it, such as 'location' or 'migration path'. It is also possible that the number of occurrences in a relationship might be adjusted. It is unlikely that entities would be deleted.

6.6.75 If the model is changed, it is likely to be necessary to replace at least some of the Figures in RKMS. The recommended procedures to insert an illustration into a Figure in RKMS is -

- (a) ensure the illustration has a 0.75pt black border in the authoring application used to create it;
- (b) copy the illustration from the authoring application;

- (c) create a single-cell table in the Word document, to hold the illustration;
- (d) make the table borders invisible;
- (e) paste the illustration as 'Picture (Enhanced Metafile)' so as to allow it to be re-sized;
- (f) apply the attribute 'keep with next' to the entire table paragraph;
- (g) centre the table;
- (h) adjust the sizes of the illustration and/or the table as necessary;
- (i) immediately after the table, insert a Figure caption; and
- (j) update all the fields in the document.

6.6.76 *Where* an entity is added, a new URI must be allocated to it. See section 4.5 and paragraphs 6.6.78 to 6.6.80.

Revising annexes containing tables

6.6.77 Several annexes contain tables with detailed technical information about metadata elements and encoding schemes. *Where* the technical information is changed or added to, B/Ds must update these tables in the annexes. This must be done after all changes have been made to the content. The recommended method for performing this update is -

- (a) make the changes to the XML;
- (b) produce an HTML representation (see section 5.12);
- (c) copy the desired table(s) from the HTML document; and
- (d) paste the table(s) into the annexes, and format as desired.

Maintaining the URI sequence number counters

6.6.78 The URI for elements, encoding schemes and entities incorporates a four-digit sequence number; and the URI for instances of Component, Record, aggregations and other entities managed by an ERKS incorporates a two-digit identifier assigned by the B/D to distinguish between different classification schemes and/or ERKSs in one B/D (see section 4.5). To ensure uniqueness of the URIs, the role holder identified in **Chapter 7** maintains 'counters', being records of the most-recently-used sequence numbers for URIs. GRS maintains the counters for metadata elements, encoding schemes and entities specified in RKMS. At B/D level, B/D must maintain the counters for the two-digit identifier assigned by the B/D to distinguish between different classification schemes and/or ERKSs in one B/D, and the counters for the four-digit identifier for B/D-specific metadata elements, encoding schemes and entities.

6.6.79 *Where* a new URI is needed for an element, encoding scheme, entity, classification scheme or an ERKS within a B/D, the role holder must increment the appropriate counter to reflect its issue. Incrementing the counter is essential to the creation of unique URIs, and any omission of incrementing could have negative consequences.

6.6.80 RKMS does not specify the format of the counters; they can be maintained in any suitable way, such as (and without limitation) -

- (a) a comment field maintained in the XML specification;
- (b) a password-protected spreadsheet stored on a network drive; or
- (c) a written record stored in a filing cabinet.

Naming conventions

6.6.81 A B/D customising RKMS may produce up to four documents (see paragraph 6.6.24) that are customised versions of RKMS as its departmental recordkeeping metadata standard, namely -

- (a) a customised version of the body and Annexes of RKMS;
- (b) a customised version of the XML schema document;
- (c) a customised version of the XSLT document; and

(d) a customised version of the CSS document.

6.6.82 In this situation the B/D must store each customised document with a unique combination of name and version number. The B/D should in preference use a naming convention already established for such situations within the B/D, so as to ensure consistency and comprehension. In the absence of a suitable naming convention, the B/D should use the following naming conventions -

(a) for a customised version of the body and annexes of RKMS:

BBBBBBB Recordkeeping Metadata Standard vX.Y (see below for conventions)

(b) for a customised version of the XML schema document:

BBBBBBB Recordkeeping Metadata Schema vX.Y (see below for conventions)

(c) for a customised version of the XSLT document:

BBBBBBB Recordkeeping Metadata Schema Transformation vX.Y (see below for conventions)

(d) for a customised version of the CSS document:

BBBBBBB Recordkeeping Metadata Schema Style Sheet vX.Y (see below for conventions)

6.6.83 In all four cases above -

- (a) **BBBBBBBB** is a B/D identifier of up to 8 characters taken from the Government B/D encoding scheme;
- (b) **X** is the major version number; and
- (c) Y is the minor version number.

6.7 Other implementation and maintenance considerations

6.7.1 B/Ds must comply with requirements set out in section 6.7 to manage and maintain metadata in an ERKS.

Revising metadata values

6.7.2 Some metadata, once captured, must not be changed. An example is the date and time of events, which is always system-generated and which cannot subsequently be changed.

6.7.3 Other values may be changed if there is a business or records management requirement to do so. From time to time these requirements do arise. Broadly speaking, these situations are exceptions to normal processes. This section addresses the relevant considerations.

6.7.4 In all cases the scope is limited to changes after the process of creating or capturing the affected entity is complete (so changes to spellings etc. when an entity is being created or captured are not subject to the following). Similarly, changes to metadata resulting from normal business processes such as changing the location of folder are likewise exempted.

6.7.5 Revisions to metadata values must always be made with care not to compromise the authenticity, integrity, reliability and usability of records. Some revisions may automatically result in other revisions, for example some revisions to class metadata may be inherited to all sub-classes and other aggregations it contains.

When metadata values need to be revised

6.7.6 Metadata values may need to be revised in several circumstances, such as -

- (a) an officer notices an error in a metadata value. This includes spelling and typographical errors, and errors of substance;
- (b) an officer notices that a folder or a record has been classified incorrectly;
- (c) a change to a legal ordinance or regulation impacts some retention and disposal schedule(s); or

(d) a change to the metadata values of an entity in the course of day-to-day business operation, e.g. a change to the home location of non-electronic records due to re-location of the office.

When metadata values should not be revised

6.7.7 Metadata values for existing entities should not be changed simply because of an update to the metadata values of another entity. So, for example, if a user changes name, or if a B/D changes name, the metadata of records and aggregations referring to them must not be updated.

Control over the revision process

6.7.8 When the metadata are managed by an ERKS, all revisions to metadata values normally will be recorded in the audit trail (Event History objects and metadata in the terminology of RKMS). All users should be informed, as part of the routine training process, that such actions are recorded by the system. The system owner should consider a periodic review of the audit trail with the aim of discovering any inappropriate actions such as unjustified metadata value revisions. This acts as an effective and sufficient control in most cases.

Administrative procedures for revising metadata values

6.7.9 In some cases, there may be the need for more rigorous control over revisions. This might occur where, for example, inappropriate revisions of metadata values might threaten the authenticity, integrity, reliability and usability of records. In these cases, it is appropriate to institute a formal change management process that requires each change to be reviewed, analysed and approved before it is implemented; and validating that the revisions are correct afterwards.

Securing and backing up recordkeeping metadata

6.7.10 Records are of little value without the metadata that describe and contextualise them; and metadata are of little value without the records to which they apply. Recordkeeping metadata must therefore be secured and backed up in the same way as the records to which they apply.

Retaining and disposing of recordkeeping metadata

6.7.11 Recordkeeping metadata must be kept for as long as the records to which they apply.

6.7.12 When classes, sub-classes, folders, sub-folders and/or parts containing records in an ERKS are destroyed or transferred, the ERKS must keep summary metadata about the destroyed aggregations in the form of metadata Stubs. See section 3.12. The metadata Stubs are kept indefinitely.

Transferring, exporting and importing recordkeeping metadata

6.7.13 Metadata will be exported, transferred or imported generally only with the records they describe. The protocol for such transfers will be fully defined in a separate standard.

- 6.7.14 In outline, the export/import/transfer process should be as follows -
 - (a) the export is authorised by the officer responsible;
 - (b) the system administrator of the exporting system initiates the export of the metadata and of any electronic records, using either removable media or a network connection;
 - (c) the exporting system produces a listing of any non-electronic records that have to be exported. Appropriate staff use the listing to retrieve the non-electronic records; they record their change of location in the exporting system;
 - (d) non-electronic records and any removable media are sent to the receiving system;
 - (e) the receiving system imports the digital information;
 - (f) the receiving system, and/or staff associated with the system, confirm that the import is successful, and confirm they have taken custody of the non-electronic records; and
 - (g) upon receipt of these confirmations, the system administrator executes some transaction(s) in the exporting system to record the successful process and to delete the records and metadata, leaving metadata stubs as appropriate.

Using a customised XML schema

6.7.15 This section applies to any B/D that imports a set of records and their metadata that has been exported using a customised version of the XML schema.

6.7.16 As explained above, B/Ds can customise the schema by adding elements, encoding schemes etc. If records and other instances of entities with the values of their metadata are exported using such a customised schema, and if the metadata values include customised values, the B/D carrying out the import can choose from the following options -

- (a) use the same schema for input as was used for export (with software that conforms to it). This will result in import of all the metadata values, with no loss; or
- (b) use another schema (either the un-customised schema, or else another customised version which does not include the same customisations), and accept the default action of the importing system. The result will usually be loss of the metadata values that have been added; in some cases this will be acceptable. In all cases, this should be the subject of testing before it is implemented.

6.7.17 In any event, the B/Ds involved should discuss the options and their implications while planning the export and import, with a view to agreeing the schemas to be used.

6.8 Summary of requirements

6.8.1 The requirements of RKMS set out in Chapter 6 are summarised below-

1.	B/Ds should automate creation or capture of metadata values as far as practicable through various means such as automatic capture, system generation or inheritance; and use of encoding schemes to control values permitted for a metadata element as far as practicable.	applicable to AP1
	(See section 6.2 for details.)	

2.	B/Ds must examine and determine as to whether they should develop a departmental recordkeeping metadata standard on the basis of RKMS, e.g. by adding metadata elements to support speedy retrieval of records.(See section 6.6 for details.)	applicable to AP1 to AP4
3.	 Where B/Ds develop their departmental recordkeeping metadata standards, B/Ds must - (a) ensure that entities, metadata elements and metadata values as specified in their departmental recordkeeping metadata standards should not compromise the purposes of the core set of metadata and entities as specified in RKMS; (b) ensure that any changes made to RKMS should be confined to the permitted scope specified in paragraph 6.6.11; (c) maintain consistency and integrity of their departmental recordkeeping metadata standards; (d) ensure that their departmental recordkeeping metadata standards always comply with requirements of RKMS; (e) follow the principles and procedures set out from paragraphs 6.6.13 to 6.6.31 to develop and maintain their departmental recordkeeping metadata standards; and (f) adopt the naming conventions set out from paragraphs 6.6.81 to 6.6.83 for naming their departmental recordkeeping metadata standards. 	applicable to development of a departmental recordkeeping metadata standard
4.	 Where B/Ds add new metadata elements, encoding schemes or entities to their departmental recordkeeping metadata standards, B/Ds must comply with the following requirements - (a) requirements set out from 1 to 3 above; (b) create new metadata elements in accordance with 	applicable to AP1 to AP4

	not compromise the authenticity, integrity, reliability and usability of records. (See sections 6.6 and 6.7 for details.)	AI I W AI 4
6.	B/Ds must ensure that any revisions to metadata elements and values of records and other entities should	applicable to AP1 to AP4
	(See section 6.6 for details.)	RKMS
5.	<i>Where</i> B/Ds wish to propose any changes to RKMS, they must put up a request with justifications to GRS.	applicable to updating of
	(See sections 2.4, 4.2 to 4.4, 4.6, 4.7, 4.9 and 6.6 for details.)	
	(g) maintain the URI sequence number counters for B/D-specific metadata elements, encoding schemes and entities as set out from paragraphs 6.6.78 to 6.6.80.	
	(f) follow the naming and numbering conventions as specified from sections 4.2 to 4.4 to assign a simple name, an XML name and a unique uniform resource identifier (URI) to each new metadata element, encoding scheme and entity; and	
	(e) maintain new encoding schemes properly in accordance with the principles set out from paragraphs 6.6.50 to 6.6.57;	
	(d) define new encoding schemes in accordance with principles set out from paragraphs 6.6.50 to 6.6.57 and properties defined in encoding scheme template set out in Table 7 of section 4.9;	
	 (c) define the properties of new metadata elements in accordance with the metadata element definition table set out in Table 6 of section 4.7 including the obligation level of the metadata elements as specified in section 4.6; 	
	the six categories of recordkeeping metadata as defined in section 2.4;	

7.	B/Ds must secure and back up metadata in the same way as records to which they apply.(See section 6.7 for details.)	applicable to AP1
8.	B/Ds must retain metadata for as long as the records to which they apply and maintain a number of selected metadata elements for aggregations that have been destroyed, exported or transferred. <i>Note: Aggregations that have been destroyed, exported</i> <i>or transferred will be replaced by Stubs.</i> (See section 6.7 for details.)	applicable to AP1

Chapter 7 GOVERNANCE



7.1 Introduction

7.1.1 This chapter defines the roles that will be involved in governing RKMS and departmental recordkeeping metadata standards developed by B/Ds. For each role it defines -

- (a) governance responsibilities;
- (b) key skills required; and
- (c) key relationships with other roles.

7.2 Need for good governance

7.2.1 RKMS is a complex instrument. Intended for use in the rapidly changing IT environment, and in the context of continually evolving business environment of HKSARG, it is probable that pressures to enhance it will arise. At the same time, it is a key tool in ensuring the authenticity, integrity, reliability and usability of government records for the indefinite future. – an important records management principle adhered to by HKSARG. For these reasons it is essential that RKMS is managed under a comprehensive and effective governance framework.

7.3 **Responsibility of GRS**

7.3.1 GRS is responsible for maintaining RKMS in conjunction with parties concerned having regard to the Government's EIM and records management policy and requirements, international records management standards and best practices and changing information technology environment.

7.4 B/D governance roles and responsibilities

7.4.1 B/Ds must establish a proper governance structure with clear roles and responsibilities to -

- (a) monitor the implementation of and compliance with RKMS in their organisations including creation, capture, use, management and maintenance of recordkeeping metadata in an ERKS;
- (b) ensure that recordkeeping metadata and their values are accurate, complete and consistent to comply with the Government's records

management policy and requirements and meet B/D-specific business and/or records management needs;

- (c) assess and determine whether it is necessary to extend RKMS requirements to develop a departmental recordkeeping metadata standard to meet B/D-specific records management and/or business needs;
- (d) manage and maintain the departmental recordkeeping metadata standard properly if it has been developed; and
- (e) plan, organise and arrange adequate and proper training to assist records management staff, IT staff and records users in complying with RKMS and the departmental recordkeeping metadata standard if it has been developed.

7.4.2 The amount of governance activity in B/Ds, and hence the roles and resources required, may vary greatly from one B/D to another. They will depend on the level and nature of use of RKMS within a B/D and whether a departmental recordkeeping metadata standard has been developed to extend the requirements of RKMS to meet specific business and/or records management needs of the B/D concerned; and of experiences with the use of RKMS. In B/Ds with a low level of activity related to RKMS it is possible that not all of the roles described here will be essential. A recommended governance structure with defined roles and responsibilities is set out below for B/Ds' reference.

Metadata Management Committee

7.4.3 Where a B/D envisages a significant level of customisation of RKMS and/or significant levels of compliance activities, it may wish to form a Metadata Management Committee to oversee activities, to ensure that a B/D-wide view is taken at all times, and to ensure responses are proportionate. The committee takes management decisions that affect RKMS at the B/D level. This includes decisions on B/D-specific customisations and on how to implement RKMS for systems specified before RKMS was available.

7.4.4 In the event that a B/D does not form this committee, its responsibilities should be devolved to the Departmental Records Manager and the Head of ITMU as appropriate.

7.4.5 The governance responsibilities of the Metadata Management Committee in a B/D are to -

- (a) decide how RKMS is applied within the B/D including whether to extend RKMS requirements to develop a departmental recordkeeping metadata standard to meet B/D-specific records management and/or business needs;
- (b) monitor the implementation and use of RKMS, noting successes, any shortcomings, and passing on the B/D's view to GRS;
- (c) review recommendations of the B/D Metadata Standard Analyst for enhancements to the departmental recordkeeping metadata standard (if it has been developed);
- (d) arbitrate in the event of disagreements concerning the enhancements;
- (e) approve expenditure for enhancement of the departmental recordkeeping metadata standard;
- (f) approve B/D enhancements to the departmental recordkeeping metadata standard;
- (g) determine the need for compliance audits;
- (h) monitor the impact of changes of RKMS to the departmental recordkeeping metadata standard (if it has been developed); and
- (i) plan, organise and arrange adequate and proper training to assist records management staff, IT staff and records users in complying with RKMS and the departmental recordkeeping metadata standard (if it has been developed).
- 7.4.6 Key skills that the Committee needs to bring to bear are -
 - (a) broad understanding of RKMS and the departmental recordkeeping metadata standard (if it has been developed);
 - (b) understanding of the status, programmes and plans for records management in the B/D; and
 - (c) management perspective.

7.4.7 The Committee instructs the Recordkeeping Metadata Manager.

Recordkeeping Metadata Manager

7.4.8 The Recordkeeping Metadata Manager is responsible for records management aspects of the use of RKMS and the departmental recordkeeping metadata standard (if it has been developed) in the B/D. The Recordkeeping Metadata Manager may be the Departmental Records Manager, or may be a different officer.

7.4.9 The governance responsibilities of the Recordkeeping Metadata Manager in a B/D are to -

- (a) assist the Metadata Management Committee (if it has been established) in monitoring the implementation and use of RKMS;
- (b) solicit and identify whether there are requirements for extending requirements of RKMS to develop a departmental recordkeeping metadata standard, such as the addition and maintenance of B/D-specific metadata to RKMS;
- (c) solicit and identify whether there are requirements for enhancements to the departmental recordkeeping metadata standard (if it has been developed);
- (d) identify impacts on RKMS and the departmental recordkeeping metadata standard (if it has been developed) of any changes to other recordkeeping instruments used in the B/D, and vice versa;
- (e) assist B/D personnel in understanding recordkeeping aspects of RKMS and the departmental recordkeeping metadata standard (if it has been developed);
- (f) maintain the master copy of the B/D-specific enhancements to RKMS and the departmental recordkeeping metadata standard (if it has been developed);
- (g) participate in meetings of the Metadata Management Committee;
- (h) direct the work of the B/D Metadata Standard Analyst;

- (i) manage the counters used to generate URI sequence numbers within the B/D;
- (j) manage maintenance activities; and
- (k) assure the quality and consistency of maintenance work.
- 7.4.10 Key skills required of the Recordkeeping Metadata Manager are -
 - (a) a good understanding of records management;
 - (b) a good understanding of recordkeeping metadata; and
 - (c) an understanding of RKMS and the departmental recordkeeping metadata standard (if it has been developed).

7.4.11 This may require training in records management, in electronic records management, and metadata concepts. Experience in the order of at least three years divided between these three skill sets would be desirable.

- 7.4.12 The Recordkeeping Metadata Manager's key relationships are -
 - (a) report to the Metadata Management Committee (if it has been established);
 - (b) liaising with GRS;
 - (c) liaising with B/D personnel who use, or who may be affected by, RKMS and the departmental recordkeeping metadata standard (if it has been developed); and
 - (d) directing the B/D Metadata Standard Analyst.

B/D Metadata Standard Analyst

7.4.13 The B/D Metadata Standard Analyst prepares for, and carries out, work on B/D-specific enhancement of RKMS in developing the departmental recordkeeping metadata standard and enhancement to the departmental recordkeeping metadata standard. This includes analysing change requests for their impact, estimating and planning work required to make changes, and advising the Recordkeeping Metadata Manager.

- (a) IT background and training;
- (b) complete, detailed technical understanding of RKMS and the departmental recordkeeping metadata standard (if it has been developed), including its records management implications;
- (c) ability to maintain sophisticated documentation. This includes
 - (i) analytic ability;
 - (ii) writing skills; and
 - (iii) ability to administer and maintain versions;
- (d) ability to use the appropriate XML software tool(s); and
- (e) ability to work with XML.

7.4.15 This may require training in records management, in metadata design principles and in XML. Experience on the order of at least two years in metadata and XML would be desirable.

7.4.16 In view of the technical expertise required for this role, it is recommended that this role should be taken up by IT staff of ITMUs of B/Ds.

7.4.17 If necessary, this role is divided between officers with the requisite skills.

7.4.18 The B/D Metadata Standard Analyst reports to the Metadata Management Committee (if it has been established) through the Recordkeeping Metadata Manager.

Encoding Scheme Owner

7.4.19 Encoding Scheme Owners are responsible for the on-going maintenance of encoding schemes (i.e. adding, change or deleting encoding scheme values). This includes monitoring use of the scheme, soliciting and collecting feedback, and determining the need for change.

7.4.20 Key skills required of Encoding Scheme Owners include analytical ability, and familiarity with the business requirements of the B/D.

7.4.21 The reporting relationships of Encoding Scheme Owners are not defined here, as the Owners may be found at various levels of seniority, and may be outside of the government (for example the International Organization for Standardization). Encoding Scheme Owners within B/Ds can only be responsible for encoding schemes developed by B/Ds for their business-specific needs. For internal owners, the key relationships are with the B/D Metadata Standard Analyst and with encoding scheme users.

Other B/D roles

7.4.22 Other B/D personnel are affected by RKMS in ways that potentially have an impact on governance of RKMS. They may be (depending on the situation of the B/D) -

- (a) Encoding Scheme Custodian: maintains any B/D-specific encoding schemes used by systems complying with RKMS;
- (b) ERKS Owner: ensures that any ERKS configuration changes agreed for compliance are implemented in a controlled manner;
- (c) ERKS Administrator: implements any required ERKS configuration changes;
- (d) ERKS User: if any issues related to metadata are observed, discusses them with Line Manager; reports them to the Recordkeeping Metadata Manager; reports the need for encoding schemes to Line Manager; and
- (e) Line Manager: ensures personnel meet requirements of RKMS and the departmental recordkeeping metadata standard (if it has been developed); liaises with Recordkeeping Metadata Manager and Encoding Scheme Custodians regarding any issues.

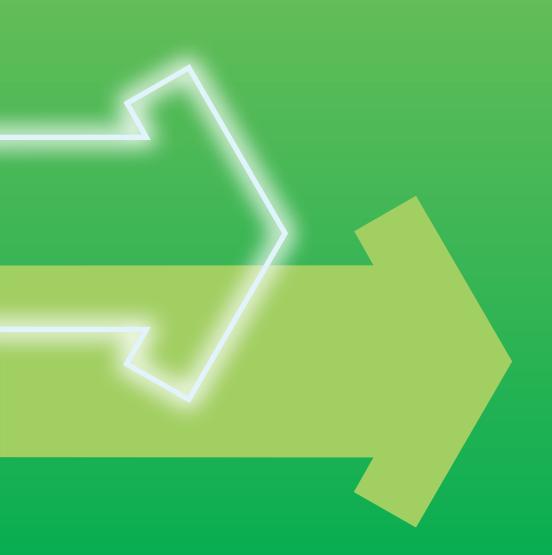
7.5 Summary of requirements

7.5.1 The requirements of RKMS set out in Chapter 7 are summarised below -

1.	B/Ds must establish a proper governance structure with clear roles and responsibilities to -
	(a) monitor the implementation of and compliance with RKMS in their organisations including creation, capture, use, management and maintenance of recordkeeping metadata in an ERKS;
	(b) ensure that recordkeeping metadata and their values are accurate, complete and consistent to comply with the Government's records management policy and requirements and meet B/D-specific business and/or records management needs;
	 (c) assess and determine whether it is necessary to extend RKMS requirements to develop a departmental recordkeeping metadata standard to meet B/D-specific records management and/or business needs;
	(d) manage and maintain the departmental recordkeeping metadata standard properly if it has been developed;
	(e) ensure that the departmental recordkeeping metadata standard (if it has been developed) always comply with RKMS; and
	(f) plan, organise and arrange adequate and proper training to assist records management staff, IT staff and records users in complying with RKMS and the departmental recordkeeping metadata standard if it has been developed.
	(See section 7.4 for details.)
2.	It is recommended that B/Ds should consider establishing the governance structure with defined roles and responsibilities specified in section 7.4 to monitor the implementation of and on-going compliance with RKMS in their organisations; and to manage and maintain the departmental recordkeeping metadata standard properly if it has been developed.
	(See section 7.4 for details.)

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ANNEXES

- Annex 1: Metadata elements by application profile
- Annex 2: Entities and their metadata elements
- Annex 3: Metadata element definition tables
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- Annex 7: XML schema
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- Annex 9: Abbreviations and acronyms
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Annex 1: Metadata elements by application profile

This annex shows the metadata elements relating to the four Application Profiles (APs). The elements are in alphabetical order by simple name.

Element	AP1	AP2	AP3	AP4
Affected element	Conditional mandatory	Recommended	Conditional mandatory	Conditional mandatory
Blind carbon copy recipient	Conditional mandatory	Recommended	Conditional mandatory	Conditional mandatory
Carbon copy recipient	Conditional mandatory	Recommended	Conditional mandatory	Conditional mandatory
Case identifier	Optional	Optional	Optional	Optional
Classification code	Mandatory	Recommended	Mandatory	Mandatory
Classification path	Optional	Optional	Mandatory	Mandatory
Creator name	Mandatory	Recommended	Mandatory	Mandatory
Creator organization name	Conditional mandatory	Recommended	Conditional mandatory	Conditional mandatory
Date closed	Conditional mandatory	Optional	Conditional mandatory	Mandatory
Date created	Conditional mandatory	Conditional mandatory	Conditional mandatory	Conditional mandatory
Date disposed	Mandatory	Optional	Mandatory	Mandatory
Date opened	Conditional mandatory	Conditional mandatory	Conditional mandatory	Mandatory
Date received	Conditional mandatory	Optional	Conditional mandatory	Conditional mandatory
Date sent	Conditional mandatory	Optional	Conditional mandatory	Conditional mandatory
Date time captured	Mandatory	Optional	Mandatory	Mandatory
Description	Optional	Optional	Optional	Optional
Disposal action	Mandatory	Recommended	Mandatory	Mandatory
Disposal date - future	Conditional mandatory	Recommended	Conditional mandatory	Conditional mandatory
Electronic signature indicator	Conditional mandatory	Recommended	Conditional mandatory	Conditional mandatory
Encryption indicator	Conditional mandatory	Recommended	Conditional mandatory	Conditional mandatory

Element	AP1	AP2	AP3	AP4
Event - metadata new value	Conditional mandatory	Recommended	Conditional mandatory	Conditional mandatory
Event - metadata previous value	Conditional mandatory	Recommended	Conditional mandatory	Conditional mandatory
Event agent	Mandatory	Recommended	Mandatory	Mandatory
Event date - past	Mandatory	Recommended	Mandatory	Mandatory
Event time - past	Conditional mandatory	Recommended	Conditional mandatory	Conditional mandatory
Event trigger - internal	Conditional mandatory	Recommended	Conditional mandatory	Conditional mandatory
Event type	Mandatory	Recommended	Mandatory	Mandatory
File format	Mandatory	Recommended	Mandatory	Mandatory
Folder type	Mandatory	Optional	Mandatory	Mandatory
Group name	Mandatory	Optional	Mandatory	Mandatory
GRS box item number	Optional	Optional	Optional	Optional
GRS box number	Optional	Optional	Optional	Optional
GRS deposit identifier	Optional	Optional	Optional	Optional
Keyword	Optional	Optional	Optional	Optional
Location - current	Conditional mandatory	Optional	Conditional mandatory	Optional
Location - home	Conditional mandatory	Optional	Conditional mandatory	Conditional mandatory
Medium	Conditional mandatory	Optional	Conditional mandatory	Conditional mandatory
Owner	Mandatory	Recommended	Mandatory	Mandatory
Part barcode	Optional	Optional	Optional	Optional
Part number	Conditional mandatory	Optional	Conditional mandatory	Conditional mandatory
Public access review indicator	Optional	Optional	Optional	Conditional mandatory
Reason	Conditional mandatory	Recommended	Conditional mandatory	Conditional mandatory
Recipient email	Conditional mandatory	Optional	Conditional mandatory	Conditional mandatory

Element	AP1	AP2	AP3	AP4
Recipient name	Conditional mandatory	Recommended	Conditional mandatory	Conditional mandatory
Recipient organization name	Conditional mandatory	Recommended	Conditional mandatory	Conditional mandatory
Record content type	Optional	Optional	Optional	Optional
Record form	Mandatory	Optional	Mandatory	Mandatory
Record number	Conditional mandatory	Optional	Conditional mandatory	Conditional mandatory
Record reference	Recommended	Recommended	Recommended	Recommended
Relation - entity	Conditional mandatory	Optional	Conditional mandatory	Conditional mandatory
Relation - GRS disposal schedule identifier	Conditional mandatory	Conditional mandatory	Conditional mandatory	Mandatory
Relation - has attachment	Conditional mandatory	Recommended	Conditional mandatory	Conditional mandatory
Relation - has enclosure	Conditional mandatory	Recommended	Conditional mandatory	Conditional mandatory
Relation - has format	Conditional mandatory	Recommended	Conditional mandatory	Conditional mandatory
Relation - has language	Conditional mandatory	Recommended	Conditional mandatory	Conditional mandatory
Relation - has version	Conditional mandatory	Recommended	Conditional mandatory	Conditional mandatory
Relation - is attachment of	Conditional mandatory	Recommended	Conditional mandatory	Conditional mandatory
Relation - is enclosure of	Conditional mandatory	Recommended	Conditional mandatory	Conditional mandatory
Relation - is format of	Conditional mandatory	Recommended	Conditional mandatory	Conditional mandatory
Relation - is language of	Conditional mandatory	Recommended	Conditional mandatory	Conditional mandatory
Relation - is version of	Conditional mandatory	Recommended	Conditional mandatory	Conditional mandatory
Relation - pre-ERKS folder	Recommended	Optional	Recommended	Conditional mandatory
Remark	Recommended	Optional	Recommended	Recommended
Responsible officer	Mandatory	Recommended	Optional	Optional

Element	AP1	AP2	AP3	AP4
Retention period	Conditional mandatory	Recommended	Conditional mandatory	Conditional mandatory
Security classification	Mandatory	Mandatory	Mandatory	Mandatory
Security classification type	Conditional mandatory	Conditional mandatory	Conditional mandatory	Conditional mandatory
Security clearance	Mandatory	Recommended	Mandatory	Mandatory
Sender email	Conditional mandatory	Optional	Conditional mandatory	Conditional mandatory
Sender name	Recommended	Recommended	Recommended	Recommended
Stub type	Mandatory	Recommended	Mandatory	Mandatory
System identifier	Mandatory	Optional	Mandatory	Mandatory
Time created	Conditional mandatory	Conditional mandatory	Conditional mandatory	Conditional mandatory
Time received	Conditional mandatory	Recommended	Conditional mandatory	Conditional mandatory
Time sent	Conditional mandatory	Recommended	Conditional mandatory	Conditional mandatory
Title	Mandatory	Recommended	Mandatory	Mandatory
Uniform resource identifier (URI)	Optional	Optional	Mandatory	Mandatory
User inactive status	Mandatory	Optional	Mandatory	Mandatory
User name	Mandatory	Optional	Mandatory	Mandatory
Vital record status	Mandatory	Optional	Mandatory	Mandatory

Annex 2: Entities and their metadata elements

This annex shows how the metadata elements are related to entities in Application Profile 1 (AP1). Each entity is described by one table. The entities are in alphabetical order, and within each entity the elements are shown, ordered by simple name, and followed by XML name and occurrence. Child entities of entities are also shown.

Entity: Class

uri://recordsmanagement.gov.hk/MS00-T-0001

Element	Occurrences
Classification code (Description.Classification.ClassificationCode)	1
Classification path (Description.Classification.ClassificationPath)	01
Date closed (EventHistory.Date.Closed)	01
Date opened (EventHistory.Date.Opened)	01
Description (Description.Description)	01
Keyword (Description.Keyword)	0∞
Owner (Description.Owner.Division)	1
Relation - entity (Relation.Entity)	1∞
Relation - GRS disposal schedule identifier (Relation.GRSDisposalScheduleID)	01
Remark (Description.Remark)	0∞
Security classification (Use.Access.Classification)	1
Security classification type (Use.Access.ClassificationType)	01
System identifier (Identity.SystemID)	1
Title (Description.Title)	1
Uniform resource identifier (URI) (Identity.URI)	01
Child Entities	Occurrences
Stub	0∞
Sub-class	0∞

Entity: Component

uri://recordsmanagement.gov.hk/MS00-T-0002

Element	Occurrences
File format (Use.TechnicalEnvironment.FileFormat)	1∞
Relation - entity (Relation.Entity)	1∞
System identifier (Identity.SystemID)	1
Title (Description.Title)	1
Uniform resource identifier (URI) (Identity.URI)	01

Entity: Disposal Hold

uri://recordsmanagement.gov.hk/MS00-T-0003

Element	Occurrences
Reason (Description.Reason)	01
Relation - entity (Relation.Entity)	1∞
Remark (Description.Remark)	0∞
System identifier (Identity.SystemID)	1
Title (Description.Title)	1
Uniform resource identifier (URI) (Identity.URI)	01

Entity: Event History

Element	Occurrences
Affected element (EventHistory.Event.AffectedElement)	01
Event agent (EventHistory.Event.Agent)	1
Event date - past (EventHistory.Event.Date)	1
Event - metadata new value (EventHistory.Event.NewValue)	01

Element	Occurrences
Event - metadata previous value (EventHistory.Event.PreviousValue)	01
Event time - past (EventHistory.Event.Time)	01
Event type (EventHistory.Event.Type)	1
Reason (Description.Reason)	01
Relation - entity (Relation.Entity)	0∞
Remark (Description.Remark)	0∞
System identifier (Identity.SystemID)	1
Uniform resource identifier (URI) (Identity.URI)	01

Entity: Event Trigger

uri://recordsmanagement.gov.hk/MS00-T-0005

Element	Occurrences
Reason (Description.Reason)	01
Relation - entity (Relation.Entity)	1∞
Remark (Description.Remark)	0∞
System identifier (Identity.SystemID)	1
Title (Description.Title)	1
Uniform resource identifier (URI) (Identity.URI)	01

Entity: Folder

uri://recordsmanagement.gov.hk/MS00-T-0006

Element	Occurrences
Case identifier (Identity.CaseID)	01
Classification code (Description.Classification.ClassificationCode)	1
Classification path (Description.Classification.ClassificationPath)	01
Date closed (EventHistory.Date.Closed)	01

Element	Occurrences
Date opened (EventHistory.Date.Opened)	01
Description (Description.Description)	01
Folder type (Description.Folder.Type)	1
GRS deposit identifier (Identity.GRSDepositID)	01
Keyword (Description.Keyword)	0∞
Owner (Description.Owner.Division)	1
Public access review indicator (Use.Access.PublicAccessReviewIndicator)	01
Relation - entity (Relation.Entity)	1∞
Relation - GRS disposal schedule identifier (Relation.GRSDisposalScheduleID)	01
Relation - pre-ERKS folder (Relation.Folder.PreERKSFolder)	0∞
Remark (Description.Remark)	0∞
Responsible officer (Description.Owner.ResponsibleOfficer)	1∞
Security classification (Use.Access.Classification)	1
Security classification type (Use.Access.ClassificationType)	01
System identifier (Identity.SystemID)	1
Title (Description.Title)	1
Uniform resource identifier (URI) (Identity.URI)	01
Vital record status (Use.VitalRecordStatus)	1
Child Entities	Occurrences
Stub	0∞
Part	0∞
Sub-folder	0∞

Entity: Group

uri://recordsmanagement.gov.hk/MS00-T-0007

Element	Occurrences
Description (Description.Description)	01

Element	Occurrences
Group name (Use.Access.GroupName)	1
Relation - entity (Relation.Entity)	1∞
Remark (Description.Remark)	0∞
System identifier (Identity.SystemID)	1
Uniform resource identifier (URI) (Identity.URI)	01
Child Entities	Occurrences
Group	0∞

Entity: Mandate

uri://recordsmanagement.gov.hk/MS00-T-0008

Element	Occurrences
Description (Description.Description)	01
Relation - entity (Relation.Entity)	1∞
Remark (Description.Remark)	0∞
System identifier (Identity.SystemID)	1
Title (Description.Title)	1
Uniform resource identifier (URI) (Identity.URI)	01

Entity: Part

Element	Occurrences
Case identifier (Identity.CaseID)	01
Classification code (Description.Classification.ClassificationCode)	1
Classification path (Description.Classification.ClassificationPath)	01
Date closed (EventHistory.Date.Closed)	01
Date opened (EventHistory.Date.Opened)	01

Element	Occurrences
Description (Description.Description)	01
Folder type (Description.Folder.Type)	1
GRS box item number (Identity.GRSBoxItemNumber)	01
GRS box number (Identity.GRSBoxID)	01
GRS deposit identifier (Identity.GRSDepositID)	01
Keyword (Description.Keyword)	0∞
Location - current (Description.Location.Current)	01
Location - home (Description.Location.Home)	01
Owner (Description.Owner.Division)	1
Part barcode (Identity.Part.Barcode)	01
Part number (Identity.Part.Number)	1
Public access review indicator (Use.Access.PublicAccessReviewIndicator)	01
Relation - entity (Relation.Entity)	1∞
Relation - GRS disposal schedule identifier (Relation.GRSDisposalScheduleID)	01
Remark (Description.Remark)	0∞
Responsible officer (Description.Owner.ResponsibleOfficer)	1∞
Security classification (Use.Access.Classification)	1
Security classification type (Use.Access.ClassificationType)	01
System identifier (Identity.SystemID)	1
Title (Description.Title)	1
Uniform resource identifier (URI) (Identity.URI)	01
Vital record status (Use.VitalRecordStatus)	1
Child Entities	Occurrences
Record	0∞

Entity: Record

Element	Occurrences
Blind carbon copy recipient (Description.Recipient.BlindCopy)	0∞
Carbon copy recipient (Description.Recipient.CarbonCopy)	0∞
Creator name (Description.Creator.Name)	1∞
Creator organization name (Description.Creator.OrganizationName)	0∞
Date created (EventHistory.Date.Created)	01
Date received (EventHistory.Date.Received)	01
Date sent (EventHistory.Date.Sent)	01
Date time captured (EventHistory.DateTime.Captured)	1
Description (Description.Description)	01
Electronic signature indicator (Description.Sender.ElectronicSignatureIndicator)	01
Encryption indicator (Use. TechnicalEnvironment. EncryptionIndicator)	01
Keyword (Description.Keyword)	0∞
Location - current (Description.Location.Current)	01
Location - home (Description.Location.Home)	01
Medium (Use.TechnicalEnvironment.Medium)	01
Recipient email (Description.Recipient.Email)	0∞
Recipient name (Description.Recipient.Name)	0∞
Recipient organization name (Description.Recipient.OrganizationName)	0∞
Record content type (Description.Record.ContentType)	01
Record form (Description.Record.Form)	1
Record number (Identity.Record.Number)	01
Record reference (Description.Record.Reference)	01
Relation - entity (Relation.Entity)	1∞
Relation - has attachment (Relation.HasAttachment)	0∞
Relation - has enclosure (Relation.HasEnclosure)	0∞
Relation - has format (Relation.HasFormat)	0∞

Element	Occurrences
Relation - has language (Relation.HasLanguage)	0∞
Relation - has version (Relation.HasVersion)	0∞
Relation - is attachment of (Relation.IsAttachmentOf)	01
Relation - is enclosure of (Relation.IsEnclosureOf)	01
Relation - is format of (Relation.IsFormatOf)	01
Relation - is language of (Relation.IsLanguageOf)	01
Relation - is version of (Relation.IsVersionOf)	01
Remark (Description.Remark)	0∞
Security classification (Use.Access.Classification)	1
Security classification type (Use.Access.ClassificationType)	01
Sender email (Description.Sender.Email)	01
Sender name (Description.Sender.Name)	01
System identifier (Identity.SystemID)	1
Time created (EventHistory.Time.Created)	01
Time received (EventHistory.Time.Received)	01
Time sent (EventHistory.Time.Sent)	01
Title (Description.Title)	1
Uniform resource identifier (URI) (Identity.URI)	01
Vital record status (Use.VitalRecordStatus)	1
Child Entities	Occurrences
Component	0∞

Entity: Records Classification Scheme

Element	Occurrences
Description (Description.Description)	01
Relation - entity (Relation.Entity)	1∞

Element	Occurrences
Remark (Description.Remark)	0∞
System identifier (Identity.SystemID)	1
Title (Description.Title)	1
Uniform resource identifier (URI) (Identity.URI)	01
Child Entities	Occurrences
Class	0∞
Stub	0∞

Entity: Retention and Disposal Schedule

Element	Occurrences
Description (Description.Description)	01
Disposal action (EventPlan.Event.DisposalAction)	1
Disposal date - future (EventPlan.Event.DisposalDate)	01
Event trigger - internal (EventPlan.Event.TriggerInternal)	01
Reason (Description.Reason)	01
Relation - entity (Relation.Entity)	1∞
Remark (Description.Remark)	0∞
Retention period (EventPlan.Event.RetentionPeriod)	01
System identifier (Identity.SystemID)	1
Title (Description.Title)	1
Uniform resource identifier (URI) (Identity.URI)	01

Entity: Stub

uri://recordsmanagement.gov.hk/MS00-T-0013

Element	Occurrences
Classification code (Description.Classification.ClassificationCode)	1
Classification path (Description.Classification.ClassificationPath)	01
Date disposed (EventHistory.Date.Disposed)	1
Owner (Description.Owner.Division)	1
Part number (Identity.Part.Number)	01
Reason (Description.Reason)	1
Relation - entity (Relation.Entity)	1∞
Remark (Description.Remark)	0∞
Security classification (Use.Access.Classification)	1
Security classification type (Use.Access.ClassificationType)	01
Stub type (Description.Stub.Type)	1
System identifier (Identity.SystemID)	1
Title (Description.Title)	1
Uniform resource identifier (URI) (Identity.URI)	01
Child Entities	Occurrences
Stub	0∞

Entity: Sub-class

Element	Occurrences
Classification code (Description.Classification.ClassificationCode)	1
Classification path (Description.Classification.ClassificationPath)	01
Date closed (EventHistory.Date.Closed)	01
Date opened (EventHistory.Date.Opened)	01
Description (Description.Description)	01

Element	Occurrences
Keyword (Description.Keyword)	0∞
Owner (Description.Owner.Division)	1
Relation - entity (Relation.Entity)	1∞
Relation - GRS disposal schedule identifier (Relation.GRSDisposalScheduleID)	01
Remark (Description.Remark)	0∞
Responsible officer (Description.Owner.ResponsibleOfficer)	1∞
Security classification (Use.Access.Classification)	1
Security classification type (Use.Access.ClassificationType)	01
System identifier (Identity.SystemID)	1
Title (Description.Title)	1
Uniform resource identifier (URI) (Identity.URI)	01
Vital record status (Use.VitalRecordStatus)	1
Child Entities	Occurrences
Stub	0∞
Folder	0∞
Sub-class	0∞

Entity: Sub-folder

Element	Occurrences
Case identifier (Identity.CaseID)	01
Classification code (Description.Classification.ClassificationCode)	1
Classification path (Description.Classification.ClassificationPath)	01
Date closed (EventHistory.Date.Closed)	01
Date opened (EventHistory.Date.Opened)	01
Description (Description.Description) 01	
Folder type (Description.Folder.Type)	1

Element	Occurrences
Keyword (Description.Keyword)	0∞
Owner (Description.Owner.Division)	1
Public access review indicator (Use.Access.PublicAccessReviewIndicator)	01
Relation - entity (Relation.Entity)	1∞
Relation - GRS disposal schedule identifier (Relation.GRSDisposalScheduleID)	01
Remark (Description.Remark)	0∞
Responsible officer (Description.Owner.ResponsibleOfficer)	1∞
Security classification (Use.Access.Classification)	1
Security classification type (Use.Access.ClassificationType)	01
System identifier (Identity.SystemID)	1
Title (Description.Title)	1
Uniform resource identifier (URI) (Identity.URI)	01
Vital record status (Use.VitalRecordStatus)	1
Child Entities	Occurrences
Part	0∞
Stub	0∞

Entity: User

Element	Occurrences
Relation - entity (Relation.Entity)	1∞
Remark (Description.Remark)	0∞
Security clearance (Use.Access.Clearance)	1
System identifier (Identity.SystemID)	1
Uniform resource identifier (URI) (Identity.URI)	01
User inactive status (Use.Access.UserInactiveStatus)	1
User name (Use.Access.UserName)	1

Annex 3: Metadata element definition tables

This annex consists of tables defining the metadata elements that make up RKMS, arranged in alphabetical order by simple name.

In these tables the phrase 'subject entity' means 'the instance of the entity to which the metadata element being described applies'. Each word in the name of an entity and an instance of an entity always begins with a capital letter and continues in lower case.

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0001
XML Name	EventHistory.Event.AffectedElement
Definition	The metadata element within the subject entity which is changed as the result of an auditable event.
Purpose	To enable the tracking of an event in an audit trail (Event History) to see which metadata element was affected.
Applicability	Event History
Values	String
Default Value	None
Example	[When a Record is reclassified:] uri://recordsmanagement.gov.uk/MS00-M-0006 [i.e the Element ID of 'Classification Path', [Description.Classification.ClassificationPath]]
Example	[When a Folder is closed:] uri://recordsmanagement.gov.hk/MS00-M-0009 [i.e. the Element ID of 'Date closed' [EventHistory.Date.Closed]]
Capturing Mode	Automatic
Application Profile 1	Conditional mandatory
Application Profile 2	Recommended
Application Profile 3	Conditional mandatory
Application Profile 4	Conditional mandatory
Inheritance	None
Occurrence	AP1: None or one; AP2: None or one; AP3: None or one; AP4: None or one
Source	Automatically taken from the Element ID of the element that was changed by the event.
Use Conditions	Mandatory for event types where metadata is changed (i.e. Metadata change event): 'Charged in'; 'Charged out'; 'Closed'; 'Destroyed'; 'Digitized', 'Location changed'; 'Opened'; 'Other metadata value changed'; 'Reclassified'; 'Security classification changed'; 'User status changed'; 'Vital record status changed'.

Element name: Affected element

	For the event type 'Migrated', mandatory when there is a change in value for 'Medium' [Use.TechnicalEnvironment.Medium] for non-electronic Records.
Comments	Not all auditable events result in a change to a metadata element.

Element name: Blind carbon copy recipient

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0002
XML Name	Description.Recipient.BlindCopy
Definition	The name, post title, email address and/or organization name of the blind carbon copy (bcc) recipient(s) of a piece of correspondence or other Record having bcc recipients, where available.
Purpose	To identify the recipient(s) of the blind carbon copy of the Record.
Applicability	Record
Values	String
Default Value	None
Example	[For a Government officer bcc'd on an email from within Government:] Jenny LO/GRS/HKSARG@GRS or JennyLO@grs.gov.hk
Example	[For a Government officer bcc'd on a letter:] OGCIO (attn: CHAN Tai-man)
Capturing Mode	Automatic or manual
Application Profile 1	Conditional mandatory
Application Profile 2	Recommended
Application Profile 3	Conditional mandatory
Application Profile 4	Conditional mandatory
Inheritance	None
Occurrence	AP1: None, one or many; AP2: None, one or many; AP3: None, one or many; AP4: None, one or many
Source	Taken from the email header or from a template. User-generated otherwise.
Use Conditions	Mandatory for outgoing Records where there are blind carbon copy recipients.
Use Conditions	For each blind carbon copy recipient, his/her own name, post title, email address and/or organization name must be captured, where available.
Comments	For emails, only the sender of the email can capture all the information relating to blind copy recipient(s).
Comments	Take the following email as an example:
	From: Peter CHAN/GRS/HKSARG@GRS. To: Mary WONG/EMSD/HKSARG@EMSD; Tai-Man CHAN/OGCIO/HKSARG@OGCIO.

Cc: Jenny LO/RVD/HKSARG@RVD; Paul CHAN/DSD/HKSARG@DSD.
Bcc: Tony KWAN/LAD/HKSARG@LAD; Vivian LEE/EU/HKSARG@EU.
For GRS, 'Tony KWAN/LAD/HKSARG@LAD' and 'Vivian LEE/EU/HKSARG@EU' must be captured as the values of 'Blind carbon copy recipient'.
For EMSD, OGCIO, RVD and DSD, blind carbon copy recipients are unknown, therefore there is no need to capture the values.
For LAD and EU, 'Tony KWAN/LAD/HKSARG@LAD' and 'Vivian LEE/EU/HKSARG@EU' must capture the information about themselves as 'Blind carbon copy recipient', but cannot capture information about other such recipients.

Element name: Carbon copy recipient

uri://recordsmanagement.gov.hk/MS00-M-0003
Description.Recipient.CarbonCopy
The name, post title, email address and/or organization name of carbon copy (cc) recipient(s) of a piece of correspondence or other Record having cc recipients, where available.
To identify the recipient(s) of the carbon copy of the Record and to support retrieval of the Record.
Record
String
None
[For a Government officer as carbon copy recipient of an email from within Government:] Jenny LO/GRS/HKSARG@GRS or JennyLO@grs.gov.hk
[For an external organization as carbon copy recipient]: ABC Ltd (attn: Mary Lau) or mary.lau@abc.co.uk
Automatic or manual
Conditional mandatory
Recommended
Conditional mandatory
Conditional mandatory
None
AP1: None, one or many; AP2: None, one or many; AP3: None, one or many; AP4: None, one or many
Taken from the email header or from a template. User-generated otherwise.
Mandatory for outgoing Records where there are carbon copy recipients.
For each carbon copy recipient, his/her own name, post title, email address and/or organization

	name must be captured, where available.
Comments	Take the following email as an example:
	From: Peter CHAN/GRS/HKSARG@GRS.
	To: Mary WONG/EMSD/HKSARG@EMSD; Tai-Man CHAN/OGCIO/HKSARG@OGCIO.
	Cc: Jenny LO/RVD/HKSARG@RVD; Paul CHAN/DSD/HKSARG@DSD.
	Bcc: Tony KWAN/LAD/HKSARG@LAD; Vivian LEE/EU/HKSARG@EU.
	For GRS, 'Jenny LO/RVD/HKSARG@RVD' and 'Paul CHAN/DSD/HKSARG@DSD' must be captured as the values of 'Carbon copy recipient'.
	For EMSD, OGCIO, LAD and EU, 'Jenny LO/RVD/HKSARG@RVD' and 'Paul CHAN/DSD/HKSARG@DSD' may be captured as the values of 'Carbon copy recipient'.
	For RVD, 'Jenny LO/RVD/HKSARG@RVD' must be captured as the value of 'Carbon copy recipient' while 'Paul CHAN/DSD/HKSARG@DSD' may be captured as the value of 'Carbon copy recipient'.
	For DSD, 'Paul CHAN/DSD/HKSARG@DSD' must be captured as the value of 'Carbon copy recipient' while 'Jenny LO/RVD/HKSARG@RVD' may be captured as the value of 'Carbon copy recipient'.

Element name: Case identifier

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0004
XML Name	Identity.CaseID
Definition	The identifier of a case.
Purpose	To uniquely identify a Folder the contents of which relate to a case.
Applicability	Folder Part Sub-folder
Values	String
Default Value	None
Example	36781
Example	555/2011
Example	ST211/2011
Capturing Mode	System-generated, automatic or manual
Application Profile 1	Optional
Application Profile 2	Optional
Application Profile 3	Optional
Application Profile 4	Optional

Inheritance	Case identifier for Sub-folders and Parts is inherited from the Folder
Occurrence	AP1: None or one; AP2: None or one; AP3: None or one; AP4 None or one
Source	Can be taken from a business system or user-generated.
Use Conditions	Where possible, the case identifier should be assigned by the system, in which case that system will need a mechanism for recognising the aggregation as relating to a case.
Comments	None

Element name: Classification code

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0005
XML Name	Description.Classification.ClassificationCode
Definition	The classification code applied to an aggregation or a Stub.
Purpose	To provide a code (unique except for Parts) to describe the position of the aggregation or Stub within the Records Classification Scheme down to Part level.
Applicability	Class Folder Part Stub Sub-class Sub-folder
Values	String
Default Value	None
Example	002-005-010-007
Capturing Mode	Automatic or manual
Application Profile 1	Mandatory
Application Profile 2	Recommended
Application Profile 3	Mandatory
Application Profile 4	Mandatory
Inheritance	None
Occurrence	AP1: One; AP2: None or one: AP3: One; AP4: One
Source	Taken from the Records Classification Scheme automatically where possible, or added manually otherwise.
Use Conditions	None
Comments	For a Class, Sub-class or Folder, the 'Classification code' is the concatenation of the hierarchical codes from the top of the hierarchy to the subject entity of the Records Classification Scheme. For a Sub-folder, the 'Classification code' is the concatenation of the 'Classification code' of its

	parent Folder and a unique sequence number that identifies the Sub-folder within the Folder. For a Part, the 'Classification code' is the 'Classification code' of its parent Folder or Sub-folder. In all cases, the concatenated codes are separated by dashes.
Comments	Used in conjunction with the 'Part number' [Identity.PartNumber] as a unique code to describe the position of a Part within the Records Classification Scheme.

Element name: Classification path

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0006
XML Name	Description.Classification.ClassificationPath
Definition	The full path of an aggregation or Stub within the Records Classification Scheme.
Purpose	To ensure that the context of the aggregation or Stub within the Records Classification Scheme is maintained.
Applicability	Class Folder Part Stub Sub-class Sub-folder
Values	String
Default Value	None
Example	Office Machines and Equipment - Telecommunications Equipment - Procurement
Capturing Mode	Automatic
Application Profile 1	Optional
Application Profile 2	Optional
Application Profile 3	Mandatory
Application Profile 4	Mandatory
Inheritance	None
Occurrence	AP1: None or one; AP2: None or one; AP3: One; AP4: One
Source	Can be computed from the title of the aggregation and parent/child relationships at the time of export or transfer.
Use Conditions	None
Comments	For a Class, Sub-class or Folder, the 'Classification path' is the concatenation of the hierarchical titles from the top of the hierarchy to the subject entity of the Records Classification Scheme. For a Sub-folder, the 'Classification path' is the concatenation of the 'Classification path' of its parent Folder and the Sub-folder title. For a Part, the 'Classification path' is the 'Classification path' of its parent Folder or Sub-folder. In all cases, the concatenated paths are separated by dashes.

Element name: Creator name

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0007
XML Name	Description.Creator.Name
Definition	The name (and/or post title) of the person responsible for the intellectual content of the Record.
Purpose	To identify the person with intellectual responsibility for the content of the Record and to support retrieval of the Record.
Applicability	Record
Values	String
Default Value	None
Example	[For a Record created by a named government officer where a post title is given:] CHAN Tai- man, SEO (Appts)
Example	[For a Record created by an individual as post-holder where a name is not given:] Senior Executive Office (General)
Example	[For a Record created by a named member of the public:] WONG Mei-sin
Example	[For a Record created by an unknown person:] Unknown
Capturing Mode	Automatic for Records created within an ERKS or within most electronic content management systems; manual otherwise.
Application Profile 1	Mandatory
Application Profile 2	Recommended
Application Profile 3	Mandatory
Application Profile 4	Mandatory
Inheritance	None
Occurrence	AP1: One or many; AP2: None, one or many; AP3: One or many; AP4: One or many
Source	Can be taken from the creator (or author) property of the electronic file, where appropriate. User- generated for paper records or for electronic systems where the creator is not identified.
Use Conditions	Use in conjunction with 'Creator organization name' [Description.Creator.OrganizationName] where relevant.
Comments	The value of 'Creator name' is the name of the individual who created the Record. If known, the post title should be added. Where the Record is issued by a post-holder and no name is given, the post title should be entered.
Comments	If the creator is unknown, the value should be 'Unknown'.
Comments	When the intellectual content of the Record is created by one person (e.g. a Directorate Officer) and sent out by another person (e.g. a Personal Secretary), creator should refer to the person responsible for the intellectual content of the Record, and sender to the person who sends it out.

Element name: Creator organization name

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0008
XML Name	Description.Creator.OrganizationName
Definition	The name of the organization that has created the Record. This will be either the B/D to which the named creator belongs, or the B/D itself as creator, or an external organization as creator.
Purpose	To identify the organization that is responsible for creation of the Record to support traceability, retrieval and understanding of the Record.
Applicability	Record
Values	String
Default Value	[User's own B/D]
Example	[For a B/D:] OGCIO
Example	[For an external organisation:] XYZ Limited
Capturing Mode	Automatic or manual
Application Profile 1	Conditional mandatory
Application Profile 2	Recommended
Application Profile 3	Conditional mandatory
Application Profile 4	Conditional mandatory
Inheritance	None
Occurrence	AP1: None, one or many; AP2: None, one or many; AP3: None, one or many; AP4: None, one or many
Source	Taken from the header of an email or the content of the Record.
Use Conditions	Mandatory when the Record is created by an organization (e.g. a B/D or company).
Comments	For records which are created by a B/D, use of the 'Government BD encoding scheme' [Encoding.Description.GovernmentBD] is recommended.
Comments	Taken from the Record itself when the Record is created externally and is sent from an organization (as opposed to a member of the public).
Comments	Use of the full name of the external organization is recommended.

Element name: Date closed

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0009
XML Name	EventHistory.Date.Closed
Definition	The date on which the aggregation was closed.
Purpose	To record date information about the closure of an aggregation, and to facilitate execution of records management functions, in particular to trigger retention periods and disposal actions.
Applicability	Class Folder Part Sub-class Sub-folder
Values	Encoding.Event.Date
Default Value	None
Example	2011-04-30
Capturing Mode	System-generated or manual
Application Profile 1	Conditional mandatory
Application Profile 2	Optional
Application Profile 3	Conditional mandatory
Application Profile 4	Mandatory
Inheritance	None
Occurrence	AP1: None or one; AP2: None or one; AP3: None or one; AP4: One
Source	Taken from the system date when the aggregation is closed, or user-generated.
Use Conditions	Mandatory when an aggregation is closed.
Use Conditions	Since aggregations may still be open while Records are in use, not all aggregations will be closed in AP1, AP2 or AP3. All aggregations must be closed when they are transferred to PRO of GRS (AP4).
Use Conditions	The value for this element, if taken from the system date, should not be changed after a value was assigned.
Comments	None

Element name: Date created

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0010
XML Name	EventHistory.Date.Created
Definition	The date on which the Record was created.
Purpose	To record date information about the creation of a Record to support its traceability, retrieval and use.
Applicability	Record
Values	Encoding.Event.Date
Default Value	None
Example	2011-04-30
Capturing Mode	System-generated, automatic or manual.
Application Profile 1	Conditional mandatory
Application Profile 2	Conditional mandatory
Application Profile 3	Conditional mandatory
Application Profile 4	Conditional mandatory
Inheritance	None
Occurrence	AP1: None or one; AP2: None or one; AP3: None or one; AP4: None or one
Source	The system date for Records created in the ERKS; the appropriate date field for Records created outside the system.
Use Conditions	Mandatory when the date for creation of a Record is known.
Comments	Used in conjunction with 'Time created' [EventHistory.Time.Created] when the time is known. Where the time is not known, this element is used on its own.
Comments	'Date created' refers to the date on which the Record was created, for example when a letter was written (the 'Date created' is shown on the letter). 'Date captured' refers to the point at which a Record such as a letter is saved into the ERKS. For a Record created within an ERKS, the value for 'Date time captured' [EventHistory.DateTime.Captured] and the combination of 'Date created' [EventHistory.Date.Created] and 'Time created' (EventHistory.Time.Created] may be the same.

Element name: Date disposed

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0011
XML Name	EventHistory.Date.Disposed
Definition	The date on which the aggregation containing Records was disposed of according to its Retention and Disposal Schedule or transferred to other B/Ds or organizations.

Purpose	To provide evidence of destruction or transfer of the aggregation containing Records.
Applicability	Stub
Values	Encoding.Event.Date
Default Value	None
Example	2010-06-30
Capturing Mode	System-generated or manual
Application Profile 1	Mandatory
Application Profile 2	Optional
Application Profile 3	Mandatory
Application Profile 4	Mandatory
Inheritance	None
Occurrence	AP1: One; AP2: None or one; AP3: One; AP4: One
Source	System-generated or user-generated
Use Conditions	None
Comments	None

Element name: Date opened

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0012
XML Name	EventHistory.Date.Opened
Definition	The date on which the aggregation was opened.
Purpose	To record date information about the status of the aggregation, and to facilitate execution of records management functions, for example to assign a Retention and Disposal Schedule to the newly-opened aggregation.
Applicability	Class Folder Part Sub-class Sub-folder
Values	Encoding.Event.Date
Default Value	None
Example	2011-04-30
Capturing Mode	System-generated or manual
Application Profile 1	Conditional mandatory

Application Profile 2	Conditional mandatory
Application Profile 3	Conditional mandatory
Application Profile 4	Mandatory
Inheritance	None
Occurrence	AP1: None or one; AP2: None or one; AP3: None or one; AP4: One
Source	Taken from the system date when the aggregation is opened, or user-generated.
Use Conditions	Mandatory when an aggregation is opened.
Use Conditions	The value for this element, if taken from the system date, should not be changed after a value was assigned.
Comments	None

Element name: Date received

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0013
XML Name	EventHistory.Date.Received
Definition	The date on which the Record was received.
Purpose	To record the date on which the Record was received to support traceability, retrieval and use of the Record.
Applicability	Record
Values	Encoding.Event.Date
Default Value	None
Example	2011-04-30
Capturing Mode	For emails and e-Memos: automatic. For paper and scanned Records: manual.
Application Profile 1	Conditional mandatory
Application Profile 2	Optional
Application Profile 3	Conditional mandatory
Application Profile 4	Conditional mandatory
Inheritance	None
Occurrence	AP1: None or one; AP2: None or one; AP3: None or one; AP4: None or one
Source	For emails and e-Memos: captured from the header. For paper correspondence, user-generated.
Use Conditions	Mandatory for a Record for which the date received is known.

Use Conditions	The value for this element for emails and e-Memos should not be changed after a value was assigned.
Comments	Used in conjunction with 'Time received' [EventHistory.Time.Received] when the time received is known. Where the time is not known, this element is used on its own.

Element name: Date sent

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0014
XML Name	EventHistory.Date.Sent
Definition	The date on which the Record was sent.
Purpose	To record the date on which the Record was sent to support traceability, retrieval and use of the Record.
Applicability	Record
Values	Encoding.Event.Date
Default Value	None
Example	2011-04-30
Capturing Mode	For emails and e-Memos: automatic. For paper and scanned Records: manual.
Application Profile 1	Conditional mandatory
Application Profile 2	Optional
Application Profile 3	Conditional mandatory
Application Profile 4	Conditional mandatory
Inheritance	None
Occurrence	AP1: None or one; AP2: None or one; AP3: None or one; AP4: None or one
Source	For emails and e-Memos: captured from the header. For paper correspondence, user-generated.
Use Conditions	Mandatory for a Record for which the date sent is known.
Use Conditions	The value for this element for emails and e-Memos should not be changed after a value was assigned.
Comments	Used in conjunction with 'Time sent' [EventHistory.Time.Sent] when the time sent is known. Where the time is not known, this element is used on its own.

Element name: Date time captured

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0015
XML Name	EventHistory.DateTime.Captured
Definition	The date and time at which the Record was captured in an ERKS.
Purpose	To record date and time information about the capturing of a Record in an ERKS to demonstrate the authenticity of the Record and to support searching and retrieval.
Applicability	Record
Values	Encoding.Event.DateTime
Default Value	None
Example	2011-04-30T16:17:30
Capturing Mode	System-generated
Application Profile 1	Mandatory
Application Profile 2	Optional
Application Profile 3	Mandatory
Application Profile 4	Mandatory
Inheritance	None
Occurrence	AP1: One; AP2: None or one; AP3: One; AP4: One
Source	Assigned by internal system algorithm.
Use Conditions	The value for this element should not be changed after a value was assigned.
Comments	'Date created' [EventHistory.Date.Created] refers to the date on which the Record was created, for example when a letter was written (the 'Date created' is shown on the letter). When that letter is issued and saved into the ERKS, it is 'captured'. For a Record created within an ERKS, the value for 'Date time captured' and the combination of 'Date created' [EventHistory.Date.Created] and 'Time created' [EventHistory.Time.Created] may be the same.

Element name: Description

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0016
XML Name	Description.Description
Definition	A free-text description of the entity.
Purpose	To support retrieval and understanding of the entity.
Applicability	Class Folder Group

	Mandate Part Record Records Classification Scheme Retention and Disposal Schedule Sub-class Sub-folder
Values	String
Default Value	None
Example	[For a Sub-class relating to vehicles:] For Records relating to policies, procedures and routine matters regarding the procurement, general management and use, loan, maintenance and servicing, stock-taking, write-off, transfer and disposal, etc of vehicles. The scope of the Sub-class also covers aircrafts and vessels.
Example	[For a Group of users who have access rights to staff appraisal reports, promotion board recommendations and related records for a promotion exercise:] This Group includes promotion board members and officers in Division A who are directly responsible for providing executive support to the promotion board.
Capturing Mode	Manual
Application Profile 1	Optional
Application Profile 2	Optional
Application Profile 3	Optional
Application Profile 4	Optional
Inheritance	None
Occurrence	AP1: None or one; AP2: None or one; AP3: None or one; AP4: None or one
Source	User-generated
Use Conditions	None
Comments	Descriptions for aggregations should include notes on scope, where necessary.

Element name: Disposal action

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0017
XML Name	EventPlan.Event.DisposalAction
Definition	The disposal action to be carried out at the end of the designated retention period.
Purpose	To describe the event (disposal action) to be carried out in the future so as to ensure that proper disposal actions are taken on Records in an aggregation, and to facilitate searching and retrieval of Records covered by a specific disposal action.
Applicability	Retention and Disposal Schedule
Values	Encoding.EventPlan.DisposalAction

Default Value	None
Example	Destruction
Capturing Mode	Manual
Application Profile 1	Mandatory
Application Profile 2	Recommended
Application Profile 3	Mandatory
Application Profile 4	Mandatory
Inheritance	None
Occurrence	AP1: One; AP2: None or one; AP3: One; AP4: One
Source	User-generated
Use Conditions	None
Comments	To be recorded for every planned disposal event.

Element name: Disposal date - future

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Element ID	uri://recordsmanagement.gov.hk/MS00-M-0018
XML Name	EventPlan.Event.DisposalDate
Definition	The absolute date on which a disposal event will happen.
Purpose	To record the due date on which a disposal event is to take place so as to alert records management staff to carry out timely disposal of Records.
Applicability	Retention and Disposal Schedule
Values	Encoding.Event.Date
Default Value	None
Example	2015-04-13
Capturing Mode	Manual
Application Profile 1	Conditional mandatory
Application Profile 2	Recommended
Application Profile 3	Conditional mandatory
Application Profile 4	Conditional mandatory
Inheritance	None
Occurrence	AP1: None or one; AP2: None or one; AP3: None or one; AP4: None or one

Source	User-generated
Use Conditions	Used when the future date is known, for example when a particular event dictates that Records must be disposed of (e.g. 6 years after the 2008 Olympics, or 2014).
Use Conditions	Each Retention and Disposal Schedule must have one, and only one, of the following 3 values: (1) 'Disposal date - future' [EventPlan.Event.DisposalDate]; (2) 'Event trigger - internal' [EventPlan.Event.TriggerInternal]; (3) 'Relation - entity' [Relation.Entity] relating the schedule to an Event Trigger entity. In all 3 cases, only one of these three may have values; the two others must be null. Where a value for one of the triggers is present (cases (2) and (3)), a value for 'Retention period' [EventPlan.Event.RetentionPeriod] must also be present.
Comments	The 'Disposal date - future' is a future date specified by a user when the Retention and Disposal Schedule is drawn up.

Element name: Electronic signature indicator

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0019
XML Name	Description.Sender.ElectronicSignatureIndicator
Definition	An indicator to show the existence of an electronic signature associated with an email or e-Memo sent from and received by Lotus Notes following a verification process.
Purpose	To document the existence of an electronic signature to authenticate the sender.
Applicability	Record
Values	Yes/No
Default Value	No
Example	Yes
Capturing Mode	Automatic
Application Profile 1	Conditional mandatory
Application Profile 2	Recommended
Application Profile 3	Conditional mandatory
Application Profile 4	Conditional mandatory
Inheritance	None
Occurrence	AP1: None or one; AP2: None or one; AP3: None or one; AP4: None or one
Source	Captured from the 'Signed' function of the mail system.
Use Conditions	Mandatory when an email or e-Memo is sent from and received by Lotus Notes.
Use Conditions	Value must be 'Yes' for email and e-Memo where Lotus Notes provides authentication of electronic signatures.
Use Conditions	The value for this element should not be changed after a value was assigned.
,	

Comments	None

Element name: Encryption indicator

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0020
XML Name	Use.TechnicalEnvironment.EncryptionIndicator
Definition	An indicator to show whether an email or e-Memo is transmitted in encrypted form through Lotus Notes.
Purpose	To document that an email or e-Memo was transmitted in an encrypted form through Lotus Notes in order to demonstrate its authenticity.
Applicability	Record
Values	Yes/No
Default Value	No
Example	Yes
Capturing Mode	Automatic
Application Profile 1	Conditional mandatory
Application Profile 2	Recommended
Application Profile 3	Conditional mandatory
Application Profile 4	Conditional mandatory
Inheritance	None
Occurrence	AP1: None or one; AP2: None or one; AP3: None or one; AP4: None or one
Source	Taken from Lotus Notes.
Use Conditions	Mandatory when an email or e-Memo is sent from and received by Lotus Notes.
Use Conditions	Must be set to 'Yes' for email and e-Memos encrypted during transmission through Lotus Notes.
Use Conditions	The value for this element should not be changed after a value was assigned.
Comments	The element does not contain the key to de-encrypt the Record.

Element name: Event agent

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0021
XML Name	EventHistory.Event.Agent
Definition	The User who initiated the event in an ERKS.

Purpose	To identify the person who was responsible for an event.
Applicability	Event History
Values	String
Default Value	None
Example	[System identifier of the User:] 06c14ecb-07c6-43bf-cdcd-7c0876460400
Capturing Mode	Automatic
Application Profile 1	Mandatory
Application Profile 2	Recommended
Application Profile 3	Mandatory
Application Profile 4	Mandatory
Inheritance	None
Occurrence	AP1: One; AP2: None or one; AP3: One; AP4: One
Source	Taken from the ERKS.
Use Conditions	To be recorded for every Event History object.
Use Conditions	The value for this element should not be changed after a value was assigned.
Comments	None

Element name: Event date - past

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0022
XML Name	EventHistory.Event.Date
Definition	The date on which an event took place.
Purpose	To record the date on which a past event took place.
Applicability	Event History
Values	Encoding.Event.Date
Default Value	None
Example	2011-05-21
Capturing Mode	System-generated or manual
Application Profile 1	Mandatory
Application Profile 2	Recommended

Application Profile 3	Mandatory
Application Profile 4	Mandatory
Inheritance	None
Occurrence	AP1: One; AP2: None or one; AP3: One; AP4: One
Source	Taken from the system date or user-generated.
Use Conditions	The value for this element, if taken from the system date, should not be changed after a value was assigned.
Comments	Used in conjunction with 'Event time - past' [EventHistory.Event.Time] if the time of an event is known. Where the time is not known, this element is used on its own.
Comments	May be user-generated when the action involves non-electronic Records, for example the destruction of paper Records.

Element name: Event - metadata new value

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0023
XML Name	EventHistory.Event.NewValue
Definition	The value of the subject entity's metadata element after it has been changed as the result of an event.
Purpose	To give a clear indication of the new state of the metadata value as a result of the action.
Applicability	Event History
Values	String
Default Value	None
Example	[For a change to the title of a Record:] First Interim Report on ABC Project
Capturing Mode	Automatic
Application Profile 1	Conditional mandatory
Application Profile 2	Recommended
Application Profile 3	Conditional mandatory
Application Profile 4	Conditional mandatory
Inheritance	None
Occurrence	AP1: None or one; AP2: None or one; AP3: None or one; AP4: None or one
Source	Value of the updated metadata element.
Use Conditions	Mandatory for event types where metadata is changed (i.e. Metadata change event): 'Charged in'; 'Charged out'; 'Closed'; 'Created'; 'Digitized'; 'Location changed'; 'Opened'; 'Other metadata value changed'; 'Reclassified'; 'Security classification changed'; 'User status changed'; 'Vital record

	status changed', and where there is a value for the subject entity after the event.
Use Conditions	For the event type 'Migrated', mandatory when there is a change in value for 'Medium' [Use.TechnicalEnvironmentMedium] for non-electronic Records.
Use Conditions	The value for this element should not be changed after a value was assigned.
Comments	If the value of this element for 'Metadata change event' is null, then the metadata value has been deleted.

Element name: Event - metadata previous value

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0024
XML Name	EventHistory.Event.PreviousValue
Definition	The value(s) of the subject entity's metadata element(s) before an event.
Purpose	To document the previous value of the metadata element in the audit trail (Event History).
Applicability	Event History
Values	String
Default Value	None
Example	[For a change to the title of a Record:] 1st Interim Report on ABC Project
Capturing Mode	Automatic
Application Profile 1	Conditional mandatory
Application Profile 2	Recommended
Application Profile 3	Conditional mandatory
Application Profile 4	Conditional mandatory
Inheritance	None
Occurrence	AP1: None or one; AP2: None or one; AP3: None or one; AP4: None or one
Source	Metadata of the subject entity before the event.
Use Conditions	Mandatory for event types where metadata is changed (i.e. Metadata change event): 'Charged in'; 'Charged out'; 'Closed'; 'Destroyed'; 'Digitized'; 'Location changed'; 'Opened'; 'Other metadata value changed'; 'Reclassified'; 'Security classification changed'; 'User status changed'; 'Vital record status changed', and when there is a metadata value for the subject entity before the event.
Use Conditions	For the event type of 'Migrated', mandatory when there is a change in value for 'Medium' [Use.TechnicalEnvironment.Medium] for non-electronic Records.
Use Conditions	The value for this element should not be changed after a value was assigned.
Comments	If the value of this element for 'Metadata change event' is null, then the metadata value has been created.

Element name: Event time - past

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0025
XML Name	EventHistory.Event.Time
Definition	The time at which an event took place.
Purpose	To record the time at which a past event took place.
Applicability	Event History
Values	Encoding.Event.Time
Default Value	None
Example	10:55:30
Capturing Mode	System-generated or manual
Application Profile 1	Conditional mandatory
Application Profile 2	Recommended
Application Profile 3	Conditional mandatory
Application Profile 4	Conditional mandatory
Inheritance	None
Occurrence	AP1: None or one; AP2: None or one; AP3: None or one; AP4: None or one
Source	Taken from the system time or user-generated.
Use Conditions	Mandatory when the time of the event is known. Where the time is not known, 'Event - date past' [EventHistory.Event.Date] is used on its own.
Use Conditions	The value for this element, if taken from the system time, should not be changed after a value was assigned.
Comments	May be user-generated when the action involves non-electronic Records, for example the destruction of paper Records.

Element name: Event trigger - internal

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0026
XML Name	EventPlan.Event.TriggerInternal
Definition	The internal trigger event which can be computed automatically.
Purpose	To trigger the commencement of the period which must elapse before the event action is carried out.
Applicability	Retention and Disposal Schedule

Values	Encoding.EventPlan.TriggerInternal
Default Value	None
Example	Part closed
Capturing Mode	Manual
Application Profile 1	Conditional mandatory
Application Profile 2	Recommended
Application Profile 3	Conditional mandatory
Application Profile 4	Conditional mandatory
Inheritance	None
Occurrence	AP1: None or one; AP2: None or one; AP3: None or one; AP4: None or one
Source	User-generated
Use Conditions	Each Retention and Disposal Schedule must have one, and only one, of the following 3 values: (1) 'Disposal date - future' [EventPlan.Event.DisposalDate]; (2) 'Event trigger - internal' [EventPlan.Event.TriggerInternal]; (3) 'Relation - entity' [Relation.Entity] relating the schedule to an Event Trigger entity. In all 3 cases, only one of these three may have values; the two others must be null. Where a value for one of the triggers is present (cases (2) and (3)), a value for 'Retention period' [EventPlan.Event.RetentionPeriod] must also be present.
Comments	None

Element name: Event type

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0027
XML Name	EventHistory.Event.Type
Definition	The type of event that has occurred.
Purpose	To identify the type of event that has occurred to provide a visible and auditable trail of records management actions and decisions.
Applicability	Event History
Values	Encoding.EventHistory.EventType
Default Value	None
Example	Destroyed
Example	Retention and Disposal Schedule applied
Capturing Mode	Automatic
Application Profile 1	Mandatory
Application Profile 2	Recommended

Application Profile 3	Mandatory
Application Profile 4	Mandatory
Inheritance	None
Occurrence	AP1: One; AP2: None or one; AP3: One; AP4: One
Source	Automatically-generated in response to functionality triggered by a User (for example, by a User choosing to apply a Disposal Hold).
Use Conditions	The value for this element should not be changed after a value was assigned.
Comments	If 'Event type' [EventHistory.Event.Type] is 'Digitized', and the digitization method is scanning, the technical information should be provided in 'Remark' [Description.Remark] in the Record in the following sequence: (1) a unique digitization identifier for a scanned Record (usually assigned by the scanning facility) or a unique identifier assigned to the physical container storing the original Record after scanning, (2) the operating scanner model, (3) name and version of the imaging software, (4) driver version, (5) image resolution, (6) colour depth and (7) compression to safeguard the authenticity; otherwise the digitization method and equipment used must be captured.

Element name: File format

Element IDuri://recordsmanagement.gov.hk/MS00-M-0028XML NameUse.TechnicalEnvironment.FileFormatDefinitionThe software format of the file, including version.PurposeTo support use and preservation of the Record.ApplicabilityComponentValuesEncoding.Use.TechnicalEnvironment.FileFormatDefault ValueNoneExample[For a Microsoft Word 97-2003 document:] fmt/40Example[For a Microsoft Word 6.0/95 document:] fmt/39Capturing ModeAutomaticApplication Profile 1MandatoryApplication Profile 3MandatoryApplication Profile 4MandatoryInheritanceNoneOccurrenceAP1: One or many; AP2: None, one or many; AP3: One or many; AP4: One or many		
DefinitionThe software format of the file, including version.PurposeTo support use and preservation of the Record.ApplicabilityComponentValuesEncoding.Use.TechnicalEnvironment.FileFormatDefault ValueNoneExample[For a Microsoft Word 97-2003 document:] fmt/40Example[For a Microsoft Word 6.0/95 document:] fmt/39Capturing ModeAutomaticApplication Profile 1MandatoryApplication Profile 3MandatoryApplication Profile 4MandatoryInheritanceNone	Element ID	uri://recordsmanagement.gov.hk/MS00-M-0028
PurposeTo support use and preservation of the Record.ApplicabilityComponentValuesEncoding.Use.TechnicalEnvironment.FileFormatDefault ValueNoneExample[For a Microsoft Word 97-2003 document:] fmt/40Example[For a Microsoft Word 6.0/95 document:] fmt/39Capturing ModeAutomaticApplication Profile 1MandatoryApplication Profile 2RecommendedApplication Profile 3MandatoryApplication Profile 4MandatoryInheritanceNone	XML Name	Use.TechnicalEnvironment.FileFormat
ApplicabilityComponentValuesEncoding.Use.TechnicalEnvironment.FileFormatDefault ValueNoneExample[For a Microsoft Word 97-2003 document:] fmt/40Example[For a Microsoft Word 6.0/95 document:] fmt/39Capturing ModeAutomaticApplication Profile 1MandatoryApplication Profile 2RecommendedApplication Profile 3MandatoryInheritanceNone	Definition	The software format of the file, including version.
ValuesEncoding.Use.TechnicalEnvironment.FileFormatDefault ValueNoneExample[For a Microsoft Word 97-2003 document:] fmt/40Example[For a Microsoft Word 6.0/95 document:] fmt/39Capturing ModeAutomaticApplication Profile 1MandatoryApplication Profile 2RecommendedApplication Profile 3MandatoryApplication Profile 4MandatoryInheritanceNone	Purpose	To support use and preservation of the Record.
Default ValueNoneExample[For a Microsoft Word 97-2003 document:] fmt/40Example[For a Microsoft Word 6.0/95 document:] fmt/39Capturing ModeAutomaticApplication Profile 1MandatoryApplication Profile 2RecommendedApplication Profile 3MandatoryApplication Profile 4MandatoryInheritanceNone	Applicability	Component
Example[For a Microsoft Word 97-2003 document:] fmt/40Example[For a Microsoft Word 6.0/95 document:] fmt/39Capturing ModeAutomaticApplication Profile 1MandatoryApplication Profile 2RecommendedApplication Profile 3MandatoryApplication Profile 4MandatoryInheritanceNone	Values	Encoding.Use.TechnicalEnvironment.FileFormat
Example [For a Microsoft Word 6.0/95 document:] fmt/39 Capturing Mode Automatic Application Profile 1 Mandatory Application Profile 2 Recommended Application Profile 3 Mandatory Application Profile 4 Mandatory Inheritance None	Default Value	None
Capturing Mode Automatic Application Profile 1 Mandatory Application Profile 2 Recommended Application Profile 3 Mandatory Application Profile 4 Mandatory Inheritance None	Example	[For a Microsoft Word 97-2003 document:] fmt/40
Application Profile 1 Mandatory Application Profile 2 Recommended Application Profile 3 Mandatory Application Profile 4 Mandatory Inheritance None	Example	[For a Microsoft Word 6.0/95 document:] fmt/39
Application Profile 2 Recommended Application Profile 3 Mandatory Application Profile 4 Mandatory Inheritance None	Capturing Mode	Automatic
Application Profile 3 Mandatory Application Profile 4 Mandatory Inheritance None	Application Profile 1	Mandatory
Application Profile 4 Mandatory Inheritance None	Application Profile 2	Recommended
Inheritance None	Application Profile 3	Mandatory
	Application Profile 4	Mandatory
Occurrence AP1: One or many; AP2: None, one or many; AP3: One or many; AP4: One or many	Inheritance	None
	Occurrence	AP1: One or many; AP2: None, one or many; AP3: One or many; AP4: One or many
Source Can be identified automatically by using an appropriate format analysis tool.	Source	Can be identified automatically by using an appropriate format analysis tool.

Use Conditions	For ZIP files, both the software format (including version) of the ZIP file itself and the files (including all files in any nested ZIP files) inside the ZIP file must be captured.
Comments	The value can only be provided completely and accurately by a program that analyses the component, such as Digital Record Object Identification (DROID), a file profiling tool developed by The National Archives of the United Kingdom.

Element name: Folder type

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0029
XML Name	Description.Folder.Type
Definition	The type of Folder, Sub-folder or Part, i.e. whether it contains electronic, non-electronic or hybrid Record sets.
Purpose	To indicate whether some or all of the Records contained in the Folder, Sub-folder or Part are non-electronic Records so as to facilitate execution of records management functions, for example disposal of non-electronic Records.
Applicability	Folder Part Sub-folder
Values	Encoding.Description.FolderType
Default Value	Electronic
Example	Electronic
Capturing Mode	Automatic or manual
Application Profile 1	Mandatory
Application Profile 2	Optional
Application Profile 3	Mandatory
Application Profile 4	Mandatory
Inheritance	None
Occurrence	AP1: One; AP2: None or one; AP3: One; AP4: One
Source	Values for Record Form of the contained Records.
Use Conditions	None
Comments	An electronic Folder, Sub-folder or Part contains Records whose values for 'Record form' [Description.Record.Form] is electronic only. A physical Folder, Sub-folder or Part contains Records whose value for 'Record form' [Description.Record.Form] is non-electronic only. Folders, Sub-folders or Parts not purely electronic or non-electronic are hybrid.

Element name: Group name

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0030
XML Name	Use.Access.GroupName
Definition	The name of a Group of users with the same access rights to Records, aggregations, Stubs and/or system functions.
Purpose	To identify a Group and ensure that only Groups with proper access rights are allowed to access specific Records, aggregations, Stubs and/or system functions.
Applicability	Group
Values	String
Default Value	None
Example	Records Managers
Example	All directorate officers
Capturing Mode	Manual
Application Profile 1	Mandatory
Application Profile 2	Optional
Application Profile 3	Mandatory
Application Profile 4	Mandatory
Inheritance	None
Occurrence	AP1: One; AP2: None or one; AP3: One; AP4: One
Source	Controlled vocabulary supplied by the B/D.
Use Conditions	None
Comments	None

Element name: GRS box item number

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0031
XML Name	Identity.GRSBoxItemNumber
Definition	A sequential number assigned according to GRS' guidelines to identify a specific Part within a box by the Records Centres of GRS.
Purpose	To support retrieval of individual Parts contained in boxes belonging to a specific batch of inactive Records temporarily stored in the Records Centres of GRS.
Applicability	Part

Values	String
Default Value	None
Example	12
Capturing Mode	Manual
Application Profile 1	Optional
Application Profile 2	Optional
Application Profile 3	Optional
Application Profile 4	Optional
Inheritance	None
Occurrence	AP1: None or one; AP2: None or one; AP3: None or one; AP4: None or one
Source	User-generated
Use Conditions	Used in conjunction with 'GRS deposit identifier' [Identity.GRSDepositID], 'GRS box number' [Identity.GRSBoxID] and 'Relation - GRS disposal schedule identifier' [Relation.GRSDisposalScheduleID] to identify the location of the item in the Records Centres of GRS.
Use Conditions	Value can be assigned to this element only when the metadata element 'GRS box number' [Identity.GRSBoxID] is used.
Comments	'GRS box item number' is not required if retrieval by a box is selected.
Comments	To facilitate the Records Centres to retrieve a Part within a specific box, the 'GRS box item number' should be assigned according to GRS' guidelines. The specified sequential number format starts from "1".
Comments	'GRS box item number' is not unique on its own and should be used together with the 'Relation - GRS disposal schedule identifier' [Relation.GRSDisposalScheduleID], 'GRS deposit identifier' [Identity.GRSDepositID] and 'GRS box number' [Identity.GRSBoxNumber].

Element name: GRS box number

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0032
XML Name	Identity.GRSBoxID
Definition	A serial number assigned according to GRS' guidelines to identify a specific box containing Parts.
Purpose	To track the movement of Parts contained in boxes belonging to a specific batch of inactive Records temporarily stored in the Records Centres of GRS.
Applicability	Part
Values	String
Default Value	None

Example	[Automatic:] B00763977
Example	[Manual:] 0001
Capturing Mode	Automatic or manual
Application Profile 1	Optional
Application Profile 2	Optional
Application Profile 3	Optional
Application Profile 4	Optional
Inheritance	None
Occurrence	AP1: None or one; AP2: None or one; AP3: None or one; AP4: None or one
Source	Barcode software or user-generated.
Use Conditions	Either a barcode number assigned by the Records Centres of GRS or a sequential number assigned according to GRS' guidelines. The sequential number should be used in conjunction with 'Relation - GRS disposal schedule identifier' [Relation.GRSDisposalScheduleID] and 'GRS deposit identifier' [Identity.GRSDepositID].
Comments	May optionally be implemented as a barcode.
Comments	The 'GRS box number' is unique if it is implemented as a barcode; otherwise the 'GRS box number' is not unique on its own; therefore it should be used together with the 'Relation - GRS disposal schedule identifier' [Relation.GRSDisposalScheduleID] and 'GRS deposit identifier' [Identity.GRSDepositID].

Element name: GRS deposit identifier

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0033
XML Name	Identity.GRSDepositID
Definition	A serial number assigned according to GRS' guidelines to identify a specific batch of inactive Records by the Records Centres of GRS.
Purpose	To support the bulk transfer of inactive Records governed by a specific Retention and Disposal Schedule to the Records Centres of GRS for temporary storage prior to final disposal action.
Applicability	Folder Part
Values	String
Default Value	None
Example	148
Capturing Mode	Manual
Application Profile 1	Optional

Application Profile 2	Optional
Application Profile 3	Optional
Application Profile 4	Optional
Inheritance	None
Occurrence	AP1: None or one; AP2: None or one; AP3: None or one; AP4: None or one
Source	User-generated
Use Conditions	Use in conjunction with 'Relation - GRS disposal schedule identifier' [Relation.GRSDisposalScheduleID] and 'GRS box number' [Identity.GRSBoxID].
Comments	When assigning the 'GRS deposit identifier', B/Ds should consult the Records Centres of GRS.
Comments	'GRS deposit identifier' is not unique on its own so it should be used together with the 'Relation - GRS disposal schedule identifier' [Relation.GRSDisposalScheduleID].

Element name: Keyword

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0034
XML Name	Description.Keyword
Definition	Keyword(s) or phrase(s) describing the subject content of the aggregation or Record.
Purpose	To support retrieval and understanding of the aggregation or Record.
Applicability	Class Folder Part Record Sub-class Sub-folder
Values	String
Default Value	None
Example	[For a sub-Class relating to staff recruitment:] Recruitment; Recruiting staff; Job advertisements [may be delimited or held in separate elements]
Capturing Mode	Manual
Application Profile 1	Optional
Application Profile 2	Optional
Application Profile 3	Optional
Application Profile 4	Optional
Inheritance	None
Occurrence	AP1: None, one or many; AP2: None, one or many; AP3: None, one or many; AP4: None, one or

	many
Source	User-generated
Use Conditions	None
Comments	It is recommended that keywords should be taken from a controlled vocabulary developed by B/Ds.

Element name: Location - current

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0035
XML Name	Description.Location.Current
Definition	The current location of non-electronic Records, and physical and hybrid Parts.
Purpose	To support the management and retrieval of non-electronic Records, and physical and hybrid Parts.
Applicability	Part Record
Values	String
Default Value	[Same value as 'Location - home' [Description.Location.Home]]
Example	Room 501 shelf 6
Capturing Mode	Automatic or manual
Application Profile 1	Conditional mandatory
Application Profile 2	Optional
Application Profile 3	Conditional mandatory
Application Profile 4	Optional
Inheritance	May be inherited from the parent aggregation.
Occurrence	AP1: None or one; AP2: None or one; AP3: None or one; AP4: None or one
Source	User-generated or captured by barcode reader or equivalent device.
Use Conditions	Mandatory for non-electronic Records, and physical and hybrid Parts only, when they are moved from their home location. Value as 'Location - home' [Description.Location.Home] until charged out or moved for any other reason.
Comments	It is recommended that B/Ds should develop a controlled vocabulary for use with this element.

Element name: Location - home

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0036
XML Name	Description.Location.Home
Definition	The home location of non-electronic Records, and physical and hybrid Parts.
Purpose	To support the management and retrieval of non-electronic Records, and physical and hybrid Parts.
Applicability	Part Record
Values	String
Default Value	None
Example	South store, bay 217, GRS RMAO
Capturing Mode	Automatic or manual
Application Profile 1	Conditional mandatory
Application Profile 2	Optional
Application Profile 3	Conditional mandatory
Application Profile 4	Conditional mandatory
Inheritance	May be inherited from the parent aggregation.
Occurrence	AP1: None or one; AP2: None or one; AP3: None or one; AP4: None or one
Source	Captured by barcode reader or equivalent device, or user-generated.
Use Conditions	Mandatory for non-electronic Records, and physical and hybrid Parts only.
Comments	It is recommended that B/Ds should develop a controlled vocabulary for use with this element.

Element name: Medium

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0037
XML Name	Use.TechnicalEnvironment.Medium
Definition	The physical carrier on which a Record is stored.
Purpose	To facilitate use, management and preservation of the Record.
Applicability	Record
Values	Encoding.Use.TechnicalEnvironment.Medium
Default Value	None

Example	Paper
Capturing Mode	Manual
Application Profile 1	Conditional mandatory
Application Profile 2	Optional
Application Profile 3	Conditional mandatory
Application Profile 4	Conditional mandatory
Inheritance	None
Occurrence	AP1: None or one; AP2: None or one; AP3: None or one; AP4: None or one
Source	User-generated
Use Conditions	Mandatory when the 'Record form' [Description.Record.Form] is 'Non-electronic'.
Comments	When the value chosen is 'Other', the medium should be recorded in the 'Remark' element [Description.Remark] by using the rule: 'Medium: Value'.

Element name: Owner

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0038
XML Name	Description.Owner.Division
Definition	The name of the division or section which is the owner of the aggregation or Stub.
Purpose	To identify the owner division or section of the aggregation or Stub, and to facilitate management of records, e.g. by determining the access rights of the aggregation.
Applicability	Class Folder Part Stub Sub-class Sub-folder
Values	String
Default Value	None
Example	Division A
Example	Finance Section
Capturing Mode	Automatic or manual
Application Profile 1	Mandatory
Application Profile 2	Recommended
Application Profile 3	Mandatory

Application Profile 4	Mandatory
Inheritance	Folder, Sub-folder and Parts inherit from the Sub-class.
Occurrence	AP1: One; AP2: None or one; AP3: One; AP4: One
Source	User-generated, except that the 'Owner' of a Stub can be taken automatically from the aggregation that has been replaced.
Use Conditions	None
Comments	It is recommended that B/Ds should develop an encoding scheme for names of divisions and sections.

Element name: Part barcode

uri://recordsmanagement.gov.hk/MS00-M-0039
Identity.Part.Barcode
A unique barcode assigned to physical and hybrid Parts.
To support tracking the movement of physical and hybrid Parts.
Part
String
None
26591277
Automatic or manual
Optional
Optional
Optional
Optional
None
AP1: None or one; AP2: None or one; AP3: None or one; AP4: None or one
Barcode software
Automatically assigned if the ERKS is integrated with a barcode generator.
None

Element name: Part number

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0040
XML Name	Identity.Part.Number
Definition	A serial number assigned incrementally to Parts within a Folder or Sub-folder or to a Part Stub.
Purpose	To identify a Part within a Folder or Sub-folder, or a Part Stub, to support retrieval and management.
Applicability	Part Stub
Values	String
Default Value	None
Example	2
Capturing Mode	System-generated or manual
Application Profile 1	Conditional mandatory
Application Profile 2	Optional
Application Profile 3	Conditional mandatory
Application Profile 4	Conditional mandatory
Inheritance	None
Occurrence	AP1: None or one; AP2: None or one; AP3: None or one; AP4: None or one
Source	Assigned by internal system algorithm or user-generated.
Use Conditions	Mandatory for Part.
Use Conditions	Mandatory when the 'Stub Type' [Description.Stub.Type] of a Stub is 'Part'.
Comments	Assigned to Parts incrementally.

Element name: Public access review indicator

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0041
XML Name	Use.Access.PublicAccessReviewIndicator
Definition	An indicator to show whether a classified Folder, Sub-folder or Part needs to be reviewed by B/Ds to determine if the subject entity can be open for public access 30 years after its closure.
Purpose	To indicate whether a classified Folder, Sub-folder or Part to be transferred to the PRO of GRS should be reviewed by B/Ds to determine if the subject entity can be open for public access 30 years after its closure.
Applicability	Folder

	Part Sub-folder
Values	Yes/No
Default Value	No
Example	No
Capturing Mode	Manual
Application Profile 1	Optional
Application Profile 2	Optional
Application Profile 3	Optional
Application Profile 4	Conditional mandatory
Inheritance	None
Occurrence	AP1: None or one; AP2: None or one; AP3: None or one; AP4: None or one
Source	User-generated
Use Conditions	Mandatory when a Folder, Sub-folder or Part is not 'UNCLASSIFIED'.
Comments	Contact PRO for advice on subject areas that could be denied public access.

Element name: Reason

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0042
XML Name	Description.Reason
Definition	The reason for the occurrence of an event, or the creation of a Retention and Disposal Schedule, Disposal Hold or Stub.
Purpose	To explain the reason for the Event, Retention and Disposal Schedule, Disposal Hold or Stub.
Applicability	Disposal Hold Event History Event Trigger Retention and Disposal Schedule Stub
Values	String
Default Value	None
Example	[Reason for an event "Security Classification Changed":] Security Classification down-graded to RESTRICTED because the record is no longer considered confidential.
Capturing Mode	Manual
Application Profile 1	Conditional mandatory

Application Profile 2	Recommended
Application Profile 3	Conditional mandatory
Application Profile 4	Conditional mandatory
Inheritance	None
Occurrence	AP1: None or one; AP2: None or one; AP3: None or one; AP4: None or one
Source	User-generated
Use Conditions	Mandatory for the following 'Event types' [EventHistory.Event.Type]: 'Disposal Hold applied', 'Export initiated', 'Import concluded', 'Reclassified', 'Security classification changed' and 'Transfer initiated'.
Use Conditions	Mandatory for Stub.
Comments	As good records management practice, it is recommended that B/Ds should record the reason for a specific records management action.

Element name: Recipient email

uri://recordsmanagement.gov.hk/MS00-M-0043
Description.Recipient.Email
The email address of the recipient(s) to whom an email/e-Memo was sent.
To identify recipient(s) of the Record.
Record
String
None
[For a member of Government staff as recipient of an email from a B/D:] Jenny LO/GRS/HKSARG@GRS or JennyLO@grs.gov.hk
[For a Government group as recipient:] &All_EOs
[For an external person as recipient:] mary.lau@gmail.com
Automatic
Conditional mandatory
Optional
Conditional mandatory
Conditional mandatory
None
AP1: None, one or many; AP2: None, one or many; AP3: None, one or many; AP4: None, one or

	many
Source	Taken from the email header.
Use Conditions	Mandatory for outgoing emails and e-Memos.
Use Conditions	For each recipient, his/her own email address must be captured.
Comments	The email addresses of blind carbon copy recipients and carbon copy recipients should be provided in the elements 'Blind carbon copy recipient' [Description.Recipient.BlindCopy] and 'Carbon copy recipient' [Description.Recipient.CarbonCopy] respectively.
Comments	Take the following email as an example:
	From: Peter CHAN/GRS/HKSARG@GRS. To: Mary WONG/EMSD/HKSARG@EMSD; Tai-Man CHAN/OGCIO/HKSARG@OGCIO. Cc: Jenny LO/RVD/HKSARG@RVD; Paul CHAN/DSD/HKSARG@DSD. Bcc: Tony KWAN/LAD/HKSARG@LAD; Vivian LEE/EU/HKSARG@EU.
	For GRS, 'Mary WONG/EMSD/HKSARG@EMSD' and 'Tai-Man CHAN/OGCIO/HKSARG@OGCIO' must be captured as the values of 'Recipient email'. For EMSD, 'Mary WONG/EMSD/HKSARG@EMSD' must be captured as the value of 'Recipient email', while 'Tai-Man CHAN/OGCIO/HKSARG@OGCIO' may be captured as the value of 'Recipient email'. For OGCIO, 'Tai-Man CHAN/OGCIO/HKSARG@OGCIO' must be captured as the value of 'Recipient email' while 'Mary WONG/EMSD/HKSARG@EMSD' may be captured as the value of 'Recipient email'. For RVD, DSD, LAD and EU, 'Mary WONG/EMSD/HKSARG@EMSD' and 'Tai-Man CHAN/OGCIO/HKSARG@OGCIO' may be captured as the values of 'Recipient email'.

Element name: Recipient name

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0044
XML Name	Description.Recipient.Name
Definition	The name and/or post title of the recipient(s) to whom a Record is addressed.
Purpose	To identify recipient(s) of the Record and to support retrieval of the Record.
Applicability	Record
Values	String
Default Value	None
Example	[For a member of Government staff as recipient:] Jenny LO
Example	[For an email addressed to a post:] Senior Executive Officer (Administration)
Example	[For a Government department as recipient, where the responsible person is known:] Government Chief Information Officer (attn: CHAN Tai-man)
Example	[For a Government department as recipient, where the responsible person is not known:]

	Unknown
Example	[For a Government group as recipient:] All Executive Officers
Example	[For an external person as recipient:] Mary LAU
Capturing Mode	Automatic or manual
Application Profile 1	Conditional mandatory
Application Profile 2	Recommended
Application Profile 3	Conditional mandatory
Application Profile 4	Conditional mandatory
Inheritance	None
Occurrence	AP1: None, one or many; AP2: None, one or many; AP3: None, one or many; AP4: None, one or many
Source	Taken from the email header or from a template. User-generated otherwise.
Use Conditions	Mandatory for outgoing Records with a stated recipient.
Use Conditions	For each recipient, his/her own name and/or post title must be captured, where available.
Comments	For a memo or an e-Memo, input the post title of the Directors of Bureau, Permanent Secretaries and Head of Departments and the name of the responsible officer to whom the Record is addressed as appropriate.
Comments	The actual name of the recipient may not be known. In this case, input "Unknown".
Comments	The names and/or post titles of blind carbon copy recipients and carbon copy recipients should be provided in the element 'Blind carbon copy recipient' [Description.Recipient.BlindCopy] and 'Carbon copy recipient' [Description.Recipient.CarbonCopy] respectively.
Comments	Take the following email as an example:
	 From: Peter CHAN/GRS/HKSARG@GRS. To: Mary WONG/EMSD/HKSARG@EMSD; Tai-Man CHAN/OGCIO/HKSARG@OGCIO. Cc: Jenny LO/RVD/HKSARG@RVD; Paul CHAN/DSD/HKSARG@DSD. Bcc: Tony KWAN/LAD/HKSARG@LAD; Vivian LEE/EU/HKSARG@EU. For GRS, 'Mary WONG' and 'Tai-Man CHAN' must be captured as the values of 'Recipient name'. For EMSD, 'Mary WONG' must be captured as the value of 'Recipient name', while 'Tai-Man CHAN' must be captured as the value of 'Recipient name', while 'Tai-Man CHAN' may be captured as the value of 'Recipient name'. For OGCIO, 'Tai-Man CHAN' must be captured as the value of 'Recipient name', while 'Mary WONG' may be captured as the value of 'Recipient name'. For NCD, DSD, LAD and EU, 'Mary WONG' and 'Tai-Man CHAN' may be captured as the values of 'Recipient name'.

Element name: Recipient organization name

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0045
XML Name	Description.Recipient.OrganizationName
Definition	The name of the organization that has received the Record, other than carbon copy recipients or blind carbon copy recipients. This will be either the B/D to which the named recipient belongs, or the B/D itself as recipient, or an external organization as recipient.
Purpose	To identify the receiving body (B/D or external organisation) in order to support traceability, retrieval and understanding of the Record.
Applicability	Record
Values	String
Default Value	[User's own B/D]
Example	[For a B/D:] OGCIO
Example	[For an external organisation:] XYZ Limited
Capturing Mode	Automatic or manual
Application Profile 1	Conditional mandatory
Application Profile 2	Recommended
Application Profile 3	Conditional mandatory
Application Profile 4	Conditional mandatory
Inheritance	None
Occurrence	AP1: None, one or many; AP2: None, one or many; AP3: None, one or many; AP4: None, one or many
Source	Taken from the email header or from a template. User-generated otherwise.
Use Conditions	Mandatory when the Record is received by an organization (e.g. a B/D or company).
Use Conditions	When a sender is capturing the Record, the values of all recipient organizations must be captured.
Use Conditions	When a recipient organization, for example GRS, is capturing the Record, the value 'GRS' must be captured.
Use Conditions	When a carbon copy recipient or blind carbon copy recipient is capturing the Record, the value of 'Recipient organization name' [Description.Recipient.OrganizationName] may be captured.
Comments	For records which are received by a B/D, use of the 'Government BD encoding scheme' [Encoding.Description.GovernmentBD] is recommended.
Comments	The organization name of blind carbon copy recipients and carbon copy recipients should be provided in the element 'Blind carbon copy recipient' [Description.Recipient.BlindCopy] and 'Carbon copy recipient' [Description.Recipient.CarbonCopy] respectively.
Comments	Use of the full name of the external organization is recommended.

Comments	Take the following email as an example:
	From: Peter CHAN/GRS/HKSARG@GRS. To: Mary WONG/EMSD/HKSARG@EMSD; Tai-Man CHAN/OGCIO/HKSARG@OGCIO. Cc: Jenny LO/RVD/HKSARG@RVD; Paul CHAN/DSD/HKSARG@DSD. Bcc: Tony KWAN/LAD/HKSARG@LAD; Vivian LEE/EU/HKSARG@EU.
	 For GRS, 'EMSD' and 'OGCIO' must be captured as the values of 'Recipient organization name'. For EMSD, 'EMSD' must be captured as the value of 'Recipient organization name' and 'OGCIO' may be captured as the value of 'Recipient organization name'. For OGCIO, 'OGCIO' must be captured as the value of 'Recipient organization name' and 'EMSD' may be captured as the value of 'Recipient organization name'. For RVD, DSD, LAD and EU, 'EMSD' and 'OGCIO' may be captured as the values of 'Recipient organization name'.

Element name: Record content type

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0046
XML Name	Description.Record.ContentType
Definition	The nature of the content of the Record.
Purpose	To support retrieval of Records.
Applicability	Record
Values	Encoding.Description.RecordContentType
Default Value	None
Example	Agenda/Minutes of meeting
Capturing Mode	Automatic or manual
Application Profile 1	Optional
Application Profile 2	Optional
Application Profile 3	Optional
Application Profile 4	Optional
Inheritance	None
Occurrence	AP1: None or one; AP2: None or one; AP3: None or one; AP4: None or one
Source	Taken from the template properties; otherwise user-generated.
Use Conditions	None
Comments	None

Element name: Record form

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0047
XML Name	Description.Record.Form
Definition	The form of the Record, i.e. electronic or non-electronic.
Purpose	To identify the form of the Record and to support the use, management and preservation of the Record.
Applicability	Record
Values	Encoding.Description.RecordForm
Default Value	Electronic
Example	Electronic
Capturing Mode	Automatic or manual
Application Profile 1	Mandatory
Application Profile 2	Optional
Application Profile 3	Mandatory
Application Profile 4	Mandatory
Inheritance	None
Occurrence	AP1: One; AP2: None or one; AP3: One; AP4: One
Source	Automatically generated, for example when a batch of scanned Records are imported into the ERKS, or user-generated.
Use Conditions	None
Comments	None

Element name: Record number

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0048
XML Name	Identity.Record.Number
Definition	A unique identifier assigned to Records within a Part.
Purpose	To identify the order of non-electronic Records within a Part to support retrieval and management of Records.
Applicability	Record
Values	String

Default Value	None
Example	1
Capturing Mode	System-generated
Application Profile 1	Conditional mandatory
Application Profile 2	Optional
Application Profile 3	Conditional mandatory
Application Profile 4	Conditional mandatory
Inheritance	None
Occurrence	AP1: None or one; AP2: None or one; AP3: None or one AP4: None or one
Source	System-generated
Use Conditions	Mandatory for non-electronic Records. May also be used for electronic Records, if required.
Comments	Assigned incrementally on capture into the Part of the electronic Record or the metadata for the non-electronic Record.

Element name: Record reference

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0049
XML Name	Description.Record.Reference
Definition	The file reference assigned to a Record (usually correspondence) by the issuing B/D or organisation (typically recognised as the 'Our Reference' for incoming correspondence).
Purpose	To support traceability and retrieval of the Record.
Applicability	Record
Values	String
Default Value	None
Example	[B/D receiving an e-Memo issued by GRS:] (1) in GRS RSDO 200/16 Pt. 5
Capturing Mode	Automatic or manual
Application Profile 1	Recommended
Application Profile 2	Recommended
Application Profile 3	Recommended
Application Profile 4	Recommended
Inheritance	None

Occurrence	AP1: None or one; AP2: None or one AP3: None or one; AP4: None or one
Source	The Record itself.
Use Conditions	None
Comments	None

Element name: Relation - entity

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0050
XML Name	Relation.Entity
Definition	A link from the subject entity to another entity. For example, a Class may be related to a Retention and Disposal Schedule and vice versa, a Record will be linked to Event History objects and vice versa, a Folder may be closely related to another Folder. The nature of the relation is apparent from the combination of the two entities involved.
Purpose	To support the linking of entities for a variety of reasons, for example, to link a Group to the aggregations to which the Group is allowed access, or to provide a cross-reference between Folders.
Applicability	Class Component Disposal Hold Event History Event Trigger Folder Group Mandate Part Record Records Classification Scheme Retention and Disposal Schedule Stub Sub-class Sub-folder User
Values	String
Default Value	None
Example	[For a Class linked to a Group which is allowed access:] [within the linking Event History - the system identifier of the Group and the system identifier of the Class]
Example	[For a Class that has a Retention and Disposal Schedule applied:] [within the linking Event History - the system identifier of the Retention and Disposal Schedule and the system identifier of the Class]
Example	[For a Disposal Hold applied to a Folder:] [within the linking Event History - the system identifier of the Disposal Hold and the system identifier of the Folder]
Example	[For a Folder that is cross-referenced to another Folder:] [within the linking Event History - the system identifier of each Folder]

Capturing Mode	Automatic
Application Profile 1	Conditional mandatory
Application Profile 2	Optional
Application Profile 3	Conditional mandatory
Application Profile 4	Conditional mandatory
Inheritance	None
Occurrence	AP1: None, one or many; AP2: None, one or many; AP3: None, one or many; AP4: None, one or many
Source	Automatically-assigned in response to a User action, such as opening a Folder, or applying a Disposal Hold.
Use Conditions	Mandatory for Class, Component, Disposal Hold, Event Trigger, Folder, Group, Mandate, Part, Record, Records Classification Scheme, Retention and Disposal Schedule, Stub, Sub-class, Sub-folder and User, so long as the Event History entity is used.
Use Conditions	For the Event History entity, mandatory when the event is a simple event, a metadata change event or a relation change event.
Use Conditions	A Retention and Disposal Schedule may have a value for this element that relates the schedule to an Event Trigger entity. This is subject to the following use condition: each Retention and Disposal Schedule must have one, and only one, of the following 3 values: (1) 'Disposal date - future' [EventPlan.Event.DisposalDate]; (2) 'Event trigger - internal' [EventPlan.Event.TriggerInternal]; (3) 'Relation - entity' [Relation.Entity] relating the schedule to an Event Trigger entity. In all 3 cases, only one of these three may have values; the two others must be null. Where a value for one of the triggers is present (cases (2) and (3)), a value for 'Retention period' [EventPlan.Event.RetentionPeriod] must also be present.
Comments	None

Element name: Relation - GRS disposal schedule identifier

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0051
XML Name	Relation.GRSDisposalScheduleID
Definition	A unique number assigned by GRS for approved records retention and disposal schedules for programme records and specified records retention and disposal schedules as prescribed in General Administrative Records Disposal Schedules (GARDS) (GRS Records Management Publication No. 4).
Purpose	To trace the authority for the Retention and Disposal Schedule, and to support the bulk transfer of inactive Records to Records Centres of GRS.
Applicability	Class Folder Part Sub-class Sub-folder
Values	String

Default Value	None
Example	[For a Retention and Disposal Schedule relating to programme files:] DA01234-AA
Example	[For a Retention and Disposal Schedule relating to administrative files:] GARDS 4-45(1)
Capturing Mode	Manual
Application Profile 1	Conditional mandatory
Application Profile 2	Conditional mandatory
Application Profile 3	Conditional mandatory
Application Profile 4	Mandatory
Inheritance	None
Occurrence	AP1: None or one; AP2: None or one; AP3: None or one; AP4: One
Source	User-generated
Use Conditions	Mandatory for administrative files.
Use Conditions	For programme files, mandatory when a Disposal Authority (DA) number has been assigned by GRS.
Use Conditions	For a Class and Sub-class, mandatory when the same Retention and Disposal Schedule is applied to its child aggregations.
Comments	For programme files, the DA number assigned by GRS together with the Disposal Class should be input.
Comments	For administrative files, relevant items in General Administrative Records Disposal Schedules (GARDS) should be input.

Element name: Relation - has attachment

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0052
XML Name	Relation.HasAttachment
Definition	A link to an electronic Record that is an attachment of the subject electronic Record.
Purpose	To provide a link between an electronic Record and its attachment to ensure that they are managed as a single unit.
Applicability	Record
Values	String
Default Value	None
Example	['System identifier' [Identity.SystemID] of the attached Record]
Capturing Mode	Automatic

Application Profile 1	Conditional mandatory
Application Profile 2	Recommended
Application Profile 3	Conditional mandatory
Application Profile 4	Conditional mandatory
Inheritance	None
Occurrence	AP1: None, one or many; AP2: None, one or many; AP3: None, one or many; AP4: None, one or many
Source	Automatically created when a Record with an attachment is captured in the ERKS.
Use Conditions	Mandatory for electronic Records that have attachments in electronic form which are captured as a single unit.
Use Conditions	Wherever 'Relation - has attachment' [Relation.HasAttachment] is used, there should be the reciprocal relationship 'Relation - is attachment of' [Relation.IsAttachmentOf].
Comments	If the Record is a paper Record with an enclosure (for example, a report with a separate photograph), use 'Relation - has enclosure' [Relation.HasEnclosure].

Element name: Relation - has enclosure

uri://recordsmanagement.gov.hk/MS00-M-0053
Relation.HasEnclosure
A link to a non-electronic Record that is an enclosure of the subject Record.
To provide a link between a Record and its enclosure in physical form, for example between a letter and an enclosed document to ensure that they are managed together as a single unit.
Record
String
None
[For a letter from a member of the public with a photo enclosed:] ['System identifier' [Identity.SystemID] of the photo]
Manual
Conditional mandatory
Recommended
Conditional mandatory
Conditional mandatory
None
AP1: None, one or many; AP2: None, one or many; AP3: None, one or many; AP4: None, one or

	many
Source	User-generated
Use Conditions	Mandatory for Records that have enclosures in non-electronic form which should be captured as a single unit.
Use Conditions	Wherever 'Relation - has enclosure' [Relation.HasEnclosure] is used, there should also be the reciprocal relationship 'Relation - is enclosure of' [Relation.IsEnclosureOf].
Comments	If the Record is an electronic Record with an attachment (for example, an email with an attachment), use 'Relation - has attachment' [Relation.HasAttachment].

Element name: Relation - has format

ıri://recordsmanagement.gov.hk/MS00-M-0054
Relation.HasFormat
Where the subject entity is a 'Virtual Record' containing Records of the same intellectual content but in different manifestations or file formats, a link from the subject 'Virtual Record' to these Records.
To provide a link between the same content in different manifestations or file formats to ensure hat they are managed together as a single unit.
Record
String
None
'System identifier' [Identity.System ID] of each child Record]
Automatic or manual
Conditional mandatory
Recommended
Conditional mandatory
Conditional mandatory
None
AP1: None or many; AP2: None or many AP3: None or many; AP4: None or many
Automatically generated when the Record is rendered into a different file format, or user- generated.
Mandatory when several manifestations or file formats of the same content are captured as a ingle unit.
Wherever 'Relation - has format' [Relation.HasFormat] is used, there should also be the eciprocal relationship 'Relation- is format of' [Relation.IsFormatOf].

A 'Virtual Record' is here a conceptual container for Records containing the same content in different manifestations or file formats.

Element name: Relation - has language

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0055
XML Name	Relation.HasLanguage
Definition	Where the subject entity is a 'Virtual Record' containing Records of the same intellectual content but in different languages, dialects or scripts, a link from the subject 'Virtual Record' to those Records.
Purpose	To provide a link between Records containing the same content in different languages, dialects or scripts to ensure that they are managed together as a single unit.
Applicability	Record
Values	String
Default Value	none
Example	['System identifier' [Identity.SystemID] of each child Record]
Capturing Mode	Manual
Application Profile 1	Conditional mandatory
Application Profile 2	Recommended
Application Profile 3	Conditional mandatory
Application Profile 4	Conditional mandatory
Inheritance	None
Occurrence	AP1: None or many; AP2: None or many; AP3: None or many; AP4: None or many
Source	User-generated
Use Conditions	Mandatory when the same content is in more than one language, dialect or script, and is captured as a single unit.
Use Conditions	Wherever 'Relation - has language' [Relation.HasLanguage] is used, there should also be the reciprocal relationship 'Relation - is language of' [Relation.IsLanguageOf].
Comments	A 'Virtual Record' is here a conceptual container for Records containing the same content in different languages, dialects or scripts.

Element name: Relation - has version

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0056
XML Name	Relation.HasVersion
Definition	Where the subject entity is a 'Virtual Record' containing multiple versions, for example when version 1 of a report is updated to become version 2, or version 3, etc., a link from the subject 'Virtual Record' to those records.
Purpose	To provide a link between different versions of a Record to ensure they are managed together as a single unit.
Applicability	Record
Values	String
Default Value	None
Example	['System identifier' [Identity.SystemID] of each version]
Capturing Mode	Automatic or manual
Application Profile 1	Conditional mandatory
Application Profile 2	Recommended
Application Profile 3	Conditional mandatory
Application Profile 4	Conditional mandatory
Inheritance	None
Occurrence	AP1: None or many; AP2: None or many; AP3: None or many; AP4: None or many
Source	Automatically captured or user-generated.
Use Conditions	Mandatory when multiple versions of a document are captured as a single unit.
Use Conditions	Wherever 'Relation - has version' [Relation.HasVersion] is used, there should also be the reciprocal relationship 'Relation - is version of [Relation.IsVersionOf].
Comments	A 'Virtual Record' is here a conceptual container for Records containing the same content in different versions.
Comments	This element is not intended to be used for storing version number.

Element name: Relation - is attachment of

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0057
XML Name	Relation.IsAttachmentOf
Definition	A link from the electronic Record that was attached to the containing (parent) Record.
Purpose	To provide a link between a child electronic attachment and its containing (parent) Record to

	ensure that they are managed together as a single unit.
Applicability	Record
Values	String
Default Value	None
Example	[For a Record which was sent as an attachment to an email:] ['System identifier' [Identity.SystemID] of the email]
Capturing Mode	Automatic
Application Profile 1	Conditional mandatory
Application Profile 2	Recommended
Application Profile 3	Conditional mandatory
Application Profile 4	Conditional mandatory
Inheritance	None
Occurrence	AP1: None or one; AP2: None or one; AP3: None or one; AP4: None or one
Source	Automatically triggered by the registering of a Record with an attachment into the ERKS, or user-generated.
Use Conditions	Mandatory for electronic Records that consist of attachments in electronic form to be captured as a single unit.
Use Conditions	Wherever 'Relation - is attachment of' [Relation.IsAttachementOf] is used, there should also be the reciprocal relationship 'Relation - has attachment' [Relation.HasAttachment].
Comments	If the non-electronic Record is the enclosure for a Record (for example, a photograph enclosed with a report), use 'Relation - is enclosure of' [Relation.IsEnclosureOf].

Element name: Relation - is enclosure of

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0058
XML Name	Relation.IsEnclosureOf
Definition	A link to a Record of which the subject Record is an enclosure in non-electronic form.
Purpose	To provide a link between a Record and its enclosure in non-electronic form, for example between a photo (enclosure) and the covering letter to ensure that they are managed together as a single unit.
Applicability	Record
Values	String
Default Value	None
Example	[For a photo enclosed in a letter:] ['System identifier' [Identity.SystemID] of the letter]

Capturing Mode	Automatic
Application Profile 1	Conditional mandatory
Application Profile 2	Recommended
Application Profile 3	Conditional mandatory
Application Profile 4	Conditional mandatory
Inheritance	None
Occurrence	AP1: None or one; AP2: None or one; AP3: None or one; AP4: None or one
Source	Automatically-generated as a reciprocal of 'Relation - has enclosure' [Relation.HasEnclosure].
Use Conditions	Mandatory for Records that consist of enclosures in non-electronic form to be captured as a single unit.
Use Conditions	Wherever 'Relation - is enclosure of' [Relation.IsEnclosureOf] is used, there should also be the reciprocal relationship 'Relation - has enclosure' [Relation.HasEnclosure].
Comments	If the electronic Record is an attachment to an electronic Record (for example, an attachment within an email), use 'Relation - is attachment of' [Relation.IsAttachmentOf].

Element name: Relation - is format of

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0059
XML Name	Relation.IsFormatOf
Definition	A link from the subject Record to the 'Virtual Record' which is a conceptual container for Records containing the same content in different manifestations or file formats.
Purpose	To provide a link between Records containing the same content in different manifestations or file formats (for example in PDF and MS Word) to ensure that they are managed together as a single unit.
Applicability	Record
Values	String
Default Value	None
Example	[For a Record saved as a PDF which also has a Word version:] [System identifier [Identity.SystemID] for the 'Virtual Record']
Capturing Mode	Automatic
Application Profile 1	Conditional mandatory
Application Profile 2	Recommended
Application Profile 3	Conditional mandatory
Application Profile 4	Conditional mandatory

Inheritance	None
Occurrence	AP1: None or one; AP2: None or one; AP3: None or one; AP4: None or one
Source	Automatically captured from the 'Virtual Record' as a reciprocal of 'Relation - has format' [Relation.HasFormat].
Use Conditions	Mandatory when several manifestations or file formats of the same content are captured as a single unit.
Use Conditions	Wherever 'Relation - is format of' [Relation.IsFormatOf] is used, there should also be the reciprocal relationship 'Relation - has format' [Relation.HasFormat].
Comments	None

Element name: Relation - is language of

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0060
XML Name	Relation.IsLanguageOf
Definition	A link from the subject Record to the 'Virtual Record', which is a conceptual container for Records containing the same content in different languages, dialects or scripts.
Purpose	To provide a link between Records containing the same content in different languages, dialects or scripts to ensure that they are managed together as a single unit.
Applicability	Record
Values	String
Default Value	None
Example	['System identifier' [Identity.SystemID] of the Virtual Record]
Capturing Mode	Automatic
Application Profile 1	Conditional mandatory
Application Profile 2	Recommended
Application Profile 3	Conditional mandatory
Application Profile 4	Conditional mandatory
Inheritance	None
Occurrence	AP1: None or one; AP2: None or one; AP3: None or one; AP4: None or one
Source	Automatically captured from the 'Virtual Record' as a reciprocal of 'Relation - has language' [Relation.HasLanguage].
Use Conditions	Mandatory when the same content is in more than one language, dialect or script, and is captured as a single unit.
Use Conditions	Wherever 'Relation - is language of' [Relation.IsLanguageOf] is used, there should also be the reciprocal relationship 'Relation - has language' [Relation.HasLanguage].

Comments None	
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Element name: Relation - is version of

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0061
XML Name	Relation.IsVersionOf
Definition	A link from the subject Record to the 'Virtual Record' which is a conceptual container for a document with multiple versions.
Purpose	To provide a link between different versions of the document to ensure that they are managed together as a single unit.
Applicability	Record
Values	String
Default Value	None
Example	['System identifier' [Identity.SystemID] of the 'Virtual Record']
Capturing Mode	Automatic
Application Profile 1	Conditional mandatory
Application Profile 2	Recommended
Application Profile 3	Conditional mandatory
Application Profile 4	Conditional mandatory
Inheritance	None
Occurrence	AP1: None or one; AP2: None or one; AP3: None or one; AP4: None or one
Source	Automatically captured from the 'Virtual Record' as a reciprocal of 'Relation - has version' [Relation.HasVersion].
Use Conditions	Mandatory when multiple versions of a document are captured as a single unit.
Use Conditions	Wherever 'Relation - is version of [Relation.IsVersionOf] is used, there should also be the reciprocal relationship 'Relation - has version' [Relation.HasVersion].
Comments	This element is not intended to be used for storing version number.

Element name: Relation - pre-ERKS folder

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0062
XML Name	Relation.Folder.PreERKSFolder
Definition	The Folder title(s) and classification code(s) of the subject Folder before the ERKS was implemented.

Purpose	To link ERKS folders and pre -ERKS folders on the same subject to facilitate retrieval of records stored in pre-ERKS folders and to maintain intellectual integrity of the records for archival preservation by PRO.
Applicability	Folder
Values	String
Default Value	None
Example	Office allocation - Kowloon (002-005-010-007)
Capturing Mode	Manual
Application Profile 1	Recommended
Application Profile 2	Optional
Application Profile 3	Recommended
Application Profile 4	Conditional mandatory
Inheritance	None
Occurrence	AP1: None, one or many; AP2: None, one or many; AP3: None, one or many; AP4: None, one or many
Source	User-generated from the file title and reference code of the paper file.
Use Conditions	Mandatory in AP4 when a Folder managed by an ERKS could be related to paper Folder(s) that existed before.
Comments	Input the file title first and then the reference code in brackets.

Element name: Remark

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0063
XML Name	Description.Remark
Definition	Additional information about the entity which is not contained in other metadata fields.
Purpose	To provide additional information to help users understand the entity itself or how it is used.
Applicability	Class Disposal Hold Event History Event Trigger Folder Group Mandate Part Record Records Classification Scheme Retention and Disposal Schedule Stub Sub-class

	Sub-folder User
Values	String
Default Value	None
Example	The disposal hold is likely to be in force for at least two years.
Capturing Mode	Manual
Application Profile 1	Recommended
Application Profile 2	Optional
Application Profile 3	Recommended
Application Profile 4	Recommended
Inheritance	None
Occurrence	AP1: None, one or many; AP2: None, one or many; AP3: None, one or many; AP4: None, one or many
Source	User-generated
Use Conditions	Recommended for Record which is scanned.
Use Conditions	If 'Event type' [EventHistory.Event.Type] is 'Digitized', and the digitization method is scanning, the technical information should be provided in 'Remark' [Description.Remark] in the Record in the following sequence: (1) a unique digitization identifier for a scanned Record (usually assigned by the scanning facility) or a unique identifier assigned to the physical container storing the original Record after scanning, (2) the operating scanner model, (3) name and version of the imaging software, (4) driver version, (5) image resolution, (6) colour depth and (7) compression to safeguard the authenticity; otherwise the digitization method and equipment used should be captured.
Use Conditions	For a Record which is scanned where no Event History instance is created, additional information should be provided in the following sequence (following the technical information shown in the previous Use Conditions): (8) Date of scanning, and (9) Agent who scanned the Record.
Comments	None

Element name: Responsible officer

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0064
XML Name	Description.Owner.ResponsibleOfficer
Definition	Name and/or post title of the officer responsible for carrying out records management activities on the Sub-class, Folder, Sub-folder or Part.
Purpose	To identify the officer responsible for managing the relevant Sub-class, Folder, Sub-folder, Part and Records for accountability purposes.
Applicability	Folder Part

	Sub-class Sub-folder
Values	String
Default Value	None
Example	Jenny LO, Executive Officer (Record Systems Development)2
Example	CHAN Tai-man, Senior Clerical Officer (General)
Capturing Mode	Manual
Application Profile 1	Mandatory
Application Profile 2	Recommended
Application Profile 3	Optional
Application Profile 4	Optional
Inheritance	Sub-folder and Parts inherit from the Folder.
Occurrence	AP1: One or many; AP2: None, one or many; AP3: None, one or many; AP4: None, one or many
Source	User-generated
Use Conditions	None
Comments	None

Element name: Retention period

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0065
XML Name	EventPlan.Event.RetentionPeriod
Definition	The required period of time between the trigger event and time to execute the disposal action, for example, the retention period assigned to a Folder.
Purpose	To support the automatic calculation of when the disposal action must take place.
Applicability	Retention and Disposal Schedule
Values	Encoding.Event.Period
Default Value	None
Example	[For a period of 6 years:] P06Y
Example	[For a period of 10 years and 3 months:] P10Y03M
Capturing Mode	Manual
Application Profile 1	Conditional mandatory
Application Profile 2	Recommended

Application Profile 3	Conditional mandatory
Application Profile 4	Conditional mandatory
Inheritance	None
Occurrence	AP1: None or one; AP2: None or one; AP3: None or one; AP4: None or one
Source	User-generated
Use Conditions	Each Retention and Disposal Schedule must have one, and only one, of the following 3 values: (1) 'Disposal date - future' [EventPlan.Event.DisposalDate]; (2) 'Event trigger - internal' [EventPlan.Event.TriggerInternal]; (3) 'Relation - entity' [Relation.Entity] relating the schedule to an Event Trigger entity. In all 3 cases, only one of these three may have values; the two others must be null. Where a value for one of the triggers is present (cases (2) and (3)), a value for 'Retention period' [EventPlan.Event.RetentionPeriod] must also be present.
Comments	RKMS supports periods from 1 day to 99 years.

Element name: Security classification

1	r
Element ID	uri://recordsmanagement.gov.hk/MS00-M-0066
XML Name	Use.Access.Classification
Definition	The security classification applied to the aggregation, Record or Stub.
Purpose	To support establishing access control to ensure that aggregations, Records and Stubs are accessed by Users and Groups with proper security clearance. To ensure the security of aggregations, Records and Stubs.
Applicability	Class Folder Part Record Stub Sub-class Sub-folder
Values	Encoding.Use.Access.Classification
Default Value	UNCLASSIFIED
Example	RESTRICTED
Capturing Mode	Automatic or manual
Application Profile 1	Mandatory
Application Profile 2	Mandatory
Application Profile 3	Mandatory
Application Profile 4	Mandatory
Inheritance	Aggregations inherit from their parent aggregation. Records inherit from their parent Part.

Occurrence	AP1: One; AP2: One; AP3: One; AP4: One
Source	For aggregations, inherited from the parent aggregation. For Records, inherited from the parent Part, taken automatically from the Record or user-generated. The 'Security classification' of a Stub should be taken from the aggregation that has been replaced.
Use Conditions	None
Comments	Must be further refined by the 'Security classification type' [Use.Access.ClassificationType] when the suffixed forms of "RESTRICTED" are in force

Element name: Security classification type

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0067
XML Name	Use.Access.ClassificationType
Definition	The refinement (suffix) of the security classification applied to the aggregation, Record or Stub.
Purpose	To support access control to ensure that aggregations, Records and Stubs are accessed only by Users and Groups with appropriate access rights.
Applicability	Class Folder Part Record Stub Sub-class Sub-folder
Values	Encoding.Use.Access.ClassificationType
Default Value	None
Example	ADMIN
Capturing Mode	Automatic or manual
Application Profile 1	Conditional mandatory
Application Profile 2	Conditional mandatory
Application Profile 3	Conditional mandatory
Application Profile 4	Conditional mandatory
Inheritance	Aggregations inherit from their parent aggregation. Records inherit from their parent Part.
Occurrence	AP1: None or one; AP2: None or one; AP3: None or one; AP4: None or one
Source	For aggregations, inherited from the parent aggregation. For Records, inherited from the parent Part, taken automatically from the Record or user-generated. The 'Security classification type' of a Stub should be taken from the aggregation that has been replaced.
Use Conditions	Mandatory when the suffixed forms of Security Classification 'RESTRICTED' are in force.
Comments	None

Element name: Security clearance

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0068
XML Name	Use.Access.Clearance
Definition	The security clearance applied to a User.
Purpose	To support access control to aggregations, Records and Stubs so Users can only access those that bear a security classification to which the security clearance allows them access.
Applicability	User
Values	Encoding.Use.Access.Clearance
Default Value	UNCLASSIFIED
Example	UNCLASSIFIED
Capturing Mode	Manual
Application Profile 1	Mandatory
Application Profile 2	Recommended
Application Profile 3	Mandatory
Application Profile 4	Mandatory
Inheritance	None
Occurrence	AP1: One; AP2: None or one; AP3: One; AP4: One
Source	User-generated
Use Conditions	None
Comments	None

Element name: Sender email

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0069
XML Name	Description.Sender.Email
Definition	The email address of the sender sending out an email or e-Memo.
Purpose	To identify the sender of the Record.
Applicability	Record
Values	String
Default Value	None

Example	[For correspondence sent by a named government officer in a B/D to recipient(s) within the government:] Jenny LO/GRS/HKSARG@GRS
Example	[For correspondence sent by a post without a named officer in a B/D to recipient(s) within the government:] ERKS administrator/OGCIO/HKSARG@OGCIO
Example	[For correspondence sent from a communal email account to recipient(s) within the government:] RMAO/GRS/HKSARG@GRS
Example	[For correspondence sent by a named government officer in a B/D to external recipient(s):] Jennylo@grs.gov.hk
Example	[For correspondence sent by an external organization where an individual is named:] tom.wong@ABC.com
Example	[For correspondence sent by an organization where no individual is named:] Info@ABC.com
Example	[For correspondence created by a member of the public:] chan1234@gmail.com
Capturing Mode	Automatic
Application Profile 1	Conditional mandatory
Application Profile 2	Optional
Application Profile 3	Conditional mandatory
Application Profile 4	Conditional mandatory
Inheritance	None
Occurrence	AP1: None or one; AP2: None or one; AP3: None or one; AP4: None or one
Source	Taken from the email header.
Use Conditions	Mandatory for emails and e-Memos.
Comments	None

Element name: Sender name

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0070
XML Name	Description.Sender.Name
Definition	The name and/or post title of the person responsible for sending the Record.
Purpose	To identify the sender of a Record, and to support retrieval and authentication of the Record.
Applicability	Record
Values	String
Default Value	None
Example	[For a Record sent by a named government officer in a B/D:] CHAN Tai-man

Example	[For a Record sent by a role:] B/D Help-Desk
Example	[For a Record sent by an organization where no individual is named:] ABC Ltd
Example	[For a Record created by a named member of the public:] WONG Mei-sin
Example	[For a Record created by a person or organization who is not named:] Unknown
Capturing Mode	Automatic or manual
Application Profile 1	Recommended
Application Profile 2	Recommended
Application Profile 3	Recommended
Application Profile 4	Recommended
Inheritance	None
Occurrence	AP1: None or one; AP2: None or one; AP3: None or one; AP4: None or one
Source	Taken from the email header or from a template. User-generated otherwise.
Use Conditions	None
Comments	Used in conjunction with 'Sender email' [Description.Sender.Email] when the Record is an email or e-Memo.
Comments	When the intellectual content of the Record is created by one person (e.g. a Directorate Officer) and sent out by another person (e.g. a Personal Secretary), creator should refer to the person responsible for the intellectual content of the Record, and sender to the person who sends it out. When the same person is responsible for the intellectual content and for sending out the Record, both creator and sender should be used.

Element name: Stub type

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0071
XML Name	Description.Stub.Type
Definition	The level of aggregation replaced by the Stub.
Purpose	To show explicitly what level of aggregation has been replaced by the Stub.
Applicability	Stub
Values	Encoding.Description.StubType
Default Value	None
Example	[For a Stub created when a Folder was destroyed:] Folder.
Capturing Mode	Automatic
Application Profile 1	Mandatory

Application Profile 2	Recommended
Application Profile 3	Mandatory
Application Profile 4	Mandatory
Inheritance	None
Occurrence	AP1: One; AP2: None or one; AP3: One; AP4: One
Source	Taken from the aggregation being replaced.
Use Conditions	The value for this element should not be changed after a value was assigned.
Comments	None

Element name: System identifier

	1
Element ID	uri://recordsmanagement.gov.hk/MS00-M-0072
XML Name	Identity.SystemID
Definition	The identifier generated by an ERKS to identify individual instances of entities (Records, Users, Folders etc.), which will be unique within the system.
Purpose	To identify each instance of an entity uniquely in order to support retrieval, management and linking of entities.
Applicability	Class Component Disposal Hold Event History Event Trigger Folder Group Mandate Part Record Records Classification Scheme Retention and Disposal Schedule Stub Sub-class Sub-folder User
Values	String
Default Value	None
Example	127365vd27
Example	06c14ecb-07c6-43bf-baba-7c0876460411
Capturing Mode	System-generated
Application Profile 1	Mandatory

Application Profile 2	Optional
Application Profile 3	Mandatory
Application Profile 4	Mandatory
Inheritance	None
Occurrence	AP1: One; AP2: None or one; AP3: One; AP4: One
Source	Assigned by internal system algorithm.
Use Conditions	The value for this element should not be changed after a value was assigned.
Comments	RKMS does not define the format for this element; the format is defined by the application that creates the values.

Element name: Time created

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0073
XML Name	EventHistory.Time.Created
Definition	The time at which the Record was created.
Purpose	To record the time at which the Record was created, where known.
Applicability	Record
Values	Encoding.Event.Time
Default Value	None
Example	16:17:30
Capturing Mode	System-generated, automatic or manual
Application Profile 1	Conditional mandatory
Application Profile 2	Conditional mandatory
Application Profile 3	Conditional mandatory
Application Profile 4	Conditional mandatory
Inheritance	None
Occurrence	AP1: None or one; AP2: None or one; AP3: None or one; AP4: None or one
Source	The system time for Records created in the ERKS; the [date and] time field for Records created outside the system, such as the time of email creation.
Use Conditions	Mandatory for Records where the time is known. Where the time is not known, 'Date created' [EventHistory.Date.Created] is used on its own.
Comments	None

Element name: Time received

	T
Element ID	uri://recordsmanagement.gov.hk/MS00-M-0074
XML Name	EventHistory.Time.Received
Definition	The time at which the Record was received.
Purpose	To record the time at which the Record was received, where known.
Applicability	Record
Values	Encoding.Event.Time
Default Value	None
Example	11:25:30
Capturing Mode	For emails and e-Memos: automatic. For paper and scanned Records: manual where known.
Application Profile 1	Conditional mandatory
Application Profile 2	Recommended
Application Profile 3	Conditional mandatory
Application Profile 4	Conditional mandatory
Inheritance	None
Occurrence	AP1: None or one; AP2: None or one; AP3: None or one; AP4: None or one
Source	For emails and e-Memos, taken from the header. For paper correspondence, user-generated.
Use Conditions	Mandatory where the time is known. Where the time is not known, 'Date received' [EventHistory.Date.Received] is used on its own.
Use Conditions	The value for this element for emails and e-Memos should not be changed after a value was assigned.
Comments	None
·	

Element name: Time sent

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0075
XML Name	EventHistory.Time.Sent
Definition	The time at which the Record was sent.
Purpose	To record the time at which the Record was sent, where known.
Applicability	Record
Values	Encoding.Event.Time

Default Value	None	
Example	11:25:30	
Capturing Mode	For emails and e-Memos: automatic. For paper and scanned Records: manual where known.	
Application Profile 1	Conditional mandatory	
Application Profile 2	Recommended	
Application Profile 3	Conditional mandatory	
Application Profile 4	Conditional mandatory	
Inheritance	None	
Occurrence	AP1: None or one; AP2: None or one; AP3: None or one; AP4: None or one	
Source	For emails and e-Memos, taken from the header. For paper correspondence, user-generated.	
Use Conditions	Mandatory where the time is known. Where the time is not known, 'Date sent' [EventHistory.Date.Sent] is used on its own.	
Use Conditions	The value for this element for emails and e-Memos should not be changed after a value was assigned.	
Comments	None	

Element name: Title

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0076
XML Name	Description.Title
Definition	The title of the entity.
Purpose	To support identification, understanding and retrieval of the entity.
Applicability	Class Component Disposal Hold Event Trigger Folder Mandate Part Record Record Classification Scheme Retention and Disposal Schedule Stub Sub-class Sub-class
Values	String
Default Value	None
Example	[For a Record:] Procurement of two fax machines for General Registry

Example	For a Folder:] Office Furniture and Equipment - Procurement	
Capturing Mode	Automatic or manual	
Application Profile 1	Mandatory	
Application Profile 2	Recommended	
Application Profile 3	Mandatory	
Application Profile 4	Mandatory	
Inheritance	None	
Occurrence	AP1: One; AP2: None or one; AP3: One; AP4: One	
Source	For Records: user-generated or taken from the title field of the Record. For Stubs, taken automatically from the deleted entity. For Component, taken from the file name. For all other entities: user-generated.	
Use Conditions	None	
Comments	For Component, the file name should be used.	
Comments	Departmental naming conventions and controlled vocabularies should be used.	
Comments	Note that Lotus Notes and some other email software uses the word 'Subject' to mean 'Title'.	

Element name: Uniform resource identifier (URI)

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0077
XML Name	Identity.URI
Definition	An identifier which is unique across HKSARG and applied to each entity as defined in RKMS.
Purpose	To identify each entity uniquely across the whole of HKSARG to facilitate the exchange of Records among B/Ds and from B/Ds to GRS.
Applicability	Class Component Disposal Hold Event History Event Trigger Folder Group Mandate Part Record Records Classification Scheme Retention and Disposal Schedule Stub Sub-class Sub-folder User
Values	URI

Default Value	None	
Example	[For a Record created by the Drainage Services Department using its first records classification scheme:] uri://recordsmanagement.gov.hk/DSD-01-RE-72fc68f05437	
Example	For a Folder managed by an ERKS in the Legal Aid Department in its second records lassification scheme:] uri://recordsmanagement.gov.hk/LAD-02-FO-T000000175	
Example	[For a Retention and Disposal Schedule managed by an ERKS in OGCIO's first ERKS:] uri://recordsmanagement.gov.hk/OGCIO-01-RS-193238672	
Capturing Mode	System-generated	
Application Profile 1	ptional	
Application Profile 2	ptional	
Application Profile 3	Mandatory	
Application Profile 4	Mandatory	
Inheritance	None	
Occurrence	AP1: None or one; AP2: None or one; AP3: One; AP4: One	
Source	Assigned by the internal system algorithm.	
Use Conditions	The value for this element should not be changed after a value was assigned.	
Comments	B/D should comply with the specified format of the URI as set out in RKMS.	
Comments	Apart from entities, the URI is also applicable to metadata elements and encoding schemes to represent conceptual structures as specified in RKMS.	

Element name: User inactive status

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0078
XML Name	Use.Access.UserInactiveStatus
Definition	An indicator to show whether the User is an inactive User or not.
Purpose	To identify whether a User is inactive or not to prevent unauthorised access to Records, aggregations, Stubs and/or system functions.
Applicability	User
Values	Yes/No
Default Value	Yes
Example	No
Capturing Mode	Manual
Application Profile 1	Mandatory

Application Profile 2	Optional
Application Profile 3	Mandatory
Application Profile 4	Mandatory
Inheritance	None
Occurrence	AP1: One; AP2: None or one; AP3: One; AP4: One
Source	User-generated
Use Conditions	None
Comments	None

Element name: User name

uri://recordsmanagement.gov.hk/MS00-M-0079	
Use.Access.UserName	
Name and/or post title of an individual with access rights to specific aggregations, Records, Stubs and/or system functions.	
To identify a User and ensure that only Users with proper access rights are allowed to access specific aggregations, Records, Stubs and/or system functions.	
User	
String	
None	
Jenny LO	
Manual	
Mandatory	
Optional	
Mandatory	
Mandatory	
None	
AP1: One; AP2: None or one; AP3: One; AP4: One	
Controlled vocabulary supplied by the B/D	
None	
None	

Element name: Vital record status

Element ID	uri://recordsmanagement.gov.hk/MS00-M-0080	
XML Name	Use.VitalRecordStatus	
Definition	An indicator to show whether the Records are designated as vital records.	
Purpose	To support the identification and retrieval of vital records for proper protection.	
Applicability	Folder Part Record Sub-class Sub-folder	
Values	Yes/No	
Default Value	No	
Example	No	
Capturing Mode	Manual	
Application Profile 1	Mandatory	
Application Profile 2	Optional	
Application Profile 3	Mandatory	
Application Profile 4	Mandatory	
Inheritance	Value may be inherited from the parent aggregation or entered manually.	
Occurrence	AP1: One; AP2: None or one; AP3: One; AP4: One	
Source	User-generated	
Use Conditions	None	
Comments	None	

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Annex 4: Cross-reference of XML names and simple names

This annex lists cross-reference of XML name and simple name for metadata elements, encoding schemes and entities.

Metadata element

XML Name	Simple Name
Description.Classification.ClassificationCode	Classification code
Description.Classification.ClassificationPath	Classification path
Description.Creator.Name	Creator name
Description.Creator.OrganizationName	Creator organization name
Description.Description	Description
Description.Folder.Type	Folder type
Description.Keyword	Keyword
Description.Location.Current	Location - current
Description.Location.Home	Location - home
Description.Owner.Division	Owner
Description.Owner.ResponsibleOfficer	Responsible officer
Description.Reason	Reason
Description.Recipient.BlindCopy	Blind carbon copy recipient
Description.Recipient.CarbonCopy	Carbon copy recipient
Description.Recipient.Email	Recipient email
Description.Recipient.Name	Recipient name
Description.Recipient.OrganizationName	Recipient organization name
Description.Record.ContentType	Record content type
Description.Record.Form	Record form
Description.Record.Reference	Record reference
Description.Remark	Remark
Description.Sender.ElectronicSignatureIndicator	Electronic signature indicator
Description.Sender.Email	Sender email
Description.Sender.Name	Sender name

XML Name	Simple Name
Description.Stub.Type	Stub type
Description. Title	Title
EventHistory.Date.Closed	Date closed
EventHistory.Date.Created	Date created
EventHistory.Date.Disposed	Date disposed
EventHistory.Date.Opened	Date opened
EventHistory.Date.Received	Date received
EventHistory.Date.Sent	Date sent
EventHistory.DateTime.Captured	Date time captured
EventHistory.Event.AffectedElement	Affected element
EventHistory.Event.Agent	Event agent
EventHistory.Event.Date	Event date - past
EventHistory.Event.NewValue	Event - metadata new value
EventHistory.Event.PreviousValue	Event - metadata previous value
EventHistory.Event.Time	Event time - past
EventHistory.Event.Type	Event type
EventHistory.Time.Created	Time created
EventHistory.Time.Received	Time received
EventHistory.Time.Sent	Time sent
EventPlan.Event.DisposalAction	Disposal action
EventPlan.Event.DisposalDate	Disposal date - future
EventPlan.Event.RetentionPeriod	Retention period
EventPlan.Event.TriggerInternal	Event trigger - internal
Identity.CaseID	Case identifier
Identity.GRSBoxID	GRS box number
Identity.GRSBoxItemNumber	GRS box item number
Identity.GRSDepositID	GRS deposit identifier
Identity.Part.Barcode	Part barcode
Identity.Part.Number	Part number

XML Name	Simple Name
Identity.Record.Number	Record number
Identity.SystemID	System identifier
Identity.URI	Uniform resource identifier (URI)
Relation.Entity	Relation - entity
Relation.Folder.PreERKSFolder	Relation - pre-ERKS folder
Relation.GRSDisposalScheduleID	Relation - GRS disposal schedule identifier
Relation.HasAttachment	Relation - has attachment
Relation.HasEnclosure	Relation - has enclosure
Relation.HasFormat	Relation - has format
Relation.HasLanguage	Relation - has language
Relation.HasVersion	Relation - has version
Relation.IsAttachmentOf	Relation - is attachment of
Relation.IsEnclosureOf	Relation - is enclosure of
Relation.IsFormatOf	Relation - is format of
Relation.IsLanguageOf	Relation - is language of
Relation.IsVersionOf	Relation - is version of
Use.Access.Classification	Security classification
Use.Access.ClassificationType	Security classification type
Use.Access.Clearance	Security clearance
Use.Access.GroupName	Group name
Use.Access.PublicAccessReviewIndicator	Public access review indicator
Use.Access.UserInactiveStatus	User inactive status
Use.Access.UserName	User name
Use.TechnicalEnvironment.EncryptionIndicator	Encryption indicator
Use.TechnicalEnvironment.FileFormat	File format
Use.TechnicalEnvironment.Medium	Medium
Use.VitalRecordStatus	Vital record status

Encoding scheme

XML Name	Simple Name	
Encoding.Description.FolderType	Folder type encoding scheme	
Encoding.Description.GovernmentBD	Government B/D encoding scheme	
Encoding.Description.RecordContentType	Record content type encoding scheme	
Encoding.Description.RecordForm	Record form encoding scheme	
Encoding.Description.StubType	Stub type encoding scheme	
Encoding.Event.Date	Event date encoding scheme	
Encoding.Event.DateTime	Event date time encoding scheme	
Encoding.Event.Period	Retention period encoding scheme	
Encoding.Event.Time	Event time encoding scheme	
Encoding.EventHistory.EventType	Event type encoding scheme	
Encoding.EventPlan.DisposalAction	Disposal action encoding scheme	
Encoding.EventPlan.TriggerInternal	Trigger - internal encoding scheme	
Encoding.Use.Access.Classification	Security classification encoding scheme	
Encoding.Use.Access.ClassificationType	Security classification type encoding scheme	
Encoding.Use.Access.Clearance	Security clearance encoding scheme	
Encoding.Use.TechnicalEnvironment.FileFormat	File format encoding scheme	
Encoding.Use.TechnicalEnvironment.Medium	Medium encoding scheme	

<u>Entity</u>

XML Name	Simple Name
Class.CT	Class
Component.CT	Component
DisposalHold.CT	Disposal Hold
EventHistory.CT	Event History
EventTrigger.CT	Event Trigger
Folder.CT	Folder
Group.CT	Group
Mandate.CT	Mandate
Part.CT	Part
Record.CT	Record
RecordsClassificationScheme.CT	Records Classification Scheme
RetentionAndDisposalSchedule.CT	Retention and Disposal Schedule
Stub.CT	Stub
SubClass.CT	Sub-class
SubFolder.CT	Sub-folder
User.CT	User

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Annex 5: Encoding schemes

This annex describes all the encoding schemes used in RKMS, using the template described in Table 7. They are shown according to the alphabetical order of their simple name.

Encoding Scheme title: Disposal action encoding scheme

Encoding ID	uri://recordsmanagement.gov.hk/MS00-E-0001
XML Name	Encoding.EventPlan.DisposalAction
Definition	Encoding scheme to provide values for disposal actions.
Owner	HKSARG GRS
Format	String
Applicability	Disposal action
Values	"Conversion, then destruction" "Conversion, then permanent retention in agency" "Conversion, then review by agency" "Conversion, then review by PRO of GRS" "Conversion, then review by agency and PRO of GRS" "Conversion, then transfer to PRO of GRS" "Destruction" "Permanent retention in agency" "Review by agency" "Review by PRO of GRS" "Review by PRO of GRS" "Review by agency and PRO of GRS"
Example	Review by PRO of GRS
Comments	None

Encoding Scheme title: Event date encoding scheme

Encoding ID	uri://recordsmanagement.gov.hk/MS00-E-0002
XML Name	Encoding.Event.Date
Definition	Encoding scheme to provide a format for representation of the date of an event.
Owner	International Organization for Standardization
Format	YYYY-MM-DD in accordance with ISO 8601
Applicability	Date closed Date created Date disposed Date opened

	Date received Date sent Disposal date - future Event date - past
Values	None
Example	2011-05-22
Comments	To be used when the date does not require the inclusion of hours and minutes, or when the time is unknown; otherwise use the Event Date Time Encoding Scheme.

Encoding Scheme title: Event date time encoding scheme

Encoding ID	uri://recordsmanagement.gov.hk/MS00-E-0003
XML Name	Encoding.Event.DateTime
Definition	Encoding scheme to provide a format for representation of the date and time of an event.
Owner	International Organization for Standardization
Format	YYYY-MM-DDThh:mm:ss in accordance with ISO 8601
Applicability	Date time captured
Values	None
Example	2011-05-22T10:33:30
Comments	To be used when the date requires the inclusion of hours, minutes and seconds; otherwise use the Event Date Encoding Scheme
Comments	B/Ds who consider that the inclusion of a positive or negative offset from Coordinated Universal Time (UTC) would be useful may add this using the ISO 8601 formulation '±hh:mm' following the time.

Encoding Scheme title: Event time encoding scheme

Encoding ID	uri://recordsmanagement.gov.hk/MS00-E-0004
XML Name	Encoding.Event.Time
Definition	Encoding scheme to provide a format for representation of time of an event.
Owner	International Organization for Standardization
Format	hh:mm:ss in accordance with ISO 8601
Applicability	Event time - past Time created Time received Time sent

Values	None
Example	10:33:30
Comments	If the date and time of an event are known, the Event Date Time Encoding Scheme should be used.
Comments	There are cases in which the time of an event may not be known, for example the time of receipt of a paper record left on an officer's desk. Therefore, there is a need to have two separate encoding schemes for date and time.
Comments	B/Ds who consider that the inclusion of a positive or negative offset from Coordinated Universal Time (UTC) would be useful may add this using the ISO 8601 formulation '±hh:mm' following the time.

Encoding Scheme title: Event type encoding scheme

Encoding ID	uri://recordsmanagement.gov.hk/MS00-E-0005
XML Name	Encoding.EventHistory.EventType
Definition	Encoding scheme to provide values for the type of event that has taken place.
Owner	HKSARG GRS
Format	String
Applicability	Event type
Values	"Access rights changed" "Accessed" "Accessed" "Accessed" "Captured" "Captured" "Charged in" "Charged out" "Charged out" "Closed" "Closed" "Configuration changed" "Created" "Created" "Created" "Destroyed" "Disposal Hold applied" "Disposal Hold applied" "Export failed" "Export failed" "Export failed" "Group membership changed" "Inoport concluded" "Location changed" "Non-electronic Record destroyed" "Opened" "Other auditable event" "Cherged" "Recened" "Recened"" "Recened" "Recened"" "Recened"" "Recened"" "Recened"" "Recened

	"Retention and disposal schedule removed" "Reviewed for disposal" "Security Classification changed" "Transfer concluded" "Transfer failed" "Transfer initiated" "User status changed" "Vital record status changed"
Example	Disposal hold applied
Comments	This is a constrained set, intended to be close to the minimum likely set of event type found in commercial ERKSs. When creating an Event History entity, it will be necessary to map the event types recognised by the ERKS(s) involved to the above. The value "other auditable event" is intended for situations where there is a need to record an event that is not related to metadata; a possible example of this could be taking an ERKS out of service for scheduled maintenance.

Encoding Scheme title: File format encoding scheme

Encoding ID	uri://recordsmanagement.gov.hk/MS00-E-0006
XML Name	Encoding.Use.TechnicalEnvironment.FileFormat
Definition	Encoding scheme to provide values for the file format of a component.
Owner	The National Archives of the United Kingdom
Format	String
Applicability	File format
Values	"[For values, refer to PRONOM]"
Example	[For Microsoft Word for Windows Document v1.0:] fmt/37
Example	[For Microsoft Word for Windows Document v2.0:] fmt/38
Example	[For Microsoft Word for Windows Document v6.0/95:] fmt/39
Example	[For Microsoft Word for Windows Document v97-2003:] fmt/40
Example	[For Microsoft Excel 2.1 Worksheet (xls) v2:] fmt/55
Example	[For Microsoft Excel for Windows 2007 (xlsx):] fmt/214
Example	[For Microsoft Excel 2000-2003 Workbook (xls) v8X:] fmt/62
Example	[For Microsoft Excel 3.0 Worksheet (xls) v3:] fmt/56
Example	[For Microsoft Excel 4.0 Worksheet (xls) v4W:] fmt/58
Example	[For Microsoft Excel 4.0 Worksheet (xls) v4S:] fmt/57
Example	[For Microsoft Excel 5.0 Workbook (xls) v5:] fmt/59
Example	[For Microsoft Excel 95 Workbook (xls) v7:] fmt/60

Example	[For Microsoft Excel 97 Workbook (xls) v8:] fmt/61
Example	[For Microsoft Powerpoint for Windows 2007:] fmt/215
Example	[For Microsoft Powerpoint Presentation v4.0:] x-fmt/88
Example	[For Microsoft Powerpoint Presentation v95:] fmt/125
Example	[For Microsoft Powerpoint Presentation v97-2002:] fmt/126
Example	[For Microsoft Powerpoint Show:] x-fmt/87
Example	[For Digital Negative Format (DNG) v1.1:] fmt/152
Example	[For GeoTIFF:] fmt/155
Example	[For Tagged Image File Format v3:] fmt/7
Example	[For Tagged Image File Format v4:] fmt/8
Example	[For Tagged Image File Format for Electronic Still Picture Imaging (TIFF/EP):] fmt/154
Example	[For Tagged Image File Format for Image Technology (TIFF/IT):] fmt/153
Example	[For Tagged Image File Format for Internet Fax (TIFF-FX):] fmt/156
Example	[For Tagged Image File Format v5:] fmt/9
Example	[For Tagged Image File Format v6:] fmt/10
Example	[For Raw JPEG Stream:] fmt/41
Example	[For JPEG File Interchange Format v1.00:] fmt/42
Example	[For JPEG File Interchange Format v1.01:] fmt/43
Example	[For JPEG File Interchange Format v1.02:] fmt/44
Comments	PRONOM is a registry of technical information about file formats and software, and is available from The National Archives of the United Kingdom (http://www.nationalarchives.gov.uk). An online copy of PRONOM is available at http://www.nationalarchives.gov.uk/pronom.
Comments	The value can only be provided completely and accurately by a program that analyses the component, such as Digital Record Object Identification (DROID), a file profiling tool developed by the National Archives of the United Kingdom. DROID is available for free download at http://www.nationalarchives.gov.uk/information-management/manage-information/preserving-digital-records/droid/.

Encoding Scheme title: Folder type encoding scheme

Encoding ID	uri://recordsmanagement.gov.hk/MS00-E-0007
XML Name	Encoding.Description.FolderType
Definition	Encoding scheme to provide values for types of folder.
Owner	HKSARG GRS

Format	String
Applicability	Folder type
Values	"Electronic [contains only electronic records]" "Physical [contains only non-electronic records]" "Hybrid [contains both electronic and non-electronic records]"
Example	Electronic
Comments	None

Encoding Scheme title: Government B/D encoding scheme

Encoding ID	uri://recordsmanagement.gov.hk/MS00-E-0008
XML Name	Encoding.Description.GovernmentBD
Definition	Encoding scheme to provide values for codes representing B/Ds in HKSARG.
Owner	HKSARG OGCIO
Format	String
Applicability	
Values	"ADMWING" "AFCD" "AMS" "ARCHSD" "AUD" "AW" "BD" "BO" "CAB" "CAB" "CAD" "CAS" "CED" "CEDB" "CEDB" "CEDB" "CEDB" "CENSTATD" "CEOD" "CENSTATD" "CEOT" "CENSTATD" "CEO" "CENSTATD" "CENSTATD" "CEO" "CENSTATD" "CEO" "CENSTATD

"DSD"
"EABFU"
"EDB"
"EDLB"
"EMB"
"EMSD"
"ENB"
"EPD"
"ETWB"
"EU"
"FEHD"
"FHB"
"FSD"
"FSO"
"FSPO"
"FSTB"
"GFS"
"GLD"
"GOVTLAB"
"GPA"
"GRS"
"HAB"
"HAD" "HKCAAVQ"
"HKECIC"
"HKECC"
"HKGCCU"
"HKGDCCU"
"HKMA"
"HKO"
"HKPF"
"НКРО"
"HOSPITAL"
"HOUSING"
"HPLB"
"HWFB"
"HYD"
"ICAC"
"IMMD"
"INVESTHK"
"IPCC"
"IPD" "IRD"
"ISD"
"ITB"
"ITC" "ITSD"
"JSSCS"
"JUD"
"LAD"
"LANDSD"
"LASC"
"LCSD"
"LD"
"LEGCO"
"LR"
"LWB"
"MD"
"MPFANGOA"
"OCI"
"OFCA"
1

	"OFNAA"
	"OFTA"
	"OGCIO"
	"OLA"
	"OMB"
	"ORO"
	"PCO" "PLAND"
	"PO"
	"PSC"
	"REO"
	"RTHK"
	"RVD"
	"SB"
	"SCIOCS"
	"SCSD"
	"SDU" "SFC"
	"SWD"
	"TD"
	"TDD"
	"TELA"
	"THB"
	"TID" "TRY"
	"UGC"
	"VTC"
	"WFSFAA"
	"WSD"
Example	OGCIO
Comments	This encoding scheme is recommended for use when the value for the metadata elements 'Creator organization name' [Description.Creator.OrganizationName] and 'Recipient organization name' [Description.Recipient.OrganizationName] are Government B/Ds.
Comments	Where the organization is not an HKSARG Department, the value will be 'String'.
Comments	This encoding scheme adopts the code values from the code list 'HKSARG Department Code' which is maintained by OGCIO and available at the Registry of Data Standards (http://www.xml.gov.hk). B/Ds should refer to the prevailing version of the code list 'HKSARG Department Code' at the Registry of Data Standards (http://www.xml.gov.hk) for the prevailing values of this encoding scheme.
Comments	As at September 2016, the code list 'HKSARG Department Code' (version 1.7 updated on 3 August 2016) consists of 105 active codes and 16 reserved codes. All the active codes and reserved codes are included in this encoding scheme. B/Ds should refer to the Registry of Data Standards (http://www.xml.gov.hk) for details.

Encoding Scheme title: Medium encoding scheme

Encoding ID	uri://recordsmanagement.gov.hk/MS00-E-0009
XML Name	Encoding.Use.TechnicalEnvironment.Medium
Definition	Encoding scheme to provide values for the medium of non-electronic Records.

Owner	HKSARG GRS
Format	String
Applicability	Medium
Values	"Paper" "Disk" "Tape" "Microform" "Photographic Material [various forms of moving images (for example a movie) and still images (for example a photograph or slide)]" "Other"
Example	Paper
Comments	None

Encoding Scheme title: Record content type encoding scheme

1	
Encoding ID	uri://recordsmanagement.gov.hk/MS00-E-0010
XML Name	Encoding.Description.RecordContentType
Definition	Encoding scheme to provide values to show the nature of the Record's content.
Owner	HKSARG GRS
Format	String
Applicability	Record content type
Values	"Agenda / Minutes of meeting" "Circular / Circular memorandum" "Contract / Tender" "Correspondence [includes email, e-Memo, letter and memorandum]" "File note / Minute" "Invoice / Voucher / Purchase order" "Map / Drawing / Plan" "Paper / Report" "Press release / Newsletter / Bulletin" "Other"
Example	Correspondence
Comments	None

Encoding Scheme title: Record form encoding scheme

Encoding ID	uri://recordsmanagement.gov.hk/MS00-E-0011
XML Name	Encoding.Description.RecordForm
Definition	Encoding scheme to provide values for Record form.

Owner	HKSARG GRS
Format	String
Applicability	Record form
Values	"Electronic" "Non-electronic"
Example	Electronic
Comments	None

Encoding Scheme title: Retention period encoding scheme

Encoding ID	uri://recordsmanagement.gov.hk/MS00-E-0012
XML Name	Encoding.Event.Period
Definition	Encoding scheme to show duration of time.
Owner	International Organization for Standardization
Format	PnYnMnD where P=Period, Y=Years, M=Months, D=Days, and n=a two-digit number, in accordance with ISO 8601. Not all period types must be used in one statement, so for example a period of 8 months can be P08M.
Applicability	Retention period
Values	None
Example	P06Y for a period of 6 years.
Comments	None

Encoding Scheme title: Security classification encoding scheme

Encoding ID	uri://recordsmanagement.gov.hk/MS00-E-0013
XML Name	Encoding.Use.Access.Classification
Definition	Encoding scheme to provide values for the security classification of an aggregation, Stub or Record.
Owner	HKSARG
Format	String
Applicability	Security classification
Values	"UNCLASSIFIED" "RESTRICTED" "CONFIDENTIAL" "SECRET"

	"TOP SECRET"
Example	CONFIDENTIAL
	Must be further refined by the 'Security classification type' [Use.Access.ClassificationType] when the suffixed forms of 'RESTRICTED' are in force.

Encoding Scheme title: Security classification type encoding scheme

Encoding ID	uri://recordsmanagement.gov.hk/MS00-E-0014
XML Name	Encoding.Use.Access.ClassificationType
Definition	Encoding scheme to provide values for the suffixed forms of the classification "RESTRICTED".
Owner	HKSARG
Format	String
Applicability	Security classification type
Values	"ADMIN" "APPOINTMENT" "CONTRACT" "MEDICAL" "STAFF" "TENDER"
Example	ADMIN
Comments	Must be used when the suffixed forms of 'RESTRICTED' are in force.

Encoding Scheme title: Security clearance encoding scheme

Encoding ID	uri://recordsmanagement.gov.hk/MS00-E-0015
XML Name	Encoding.Use.Access.Clearance
Definition	Encoding scheme to provide values for the levels of clearance that can be applied to a User or a Group.
Owner	HKSARG GRS
Format	String
Applicability	Security clearance
Values	"UNCLASSIFIED" "RESTRICTED" "CONFIDENTIAL" "SECRET" "TOP SECRET"
Example	CONFIDENTIAL

Comments	None

Encoding Scheme title: Stub type encoding scheme

Encoding ID	uri://recordsmanagement.gov.hk/MS00-E-0016
XML Name	Encoding.Description.StubType
Definition	Encoding scheme to provide values for the type of aggregation represented by a Stub.
Owner	HKSARG GRS
Format	String
Applicability	Stub type
Values	"Class" "Folder" "Part" "Sub-class" "Sub-folder"
Example	Folder
Comments	None

Encoding Scheme title: Trigger - internal encoding scheme

Encoding ID	uri://recordsmanagement.gov.hk/MS00-E-0017
XML Name	Encoding.EventPlan.TriggerInternal
Definition	Encoding scheme to provide values for an event that triggers the period which must elapse before a disposal action is carried out.
Owner	HKSARG GRS
Format	String
Applicability	Event trigger - internal
Values	"Action completed" "Folder closed" "Part closed" "Sub-folder closed"
Example	Folder closed
Comments	None

This annex lists definitions of the values allowed in the Event type encoding scheme.

Value	Definition
Access rights changed	A change has been made to the access rights and security clearance of a user or a group.
Accessed	(a) Access and use of an aggregation.(b) Access and use of a record, including read, print and download.
Action approved	Approval has been granted for an action to be carried out.
Captured	The capturing of a record in the ERKS includes all the processes involved in getting a record into an ERKS, namely registration, classification and addition of metadata.
Charged in	Registration of the return of a physical or hybrid part or a non-electronic record by a user.
Charged out	Registration of the borrowing of a physical or hybrid part or a non-electronic record by a user.
Closed	 (a) Closure of a class, sub-class, folder and sub-folder such that it is no longer able to accept the addition of child aggregations. (b) Closure of a part such that it is no longer able to accept the addition of records.
Configuration changed	A change has been made to administrative parameters of the ERKS, e.g. reconfiguration of audit trails.
Created	Creation of any entity other than Record and Event History.
Cross referenced	Creation of a link between two related aggregations or records.

Value	Definition
Destroyed	(a) Deletion of an aggregation or a record with their associated metadata, excluding physical aggregations and non-electronic records.
	(b) Deletion of metadata of physical aggregations or non-electronic records.
	(c) Purge of audit trail data.
Digitized	Conversion of a non-electronic record such as a paper record or a cassette tape into a digital form through various methods of digitization, e.g. scanning.
Disposal hold applied	The placing of a disposal hold on an aggregation.
Disposal hold lifted	The removal of a disposal hold on an aggregation.
Export concluded	Completion of export of some aggregation(s) and/or record(s) with the associated metadata and audit trails (if necessary).
	<i>Note: If required, instance(s) of other entities, e.g. retention and disposal schedules are exported together with aggregation(s) and record(s).</i>
Export failed	Failure of export of some aggregation(s) and/or record(s).
	<i>Note: If required, instance(s) of other entities, e.g. retention and disposal schedules are exported together with aggregation(s) and record(s).</i>
Export initiated	Commencement of export of some aggregation(s) and/or record(s) with the associated metadata and audit trails (if necessary).
	<i>Note: If required, instance(s) of other entities, e.g. retention and disposal schedules are exported together with aggregation(s) and record(s).</i>
Group membership changed	A change (including add or remove a member) has been made to the membership of a group.

Value	Definition
Import concluded	Completion of import of some aggregation(s) and/or record(s) with the associated metadata and audit trails (if necessary).
	<i>Note: If required, instance(s) of other entities, e.g. retention and disposal schedules are imported together with aggregation(s) and record(s).</i>
Location changed	Change of current or home location of a physical or hybrid part or a non-electronic record.
Migrated	Records moved from one system environment to a newer environment. This may include any combination of -
	(a) rendering (converting to a new file format); and
	(b) copying to a new kind of storage medium, or to a new instance of the same kind of storage medium, without changing file format (the latter is sometimes referred to as refreshing).
Non-electronic record destroyed	Indication of the destruction of physical folders, sub-folders, parts and non-electronic records.
Opened	 (a) Opening of a class, sub-class, folder and sub-folder such that it can accept the addition of child aggregations. (b) Opening of a part such that it can accept addition of records.
Other auditable event	Any auditable event (as defined for the ERKS) which is not described by another entry in this encoding scheme.
Other metadata value changed	Any change to metadata value e.g. revising the title of a record after capture that is not described by another entry in this encoding scheme.

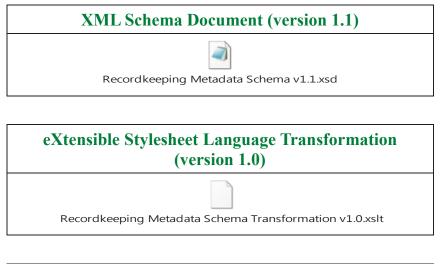
Value	Definition
Reclassified	Movement of an aggregation or a record from one position in a records classification scheme to another position in the same records classification scheme or from one records classification scheme to another records classification scheme.
Reopened	A folder or part which had previously been opened then closed (once or more than once) has been opened again.
Retention and disposal schedule applied	Application of a retention and disposal schedule to an aggregation.
Retention and disposal schedule changed	A change has been made to a retention and disposal schedule, including disposal action, retention period and/or event trigger.
Retention and disposal schedule removed	Removal of a retention and disposal schedule from an aggregation.
Reviewed for disposal	Aggregation was reviewed to determine what the disposal action should be.
Security classification changed	A change has been made to the 'Security classification' and/or 'Security classification type' of an aggregation or a record.
Transfer concluded	Completion of transfer of some aggregation(s) and/or record(s) with the associated metadata and audit trails (if necessary).
	<i>Note: If required, instance(s) of other entities, e.g. retention and disposal schedules are transferred together with aggregation(s) and record(s).</i>
Transfer failed	Failure of transfer of some aggregation(s) and/or record(s). Note: If required, instance(s) of other entities, e.g. retention and disposal schedules are transferred together with aggregation(s) and record(s).

Value	Definition
Transfer initiated	Commencement of transfer of some aggregation(s) and/or record(s) with the associated metadata and audit trails (if necessary).
	Note: If required, instance(s) of other entities, e.g. retention and disposal schedules are transferred together with aggregation(s) and record(s).
User status changed	A change has been made to the 'User inactive status' (i.e. active or inactive) of a user.
Vital record status changed	A change has been made to the 'Vital record status' of selected aggregation or record.

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Annex 7: XML schema

The XML schema is intended to be used in electronic form. A copy of the schema is provided below, as formatted by the XSLT and CSS files presented below it.





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Annex 8: Glossary of terminology

The definitions below are all specific to recordkeeping.

Term	Definition
Agent	Individual, workgroup or organisation responsible for or involved in records creation, capture and/or records management processes.
Aggregation	Any accumulation of records at a level above record. Aggregations are controlled within a records classification scheme. It means a class, sub-class, folder, sub-folder or part.
Application Profile	A subset of the metadata model that is needed for a particular purpose, such as the transfer of records between ERKSs.
Attribute	Characteristic of an object or entity.
Audit trails	Data that allows the reconstruction of a previous activity, or which enables attributes of a change (such as date/time, operator (i.e. responsible user)) to be stored so that a sequence of events can be reconstructed in their correct chronological sequence.
Authenticity	An authentic record is one that can be proven to (a) be what it purports to be; (b) have been created or sent by the agent purported to have created or sent it; and (c) have been created or sent when purported.
Capture (verb)	Capturing records is used to mean all of the processes involved in getting a record into an ERKS, namely registration, classification and addition of metadata.
Class (noun)	A class is a subdivision of the overall records classification scheme by which the electronic 'file plan' is organised. A class may be sub-divided into one or more sub-classes; and this relationship may be repeated down the hierarchy. A class does not itself contain folders and records.

Term	Definition
Close (verb)	(a) To prevent a class, sub-class, folder and sub-folder from accepting the addition of aggregations.
	(b) To prevent a part from accepting the addition of records.
Component	Distinct bit stream that, alone or with other bit streams, makes up a record. Examples include -
	(a) an HTML document and JPEG images that make up a web page; and
	(b) a word processing document and a spreadsheet, where the spreadsheet is a linked object of the word processing document.
Compound record	Set of two or more records that are related together by virtue of including enclosures or attachments, or by virtue of expressing the same or similar intellectual content in different languages and/or scripts and/or dialects or versions or file formats, e.g. an email record with one or multiple attachments.
Content	Information or ideas the record contains.
Context	Information about the circumstances in which the record is created, transmitted, maintained and used (e.g. who created it, when, to whom was it sent, why).
Controlled vocabulary	A list of constrained terms which form an encoding scheme and which are used as values for specific metadata elements.
Correspondence	Emails, e-Memos, letters and other records which are sent or received.
Cross-reference	An entry directing attention to one or more related record(s) and/or aggregation(s).
Destruction	Process of eliminating records, beyond any possible reconstruction.

Term	Definition
Digitisation	Process of converting a non-electronic record e.g. a paper record, a photograph and an audio recording into an electronic representation.
	Examples of digitisation include scanning or imaging, taking digital photographs of the original records, or converting analogue voice recordings to digital media.
Digitised record	A record which is converted from a paper document, a microfilmed document or other records, e.g. a cassette tape into a digital form.
Disposal	Range of processes associated with implementing records retention, destruction or transfer decisions which are documented in disposition authorities or other instruments.
Disposal hold	A rule that prevents the execution of disposal actions of records including destruction or transfer of records.
Electronic	For the purposes of RKMS, the word 'electronic' is used to mean the same as 'digital'.
Electronic Recordkeeping System (ERKS)	An information/computer system with the necessary records management capabilities designed to electronically collect, organise, classify and control the creation, storage, retrieval, distribution, maintenance and use, disposal and preservation of records.
Encoding scheme	A set of constrained values for a metadata element; or definition of the syntax of the values for a metadata element.
Entity	Any concrete or abstract thing that exists, did exist, or might exist, including associations among these things. Examples: A person, object, event, idea, process, etc.

Term	Definition
Event	Anything that happens to an entity (for example, creating, changing or deleting an entity). Events result in a record of the occurrence (called an event history object) and may result in a change to a metadata value.
Event history object	Event history objects record the metadata which describes an event, showing when it happened, what the result was, who did it, and which entities were involved.
Export (noun)	A disposal process, whereby copies of records (or groups of records) are passed with their metadata from one system to another system. Export does not involve removing records from the first system. <i>Note: The records remain in the ERKS after export,</i> <i>unlike transfer. For non-electronic records of which the</i> <i>contents are stored outside the ERKS, the system can only</i> <i>export their metadata and audit trails to another system.</i>
Export (verb)	Export their metadata and addit traits to another system.To produce a copy of records (or copies of groups of records), along with their metadata, for another system.Note:The records remain in the ERKS after export, unlike transfer. For non-electronic records of which the contents are stored outside the ERKS, the system can only export their metadata and audit trails to another system.
eXtensible Markup Language (XML)	XML is a formal recommendation from the World Wide Web Consortium. It is a flexible way to create common information formats and share both the format and the data on the World Wide Web, intranets, and elsewhere.
File	 (a) A discrete set of electronic data which can be accessed as a single unit (even when made up of component parts); for example, 'a CSS file' and 'component file format'.
	(b) An organised unit of records grouped together because they relate to the same subject, activity or transaction; for example 'case file'. This usage is synonymous with 'Folder', but is used as little as possible in RKMS so as to avoid confusion.

Term	Definition	
Folder	An organised unit of records grouped together because they relate to the same subject, activity or transaction.	
	Notes:	
	(a) This is the records management usage of the term 'file'. It differs from the IT usage, for which the term 'component' is used. Where this term is used in isolation in the context of RKMS, it refers to electronic folders, hybrid folders and physical folders unless specified otherwise.	
	(b) Records are not directly stored in a folder in an ERKS. They are stored in a part of a folder.	
	(c) <i>Where B/Ds</i> choose to implement sub-folders in an <i>ERKS</i> , records should be stored in a part of a sub-folder.	
Group (noun)	A set of users.	
	Note: A group may include users with the same, or different, roles. A group is sometimes used to define users' affiliation to an organisational unit such as a department (in which case it typically will include several roles); it is sometimes used to define membership of a virtual team that crosses organisational boundaries, such as all Procurement Officers (in which case it may consist of only users with a specified role); or it may be used in other ways.	
Hybrid	Used in RKMS to describe folders, sub-folders and parts which contain, or which may contain, a combination of electronic and non-electronic records.	
Import (noun)	The process of capturing a set of electronic records, usually from another application and usually with some or all of their metadata.	

Term	Definition
Inheritance	To take on a metadata attribute from a 'parent' entity, either by inheritance on creation where the subordinate (or 'child') object takes the value of that attribute when it is created; or by retrospective inheritance where either the attribute of the 'parent' object is changed or the 'parent' object is altered (e.g. by moving a folder in the file plan so that it has a new 'parent' object).
Integrity	A record that has integrity is one that is complete and unaltered.
Mandate	Law, regulation or policy that justifies a retention and disposal schedule
Metadata	Literally defined as 'data about data'. In records management context, they are data describing the context, content and structure of records and their management through time. Metadata will accrue during the life cycle of records.
	Metadata is used to mean two concepts -
	 (a) A data structure, or 'container' for information. Examples of this for records are 'title' and 'date created'. The common term for this is 'metadata element'.
	 (b) Specific values (i.e. metadata values) of information that apply to a record or other entity. Examples of this for records, to match the above examples, are 'Arrangements for initiating the ABC project' and '2011-04-30'.

Term	Definition	
Migration	Moving records from one system environment to a newer environment. This may include any combination of -	
	(a) rendering (converting to a new file format); and	
	(b) copying to a new kind of storage medium, or to a new instance of the same kind of storage medium, without changing file format (the latter is sometimes referred to as refreshing).	
Open (verb)	(a) To allow a class, sub-class, folder and sub-folder to accept the addition of aggregations.	
	(b) To allow a part to accept the addition of records.	
Part (i.e. volume)	A subdivision of a folder or sub-folder. Records are stored in a part.	
	Note: The subdivisions are created to improve manageability of the folder and sub-folder contents by creating units which are not too large to manage successfully. The subdivisions are mechanical (for instance, based on number of records or ranges of numbers or time spans) rather than intellectual.	
Record (noun)	A record refers to a government record which is any recorded information in any physical format or media created or received by a B/D during its course of official business and kept as evidence of policies, decisions, procedures, functions, activities and transactions. <i>Note: A key feature of a record is that its contents cannot</i>	
	be changed.	
Recordkeeping	Field of management responsible for the efficient and systematic control of the creation, receipt, maintenance, use and disposal of records, including processes for capturing and maintaining evidence of and information about business activities and transactions in the form of records.	

Term	Definition
Records classification	A systematic identification and arrangement of records into categories according to logically structured conventions, methods, and procedural rules represented in a classification system.
Records classification scheme	Also known as file plan. A records classification scheme is a plan or list in which records of an organisation are categorised according to its business functions and/or contents of the records and a coding system expressed in symbols (i.e. alphabetical, numerical, alpha-numerical, or decimal, etc.) that correspond to aggregations of records and are affixed to the records so categorised.
Records management	Records management includes planning, directing, organising, controlling, reviewing, training, and other managerial activities involved with respect to the creation, classification and indexing, distribution, handling, use, tracking, storage, retrieval, protection and disposal of records to achieve adequate and proper documentation of government policies, decision and transactions as well as efficient and effective operation of government agencies.
Reliability	A reliable record is one (a) whose contents can be trusted as a full and accurate representation of the transactions, activities or facts to which they attest; and (b) which can be depended upon in the course of subsequent transactions or activities.
Rendition	A manifestation of a record or component in or using one of more file format(s) different from the record's native file format(s).

Term	Definition	
Retention and disposal schedule	A systematic listing or description of an organisation's records which indicates the arrangements to be made for their custody, retention, and final disposition.	
	Note: Retention and disposal schedules of programme records of government agencies should be drawn up with the concurrence of the Government Records Service Director. For the retention and disposal schedules of administrative records, please refer to GRS' Records Management Publication No.4 – General Administrative Records Disposal Schedules.	
Schema	Framework that specifies and describes a standard set of metadata elements and their interrelationships.	
Structure	Physical and/or logical format of the record, and the way parts of the record relate to each other (e.g. the structure of an email record covers its header, body, attachments and corresponding reply).	
Stub	Subset of the metadata for an aggregation that is retained after the aggregation has been disposed of, to act as evidence that the item used to be held and has been properly disposed of.	
Sub-class	A sub-division of a class. A sub-class may contain one or more lower level sub-classes (depending on the total number of levels permissible), or folders, but not both.	
Sub-folder	An optional sub-division of folders. It is used primarily to classify records of a case nature into more refined groups of records based on the intellectual contents of the records for easy retrieval.	
Subject entity	The instance of the entity to which the metadata element being described applies.	

Term	Definition
Transfer (noun)	A disposal process, consisting of a confirmed export of aggregations, records and associated metadata, followed by their destruction within the exporting ERKS.
	Note: Records may be transferred from B/D to another B/D following administrative or organisational changes, from B/D to the Government Records Service, from one B/D to a non-government body, etc. For non-electronic records of which their contents are stored outside the exporting ERKS, the ERKS can only transfer their metadata and audit trails.
Transfer (verb)	To move aggregations and records, along with their metadata, to another system or another organisation(s).
Trigger	The event which allows calculation of when the specified action is due for implementation.
Usability	A usable record is one that can be located, retrieved, presented and interpreted within a time period deemed reasonable by stakeholders.
User	An individual who uses an ERKS.
Virtual record	A record that can consist entirely of links or logical relationships identifying multiple discrete objects which, when considered as a whole, constitute a record.
	Note: In RKMS, a virtual record is used only to act as a 'parent' record for other records forming a compound record.
Vital record	A record containing information essential to the continued and effective operation of a B/D during and after an emergency or a disaster.

	Annex 9:	Abbreviations and	l acronyms
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AP	Application Profile
B/D	Bureau and Department
CSS	Cascading Style Sheet
DROID	Digital Record Object Identification
EIM	Electronic Information Management
ERKS	Electronic Recordkeeping System
FR	Functional Requirements of an Electronic Recordkeeping System
GRS	Government Records Service
HKSARG	The Government of the Hong Kong Special Administrative Region
IT	Information Technology
ISO	International Organization for Standardization
MoReq	Model Requirements for the Management of Electronic Records
MoReq2	Model Requirements for the Management of Electronic Records – Update and Extension 2008
MoReq2010	Modular Requirements for Records Systems
OGCIO	Office of the Government Chief Information Officer
PRO	Public Records Office of the Government Records Service
RFC	Request for Comment (used to refer to de facto internet standards)
RKMS	Recordkeeping Metadata Standard for the Government of the Hong Kong Special Administrative Region
UDFR	Unified Digital Format Registry
URI	Uniform Resource Identifier
UTF-8	8-bit Unicode Transformation Format
W3C	World Wide Web Consortium
XML	eXtensible Markup Language
XSD	XML Schema Document
XSLT	eXtensible Stylesheet Language Transformation

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Annex 10: References

In developing RKMS, extensive reference has been made to the following international standards and best practices related to records management and metadata, and Government regulations and guidelines. For reference documents which are influential to the design of RKMS, we have reviewed their latest versions in the course of updating the current version of RKMS. The updated reference documents are cited below.

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