

September, 2001

COMPARISON OF INDIANA UNIVERSITY RECORDKEEPING METADATA SPECIFICATIONS (IU RMS) TO THE RECORDKEEPING METADATA STANDARD OF THE NATIONAL ARCHIVES OF AUSTRALIA (RKMS)

By Jaana Kilkki, Director, The Military Archives of Finland – Recipient of a Fulbright Program for senior scholars to work with staff involved in the IU Electronic Records Project

General comments:

There are very few differences in the substance or content of the two metadata sets. The differences are mainly derived from the more consistent structure and the additional detail provided by RKMS. RKMS captures more content information than IU RMS, but the most significant difference is the amount of information on records management mandates, actions and history captured by the two sets. IU RMS documents only disposal authorization and actions taken, whereas RKMS allows for documentation of all and any records management actions (audit, custody transfer, declassification, publishing etc.) RKMS metadata elements that are not included in IU RMS are listed in Appendix I.

There are also differences in the way metadata elements are categorized in the two sets. In IU RMS information on disposal and preservation of records is identified separately and grouped together as two individual categories Disposal Metadata and Preservation History Documentation. In RKMS this metadata is viewed as an activity common to many records management actions, and consequently, it is embedded into Terms and Conditions, Structural, Contextual and History of Use Layers. Detailed comparison of the grouping of metadata elements in the two sets is in Appendix II.

Some of the differences in metadata categories and elements may result from the different objectives of the projects. The design of RKMS is based on a consistent theoretical analysis of a recordkeeping environment. As a theoretical construct, the model is designed to identify all possible metadata elements required to support a recordkeeping system maintaining complete, reliable and authentic records.

IU RMS, on the other hand, is far less concerned with developing a theoretical model of metadata elements than it is with defining mandatory requirements that are judged to be both important and capable of being implemented within their specific environment. The goal of the IU specifications therefore is not to compile an exhaustive listing of all metadata elements, but rather to create a more focused and refined list of specifications derived from a dialogue with a variety of record creators and information managers on what is needed and what is possible.

**RECORDKEEPING METADATA SPECIFICATIONS: AT THE INDIVIDUAL
RECORD LEVEL
ALL METADATA INCLUDED IN THIS LIST IS MANDATORY
DRAFT - July 6, 2001**

****IDENTIFICATION METADATA**

--Record Identifier

Definition: A unique identifier for the record

Purpose: To uniquely identify the record and to act as an access point to other data about the record.

RKMS element 14. Record Identifier (Registration Layer)

Definition: a unique identifier for the record(s).

Mandatory; applicable at all levels of aggregation; repeatable.

--Record Date

Definition: The date when the record was entered into the recordkeeping system.

Purpose: To provide system validation of the act of officially "registering" the record, and to provide evidence of the record's authenticity.

RKMS element 10. Date (Registration Layer), sub-element 10.3 **Date/Time Registered**

Definition: the date and time at which the record is captured into the recordkeeping system.

Mandatory; applicable at all levels of aggregation; not repeatable

****CONTEXT METADATA**

--Agent - Originator

Definition: A corporate entity, organizational unit, or an individual responsible for performing some action on a record.

Purpose: To ensure accountability and facilitate access to the record.

RKMS element 1. Agent (Contextual Layer)

Definition: a corporate entity, organizational unit, or an individual responsible for performing some action on or usage of a record.

Sub-elements: agent type, jurisdiction, corporate ID, corporate name, person ID, personal name, section name, position name, contact details, email, digital signature.

Mandatory (sub-elements agent type and corporate name, others are optional); applicable at all levels of aggregation; repeatable (except for IDs)

--Date - Transmission of Record

Definition: If the record is transmitted, the dates and times when the originator sent the record.

Purpose: To provide evidence of the act of transmitting the record.

RKMS element 10. Date (Registration Layer), sub-element 10.1 **Date/Time Created**

Definition: the date and time at which a record is sent or received by a corporate entity, such as an agency, in the course of its business.

Mandatory; applicable at all levels of aggregation; not repeatable.

--Agent - Receiver

Definition: If the record is transmitted, the individual(s), unit(s), or system(s) to whom the record is addressed and/or who receives the record.

Purpose: To ensure accountability and facilitate access to the record.

No equivalent in RKMS.

Comment: RKMS metadata element 1. Agent is defined as somebody responsible for some action on or usage of a record. But when you look at the sub-elements and the purpose and rationale given to this metadata element, it appears to apply only to the records creator or an agent that has custody of the records, not to the agent receiving its records.

--Date - Receipt of Record

Definition: If the record is transmitted, the dates and times when the fundamental recordkeeping action of receiving the record occurs.

Purpose: To provide evidence of the act of receiving the record.

RKMS element 10. Date (Registration Layer), sub-element 10.1 **Date/Time Created**

Definition: the date and time at which a record is sent or received by a corporate entity, such as an agency, in the course of its business.

Mandatory; applicable at all levels of aggregation; not repeatable.

--Record Category

Definition: The business transaction that directly generated this record.

Purpose: To document the specific business context that produced the record, and to provide an access point for other records documenting this business process.

RKMS element 9. Function (Contextual Layer), sub-element 9.3 **Third Level Descriptor**

Purpose: to provide specific information about the transaction documented by the content of the record to enable discovery of records which document individual actions or transactions.

Optional; applicable at all levels of aggregation; repeatable.

Comment: I am not sure if the function or role of these metadata elements is really identical. In RKMS function is part of contextual information, but it is defined as content information. Is a transaction that generates a record (always) the same as a transaction documented by the content of a record?

--Record Relationships - Related Record(s)

Definition: Identifies other records created by the same business process.

Purpose: To provide contextual information for a record by documenting its relationship with other related records documenting a business process.

RKMS element 7. Relation (Contextual Layer)

Definition: a link between one record item and another, or between various aggregations of records, or between a record and another information resources.

Sub-elements: related item ID, relation type and relation description.

The element as a whole is Optional, but if used, sub-elements related item ID and relation type are defined Mandatory; applicable at all levels of aggregation; repeatable.

RKMS element 9. Function

Definition: business functions and activities which are documented by the record.

Purpose: to document the relationship between records and the functions/activities they represent.

Optional; applicable at all levels of aggregation; repeatable.

Comment: RKMS doesn't have one single metadata element for identifying records that are created by the same business process. Furthermore, the assigned values of this element don't include value that would refer to a relation based on the function that created the records. But I believe that records created by the same business process could be identified by both or either of these RKMS elements.

--Record Relationships - Functions and Sub-Functions

Definition: Identifies the business functions and sub-functions documented by the record.

Purpose: To provide contextual information for a record by documenting its relationship with the function and sub-function it documents.

RKMS element 9. Function

sub-element 9.1 **Function Descriptor**

Definition: the particular business function(s) documented by the record.

Purpose: to enable discovery of records related to a specific government business function.

Sub-element 9.2 **Activity Descriptor**

Definition: the particular business activity or activities documented by the record.

Purpose: to enable discovery of records related to a specific government function/activity combinations.

The element as a whole is Optional, if used, sub-elements function descriptor and activity descriptor are defined Mandatory; applicable at all levels of aggregation; repeatable.

****CONTENT METADATA**

--Title

Definition: The name given to the record that is representative of its contents or function.

Purpose: To describe the functions and subjects documented in the record, and to assist in identifying the record.

RKMS element 3. Title (Content Layer)

Definition: the name given to the record.

Sub-elements: scheme type, scheme name, title words and alternative.

Mandatory (sub-element alternative defined Optional); applicable at item and file levels; not repeatable.

--Date of Record Creation

Definition: The date when the record was created.

Purpose: To provide evidence for the act of creation.

RKMS element 10. Date (Registration Layer), sub-element 10.1 **Date/Time Created**

Definition: the date and time at which a record is sent or received by a corporate entity, such as an agency, in the course of its business.

Mandatory; applicable at all levels of aggregation; not repeatable.

Comment: The time of record creation is clearly defined differently in these two schemas. In IU RMS there is a metadata element for the time of record creation and separate metadata elements for the times of transmission and receipt of record (see Context Metadata above). In RKMS the time at which a record is sent or received by a corporate entity is seen to be the time of its creation.

****TERMS AND CONDITIONS METADATA**

--Access and Use Terms and Conditions

Definition: Citations or references to laws, policies, and best practices that govern or restrict access or use of the record, and define the terms under which the record may be accessed and used.

Purpose: To advise users of record restrictions, to protect the privacy of individuals and the business interests of corporate entities, and to facilitate effective access and use of the record, and comply with any legal or policy restrictions.

RKMS element 2. Rights Management (Terms and Conditions Layer)

Definition: policies, legislation, caveats and/or classifications which govern or restrict access to or use of records.

Sub-elements: security classification, caveat, codeword, releasability indicator, access status, usage condition, encryption details.

Mandatory (sub-element security classification, all others are defined Optional); some sub-elements are applicable at all levels of aggregation, some only on item and file levels; not repeatable.

RKMS element 20. Mandate (Contextual Layer)

Definition: a source of recordkeeping requirements; a piece of legislation etc. which imposes a requirement to create, keep, dispose of, or control access to and use of a record.

Sub-elements: mandate type, refers to, mandate name, mandate reference and requirement.

The element as a whole is Optional, but if used, only sub-element mandate reference is defined Optional, all others are Mandatory; applicable at item and file levels; repeatable.

Comment: In RKMS citations or references to requirements that govern or restrict access or use of records, and the actual terms under which records may be accessed and used are separated to two different metadata elements. Furthermore, metadata element 20. Mandate is also used to cite a source of any recordkeeping requirement, not just those related to access and use.

--Access and Use History

Definition: Identifies who accessed and used the record, and when this action occurred.

Purpose: To track use and provide for a more accountable system.

RKMS element 16. Use History (Contextual Layer)

Definition: the dates and descriptions of both legal and illegal attempts to access and use a record, from the time of its registration into a recordkeeping system until its disposal.

Sub-elements: use date/time, use type and use description.

The element as a whole is Optional, if used, sub-elements use date/time and use type are Mandatory; applicable at item (and file) levels; use date/time and use type are repeatable, use description is not repeatable.

RKMS element 1. Agent (Contextual Layer)

Definition: a corporate entity, organizational unit, or an individual responsible for performing some action on or usage of a record.

Comment: In RKMS the identification of those who accessed and used records and the time of these actions are separated to two different metadata elements. Furthermore, RKMS also documents the type of the use.

****DISPOSAL METADATA**

--Record Location

Definition: The current (physical or system) location of the record.

Purpose: To track and to facilitate access to the record.

RKMS element 18. Location (Registration Layer)

Definition: the current (physical or system) location of the record.

Sub-elements: current location, home location details, home storage details and recordkeeping system ID

The element as a whole is Optional for electronic records, otherwise Mandatory, if used only sub-element RKS ID is Optional; applicable at all levels of aggregation; not repeatable.

--Disposal Authorization

Definition: Citations or references to laws, policies, and best practices that govern the disposition of the record.

Purpose: To ensure that recordkeeping requirements with regard to retention are not violated.

--Disposal Date

Definition: Identifies how long the record must be retained and the date when the record should be destroyed.

Purpose: To ensure the efficient management of the record, and to comply with laws and regulations relating to recordkeeping.

RKMS element 19. Disposal (Terms and Conditions Layer)

Definition: information about policies and conditions which pertain to or control the authorised disposal of records; information about the current disposal authorities and actions to which the record is subject.

Sub-elements: disposal authorisation, sentence (the retention period assigned to a record), disposal action due, disposal status (a general grouping which describes how long records need to be kept).

Mandatory (sub-elements disposal action due and disposal status are defined Optional); applicable at all levels of aggregation; sub-element disposal authorisation is repeatable, all others are not repeatable.

RKMS element 20. Mandate (Contextual Layer)

Definition: a source of recordkeeping requirements; a piece of legislation etc. which imposes a requirement to create, keep, dispose of, or control access to and use of a record.

Comment: Though RKMS element 19. Disposal is defined to contain information about policies and conditions which pertain to or control the authorised disposal of records, sub-element disposal authorisation applies only to legal documentation issued by the National Archives. Citations or references to other requirements must be documented by element 20. Mandate. The retention period and the date when the record should be destroyed are documented by element 19.

--Disposal Action History

Definition: Identifies when the record was destroyed and by whom.

Purpose: To ensure that recordkeeping disposition requirements are met and provide for a more accountable system.

RKMS element 15. Management History (History of Use Layer)

Definition: the dates and descriptions of all records management actions performed on a record from its registration into a recordkeeping system until its disposal.

Sub-elements: event date/time, event type and event description.

Mandatory; applicable at all levels of aggregation; sub-elements event date/time and event type are repeatable, sub-element event description is not repeatable.

RKMS element 1. Agent

Definition: a corporate entity, organizational unit, or an individual responsible for performing some action on or usage of a record.

Comment: In RKMS documentation of the time of the disposal of a record and the identification of the person responsible for this action are separated to two different metadata elements. Furthermore, in RKMS disposition of records is seen as a type of a variety of records management actions.

**RECORDKEEPING DOCUMENTATION AT THE RECORD SERIES OR
SYSTEM LEVEL**

**(Metadata not usually part of or directly linked to a record, but rather embedded in
software or system configurations or in system documentation)**

ALL METADATA INCLUDED IN THIS LIST IS MANDATORY

DRAFT - July 6, 2001

****STRUCTURAL DOCUMENTATION:**

--File Encoding Metadata - Data Format

Definition: Identifies the data encoding standards used to represent the record (e.g., ASCII, UNICODE)

Purpose: To enable retrieval and use of the record and facilitate preservation management.

RKMS element 13. Format (Structural Layer), sub-element 13.2 **Data Format**
Definition: the logical format of the data that comprises the record,
the file format of the record (e.g. ASCII).

The element as a whole is Optional, if used, sub-element data format is
Mandatory; generally applicable at item level only; not repeatable
except for compound records.

--File Encoding Metadata - Media Format

Definition: Identifies the type of data representation (e.g., text, image, audio, video) and file types.

Purpose: To enable retrieval and use of the record and facilitate preservation management.

RKMS element 13. Format, sub-element 13.1 **Media Format:** the generic
format of the information comprising the record (e.g. text, image).

The element as a whole is Optional, if used, sub-element media format is
Mandatory; generally applicable at item level only; not repeatable.

--File Encoding Metadata - Compression/Encryption

Definition: Identifies the method of compression and the algorithms used to encrypt the record.

Purpose: To enable retrieval and use of the record and facilitate preservation management.

RKMS element 2. Rights Management (Terms and Conditions Layer), sub-
element 2.7. **Encryption details:** information or pointers to information
about how a record has been encrypted.

The element as a whole is Mandatory, but sub-element encryption details
is defined Optional; generally applicable at item level only; not
repeatable.

--File Rendering Metadata - Hardware/Software Dependencies

Definition: Identifies any hardware and software the record is dependent upon that will affect how the record can be rendered.

Purpose: To enable retrieval and use of the record and facilitate preservation management.

No exact equivalent in RKMS.

Comment: RKMS comments in relation to element 13.2 Data Format: this sub-element is not intended to include detailed technical specifications of the data format; it is suggested that links be provided from the values in this sub-element to relevant technical descriptions; technical descriptions should include information about the software required to read the data format and the hardware platform required to run the software.

--File Rendering Metadata - Standards

Definition: Identifies standards applied to the record that affect how it can be rendered (e.g., SGML, TIFF).

Purpose: To enable retrieval and use of the record and facilitate preservation management.

RKMS element 13. Format, sub-element 13.2 Data Format

Definition: the logical format of the data that comprises the record, the file format of the record (e.g. HTML, JPEG).

Comment on Data Format, Media Format and Standards: though the layer they are placed in is the structural one and the elements are named almost identically in both metadata sets, it is interesting how differently the definitions are phrased! Furthermore, IU RMS sees data format and standards as different things whereas in RKMS they are the same.

****PRESERVATION HISTORY DOCUMENTATION**

--Responsibility

Definition: Identifies who (person, system, organization) is responsible for performing or authorizing preservation activities for the record.

Purpose: To provide evidence of activities for preserving the record.

RKMS element 1. Agent (Contextual Layer)

Definition: a corporate entity, organizational unit, or an individual responsible for performing some action on or usage of a record.

--Activity Date

Definition: Identifies when a preservation action was completed.

Purpose: To provide evidence of activities for preserving the record.

--Activity Type

Definition: Identifies what specific preservation activity was initiated (e.g., backed-up, imaged, medium refreshed, microfilmed, migrated).

Purpose: To provide evidence of activities for preserving the record.

RKMS element 17. Preservation History (Structural Layer)

Definition: the dates and descriptions of all actions performed on a record after its registration into a recordkeeping system which ensure that the record remains readable and accessible for as long as it has value to the agency or the department, and to the community at large.

Sub-elements: action date/time, action type, action description, next action and next action due.

The element as a whole is Optional, if used, sub-elements action date/time, action type and action description are Mandatory; some data is generally applicable at item level only, some at all levels of aggregation; sub-elements action date/time and action type are repeatable, action description, next action and next action due are not repeatable.

--Medium

Definition: Identifies the physical medium on which the record is stored (e.g., CD-R, hard disk, microfilm, videotape)

Purpose: To track how a record is stored.

RKMS element 13. Format (Structural Layer), sub-element 13.3 **Medium**

Definition: the physical carrier on which a record is stored, including, if required, the physical size and/or capacity of the carrier to hold or store information.

The element as a whole is Optional, if used, sub-element medium is Mandatory; generally applicable at item level only; not repeatable.

RKMS Elements that are not included in IU metadata specifications:

Registration Layer

10.2 *Date/Time Transacted*: the date and time at which the action or transaction documented by the record takes place (e.g. a meeting and a memo of it)

Contextual Layer

20. *Mandate*, except for access and use and disposal: a source of recordkeeping requirements; a piece of legislation etc. which imposes a requirement to create, keep, dispose of, or control access to and use of a record.

Content Layer

5. *Description*: a description, in free text or prose, of the content and/or purpose of the record.

6. *Language*: the language of the content of the record.

8. *Coverage*: the jurisdictional, spatial and/or temporal characteristics of the content of the record; purpose to allow a search to be restricted to records about certain jurisdiction, place or time.

History of Use Layer

15. *Management History*, except for disposal: the dates and descriptions of all records management actions performed on a record from its registration into a recordkeeping system until its disposal.

Structural Layer

12. *Aggregation level*: the level at which the record(s) is/are being described and controlled (assigned values: item, file, series).

13.4. *Extent*: the physical size and/or capacity of the record; purpose to provide information about the size of the record and the amount of storage space that it requires.

Appendix II

GROUPING OF METADATA ELEMENTS

RKMS	IU RMS
REGISTRATION LAYER	IDENTIFICATION METADATA
Record Identifier Date Location	Record Identifier Record Date
TERMS AND CONDITIONS LAYER	TERMS AND CONDITIONS METADATA
Rights Management Disposal	Access and Use Terms and Conditions Access and Use History
STRUCTURAL LAYER	STRUCTURAL DOCUMENTATION
Type Aggregation Level Format Preservation History	Data Format Media Format Compression/Encryption Hardware/Software Dependencies Standards
CONTEXTUAL LAYER	CONTEXT METADA
Agent Relation Function Mandate	Agent Originator Date Transmission of Record Agent Receiver Date Receipt of Record Record Category Related Records Functions and Sub-Functions
CONTENT LAYER	CONTENT METADATA
Title Subject Description Language Coverage	Title Date of Record Creation
HISTORY OF USE	
Management History Use History	
	DISPOSAL METADATA
	Record Location Disposal Authorization Disposal Date Disposal Action History
	PRESERVATION HISTORY DOCUMENTATION
	Responsibility Activity Date Activity Type Medium