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Library and Archives Canada

Testing of the Records Management Metadata Standard

Version 1.0
March 31, 2007

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CONSULTING

1 BACKGROUND

In 2005/6, Library and Archives Canada (LAC) created a Government on Line (GOL) endorsed Records Management Metadata Set and Application Profile with support from the community. That same year, LAC created a Executive Correspondence Management Metadata Set and Application Profile.

Metadata is necessary in order to manage electronic records with consistent terms and vocabulary to reuse and repurpose, and to present reliable and authentic documents. It also enables archival value records to be transferred from departments and agencies to LAC at the Disposition Phase.

In February 2007, LAC embarked on a project to validate the metadata elements in a sample of specific departments in order to identify the business process and changes that each will have to make in order to incorporate the use of the metadata elements into their normal day-to-day management of electronic records.

LAC will use the results of the metadata testing in both the RM and ECM environments as a benchmark to measure awareness, and adoption. The testing is also intended to reveal the following:

- gap analysis between metadata elements that are mandatory vs. non-mandatory
- definition of "next steps"

2   TESTING METHODOLOGY

The methodology used for the testing is a modular one that requires specific tasks within each phase to feed into the subsequent phase. This section provides details on those phases.

2.1   Pre-testing Phase

Defining Compliancy

Compliancy was defined in three ways. The elements could be exact, equivalent, or mappable to the elements in the metadata set as follows:

Exact – having the same element name and same definition

Equivalent – having a different element name but the same definition

Mappable – when required result was obtained through different elements or a combination of elements and processes. In other words, the spirit of the standard was met.

All those elements that did not share an element name or definition were defined as **non-compliant.**

2.2   Testing Phase

The testing was conducted using data collected from partner institutions. The sources of data included screen shots, data dictionaries, database schema, training literature and software product literature. The data was analysed and elements mapped against the metadata set to determine compliance. Results were tallied by element for the mandatory, mandatory if applicable and optional elements.

2.3   Consultation Phase

The consultation phase spanned six weeks and included interviews and discussions with stakeholders from both the partner institutions and central agencies in order to determine awareness, acceptance, future adoption plans and particular concerns regarding the specific element names (labels) used. In addition, feedback was gathered on whether or not there was sufficient awareness in the RM community of the metadata standard. Although not all data collected was tested against the standard, representatives from the following institutions were consulted:

Library and Archives Canada
Library of Parliament
Industry Canada
Treasury Board Secretariat/Finance Canada
Indian and Northern Affairs

Privy Council Office
Department of Justice
Department of National Defence
Department of Foreign Affairs and International Trade
Agriculture and Agri-foods Canada
Canada Revenue Agency
Health Canada
Supreme Court of Canada
Service Canada
Transport Canada

2.4   Analysis Phase

The analysis phase was conducted after compiling the test results from six institutions. There were a variety of metrics compiled but five important tables were developed to present relevant statistics intended to reflect compliancy and to illustrate any anomalies. Based on the outputs of this analysis phase, recommendations and "next steps" were developed.

3   ANALYSIS AND FINDINGS

3.1   Total Compliance by Department

Table #1.   Total Compliance by Department

Table #1 presents compliance by department in order to show the extent to which the departmental metadata matches that of the "standard". Each bar is further broken down to show that, of the compliant data elements, what **number** was exact, equivalent or mappable.

Findings

Table #1 reveals that compliance by department is moderate and fairly consistent across the partner organizations when looking at the entire metadata set; that is, both mandatory and optional elements. It also shows that relatively few of the compliant elements have the exact name as defined in the standard. Instead, most compliant elements are either equivalent or mappable.

Overall, this level of compliance, though moderate, is a positive reflection of the appropriateness of the metadata set. It shows that the elements included match what the departments are already capturing. Given that all of the RM systems had been in place long

before the release of the standard, it is likely that the compliancy rate will increase as more institutions implement or upgrade to new RM systems.

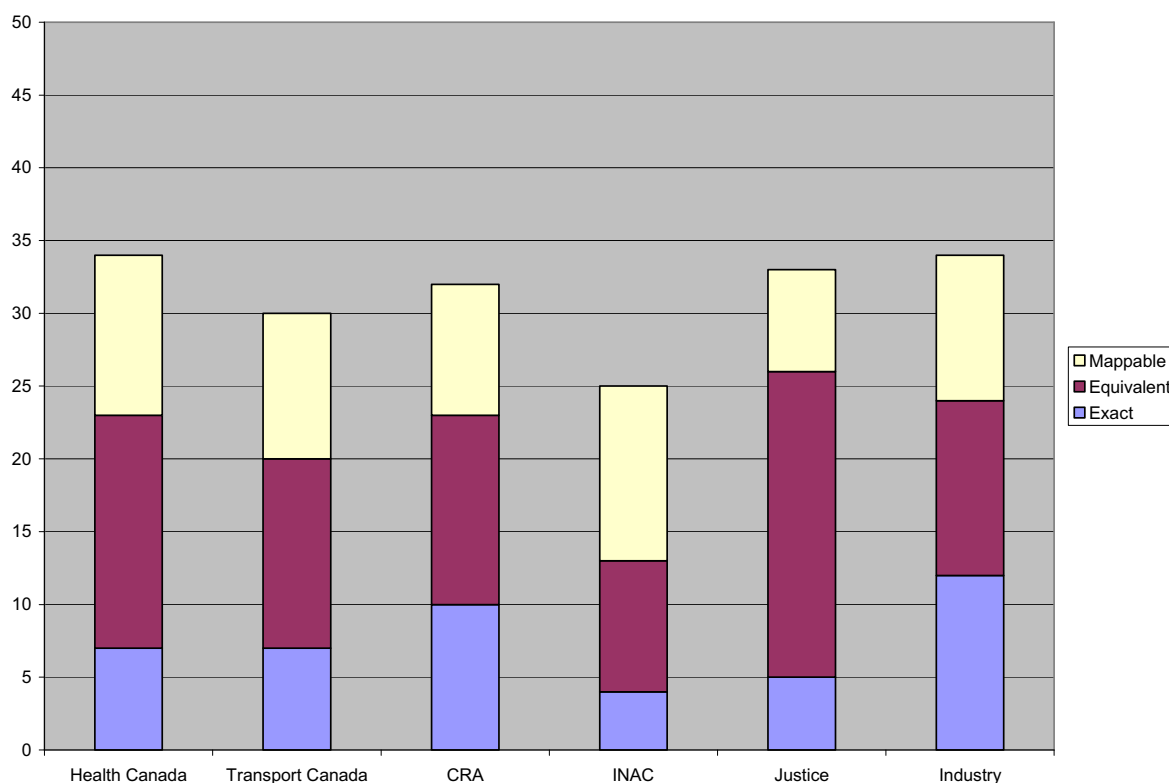## 3.2   Mandatory Compliance by Department
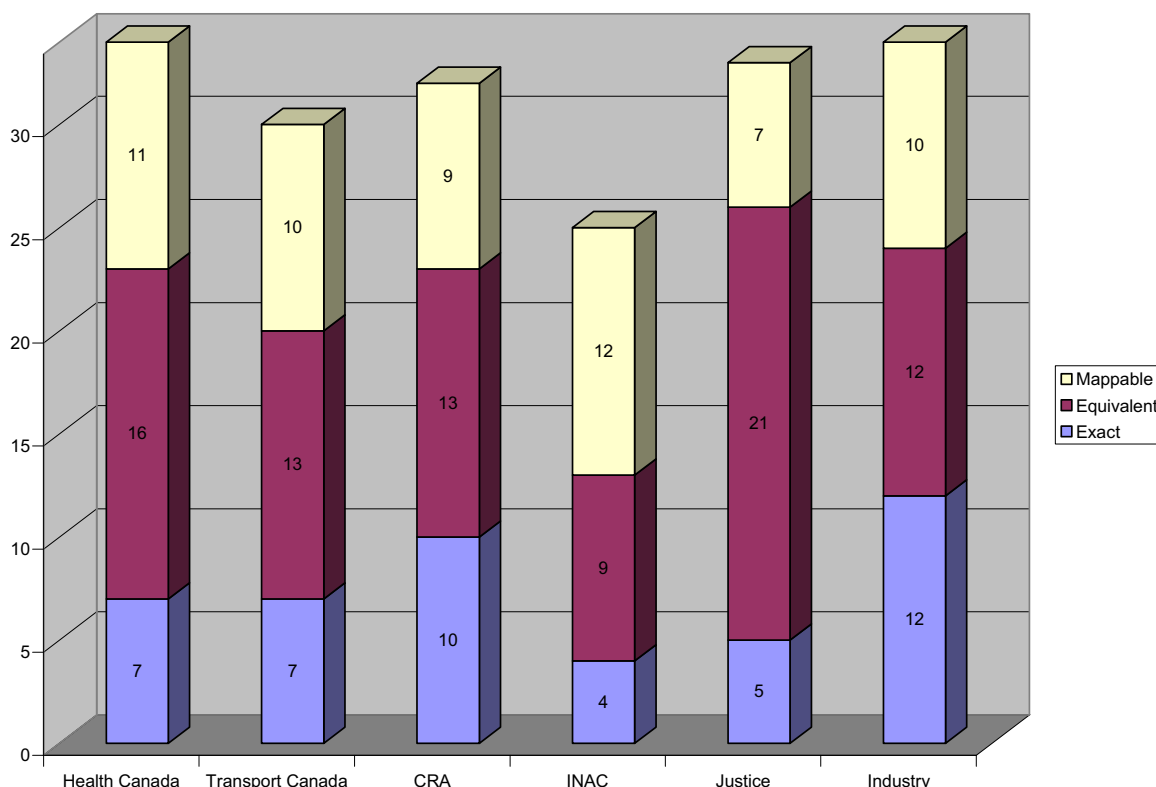
Table #2.   Mandatory Compliance by Department

Table #2 presents mandatory compliance by department in order to show the extent to which the departmental metadata matches the mandatory elements included in the "standard". Each bar is further broken down to show that, of the mandatory data elements, what **number** was exact, equivalent or mappable.

Findings

Table #2 reveals that compliance by department is consistently high across the partner organizations when looking at only the mandatory and mandatory if applicable elements of the metadata set. Again, it shows that relatively few of the compliant elements have the exact name as defined in the standard. Instead, most compliant elements are either equivalent or mappable.

Overall, this level of compliance to the mandatory and mandatory if applicable elements in the metadata set is a very positive reflection of the appropriateness of the standard. It shows that the elements included match what the departments are already capturing.

3.3 Compliance across Departments
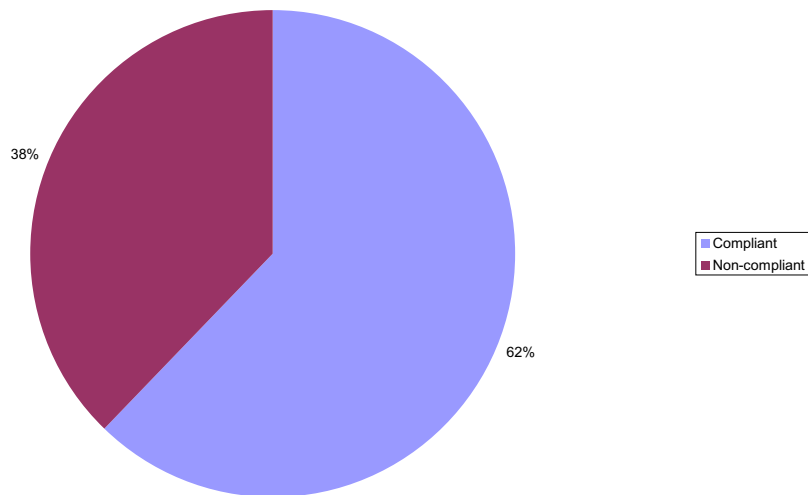
Table #3.   Total Compliance Across Departments
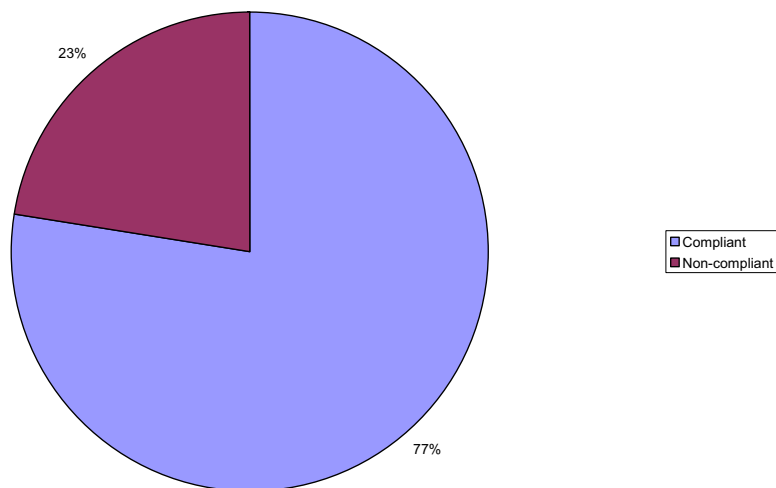
Table #4.   Total Mandatory Compliance Across Departments

Table #3 presents total compliance across partner departments in order to show the extent to which this population complies with the metadata standard. This information is presented as a **percentage,** grouping the results for exact, equivalent or mappable into the "compliant" category, as opposed to those that are non-compliant.

Table #4 presents total mandatory compliance across partner departments in order to show the extent to which this population complies with the mandatory elements within the metadata standard.

Findings

Table #3 reveals that compliance *across* departments as a percentage is moderate for the entire metadata set; that is, both mandatory and optional. Table #4 shows that, as a percentage, compliance is significantly higher for mandatory and mandatory if applicable elements.

Overall, this level of compliance is a very positive reflection of the appropriateness of the metadata set, particularly in regards to the mandatory elements.

3.4   Element Usage by Department
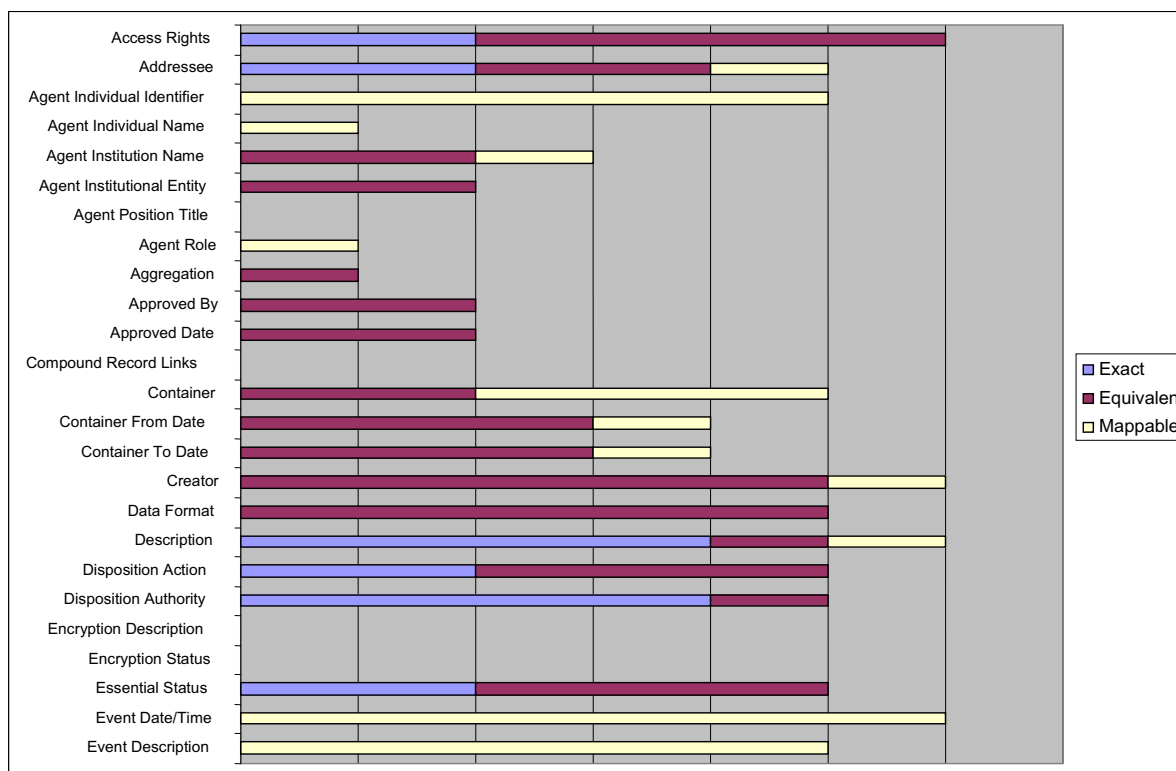
Table #5.   Departmental Usage by Element
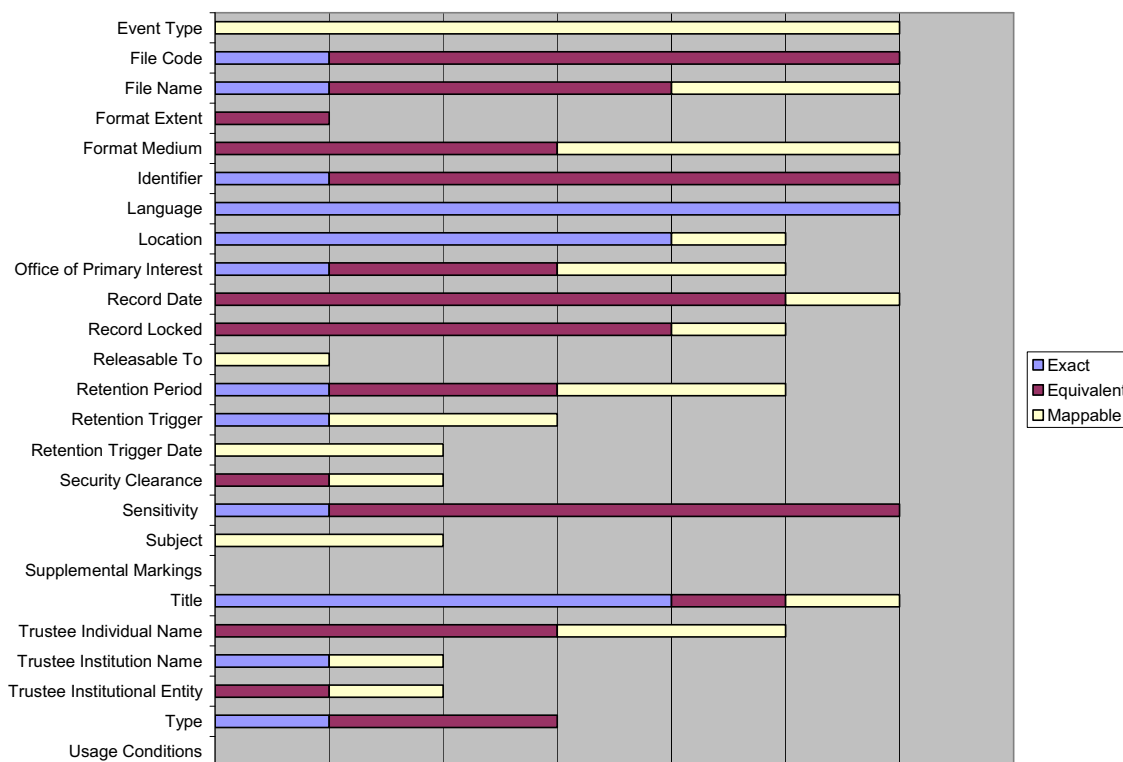
Table #6.   Departmental Usage by Element (con't)

Tables #5 and #6 capture the entire RM metadata set (all fifty elements). The data is presented whether or not a partner institution *uses* an element, either mandatory or optional. The data also illustrates *how* each element is used (exact, equivalent or mapped). This level of compliance presents some inconsistencies and anomalies that can be further analysed.

Findings

Tables #5 and #6 reveal that some elements in the metadata set are not used while others are highly used but rarely with an exact match in element name. Instead, compliancy is attained by through the use of equivalent or mappable elements. This could illustrate that some elements are unnecessary while others can only be met in "spirit" using processes rather than exact or equivalent names. In other cases, an equivalent name is used so frequently and consistently that it may be advisable to change the element name to match a fully-compliant and equivalent element name that is already widely used.

4 OBSERVATIONS

Through the consultation phase, the following observations were made:

- There was a high level of awareness of the RMMS and RMAP
- the number of mandatory and mandatory if applicable elements in the standard were relatively high and thus, it was difficult to achieve a high level of compliance
- Implementations were quite complex because the applications used for records management deal with a variety of business problems
- Departments implementing or contemplating the implementations of an EDRMS solution have shown a keen interest in or a commitment to the adoption of the RMMS and RMAP. These departments include:

> **Health Canada** – HC current environment was developed over four years ago. They are currently implementing RDIMS and have recently adopted the RMMS and RMAP as the Records Management Metadata standard for HC.

> **Supreme Court of Canada** – The SCC is developing tools and standards in preparation for a MS-SharePoint roll-out for Records Management and Document Management. One of the standards they were tasked with creating was a metadata standard. They have adopted the RMMS and RMAP as the basis for their metadata standard.

> **Western Economic Diversification** – WD is considering the implementation of the RMMS and RMAP as they proceed with their EDRMS analysis.

> **Natural Resources Canada** – NRCan has reviewed the RMMS and RMAP and are considering it as a central standard for their IM strategy.

5 RECOMMENDATIONS

Based on the analysis and the consultations, the following recommendations are being made regarding the need to increase compliance with the metadata standard within the GC.

5.1 Awareness of the RMMS and RMAP

1. Include the RMMS and RMAP in the GC IM Certification Program, available through the Canada School of the Public Service
2. Develop and implement a communication plan which includes:
   - An on-line information package
   - A "canned" information session to be available to receptive departments
   - Regular presentations and updates at IM forums

5.2 Benchmarking

1. The output of this report should be considered as the benchmark for governmental compliancy.
2. Regular (bi-annual) tests should be performed to measure on-going adoption of the standard.

5.3 Continuous Improvement

Based on this analysis, the Records Management Application Profile Working Group should meet in order to review the following elements to determine if changes are required.

Element Usage	Elements to be Reviewed
Not/Rarely Used *used by 0 – 1 of the partner institutions*	Agent Individual Name Agent Position Title Agent Role Aggregation Compound Record Links Encryption Description Encryption Status Format Extent Releasable To Supplemental Markings Usage Conditions
Infrequently Used *used by 2 of the partner institutions*	Approved By Approved Date Retention Trigger Date Security Clearance Subject Trustee Institution Name Trustee Institutional Entity
Mostly/entirely equivalent *equivalent element name used by 4 or more partner institutions*	Access Rights Creator Data Format File Code Identifier Record Date Record Locked Sensitivity
Mostly/entirely mappable *mappable elements or processes used by 4 or more partner institutions*	Agent Individual Identifier Event Date/Time Event Description Event Type

APPENDIX A – TEST DATA

RM Metadata Application Profile Testing Worksheet

Health Canada – LRS

(LRS formerly iRIMS)
moving to RDIMS

Mandatory Metadata Element	Compliant	Equivalent	Mappable	Non-compliant	Comments
Access Rights	x				
Addressee	x				
Agent Individual Identifier			x		Mappable to Patron, Name, Borrower, Return To, Authorized By, Actioned By, etc.
Agent Institution Name		x			Equivalent to Establishment
Agent Role				x	
Aggregation				x	
Creator			x		Mappable to Originator
Data Format				x	
Disposition Action		x			Equivalent to File Status
Disposition Authority	x				
Essential Status		x			Equivalent to Essential
Event Date/Time			x		Mappable to Status Date
Event Type			x		Mappable to File Status
File Code		x			Equivalent to File Number
File Name		x			Equivalent to File Title
Format Medium		x			Equivalent to Storage
Identifier		x			Equivalent to Folder ID
Language	x				
Location	x				

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Mandatory Metadata Element	Compliant	Equivalent	Mappable	Non-compliant	Comments
Office of Primary Interest				x	
Record Date		x			Equivalent to Date Created
Record Locked		x			Equivalent to Final Version
Retention Period			x		Mappable to Bring Forward Date
Retention Trigger				x	*Handled through processes
Security Clearance			x		Mappable to Security Level
Sensitivity		x			Equivalent to File Security
Title			x		Mappable to File Title
Trustee Individual Name			x		Mappable to Authorized By

Mandatory if applicable Metadata Element	Compliant	Equivalent	Mappable	Non-compliant	Comments
Compound Record Links	x				*inherent in the system
Container		x			Equivalent to Type
Container From Date		x			Equivalent to From Date
Container To Date		x			Equivalent to To Date
Releasable To				x	
Retention Trigger Date			x		Mappable to Bring Forward Date

Optional Metadata Element	Compliant	Equivalent	Mappable	Non-compliant	Comments
Agent Individual Name				x	

Optional Metadata Element	Compliant	Equivalent	Mappable	Non-compliant	Comments
Agent Institutional Entity		x			Equivalent to Organization
Agent Position Title				x	
Approved By		x			Equivalent to Authorized By
Approved Date		x			Equivalent to Authorized Date
Description	x				
Encryption Description				x	
Encryption Status				x	
Event Description			x		Mappable to Comment
Format Extent				x	
Subject			x		Mappable to Content
Supplemental Markings				x	
Trustee Institution Name				x	
Trustee Institutional Entity				x	
Type				x	
Usage Conditions				x	

RM Metadata Application Profile Testing Worksheet

Canada Revenue Agency

ForeMost

Mandatory Metadata Element	Compliant	Equivalent	Mappable	Non-compliant	Comments
Access Rights	x				
Addressee			x		Mappable to designated recipient
Agent Individual Identifier			x		Mappable to History, Preservation and Migration History
Agent Institution Name		x			Equivalent to Agency Identifier
Agent Role				x	
Aggregation				x	
Creator		x			Equivalent to Author
Data Format		x			Equivalent to Format
Description	x				
Disposition Action	x				
Essential Status	x				
Event Date/Time			x		Mappable to History, Preservation a and Migration History, Disposition Date
Event Type			x		Mappable to History, Preservation a and Migration History, Disposition Date
File Code		x			Equivalent to Subject Code
File Name		x			Equivalent to Subject Name
Format Medium			x		Mappable to Format
Identifier		x			Equivalent to Document Number
Language	x				
Location	x				
Office of Primary Interest		x			Equivalent to Custodian
Record Date			x		Mappable to Date

Mandatory Metadata Element	Compliant	Equivalent	Mappable	Non-compliant	Comments
Record Locked		x			Equivalent to Final
Retention Period		x			Equivalent to Retention
Retention Trigger	x				
Security Clearance				x	
Sensitivity		x			Equivalent to Security
Title	x				
Trustee Individual Name			x		Mappable to Signed By

Mandatory if applicable Metadata Element	Compliant	Equivalent	Mappable	Non-compliant	Comments
Compound Record Links	x				*inherent in the system
Container				x	
Container From Date				x	
Container To Date				x	
Releasable To				x	
Retention Trigger Date				x	

Optional Metadata Element	Compliant	Equivalent	Mappable	Non-compliant	Comments
Agent Individual Name				x	
Agent Institutional Entity		x			Equivalent to Organization
Agent Position Title				x	

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Optional Metadata Element	Compliant	Equivalent	Mappable	Non-compliant	Comments
Approved By		x			Equivalent to Signed By
Approved Date		x			Equivalent to Signed By
Description	x				
Encryption Description				x	
Encryption Status				x	
Event Description			x		Mappable to History, Preservation a and Migration History, Disposition Date
Format Extent				x	
Subject				x	
Supplemental Markings				x	
Trustee Institution Name				x	
Trustee Institutional Entity				x	
Type				x	
Usage Conditions				x	

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RM Metadata Application Profile Testing Worksheet

Indian and Northern Affairs

Test Results – 35 compliant or mappable elements

DocsRM integrated with RDIMS for electronic; iRIMS for paper

Mandatory Metadata Element	Compliant	Equivalent	Mappable	Non-compliant	Comments
Access Rights		x			Equivalent to Access Control
Addressee		x			Equivalent to Recipient
Agent Individual Identifier				x	
Agent Institution Name				x	
Agent Role				x	
Aggregation				x	
Creator		x			Equivalent to Author
Data Format		x			Equivalent to Application
Disposition Action				x	
Disposition Authority				x	
Essential Status				x	
Event Date/Time			x		Mappable to, Event Date, Profile Date, Document Date, Date Modified
Event Type			x		Mappable to, Event Date, Profile Date, Document Date, Date Modified
File Code		x			Equivalent to File Number
File Name			x		Mappable to Title
Format Medium			x		Mappable to Storage Type
Identifier		x			Equivalent to CIDM Number
Language	x				
Location			x		Mappable to Resource Room – Place, Paper Charge-out - To
Office of Primary Interest			x		Mappable to Work Group

Mandatory Metadata Element	Compliant	Equivalent	Mappable	Non-compliant	Comments
Record Date		x			Equivalent to Document Date
Record Locked			x		Mappable to Access Controls
Retention Period				x	
Retention Trigger				x	
Security Clearance				x	
Sensitivity		x			Equivalent to Classification
Title	x				
Trustee Individual Name		x			Equivalent to Trustee

Mandatory if applicable Metadata Element	Compliant	Equivalent	Mappable	Non-compliant	Comments
Compound Record Links	x				*inherent in the system
Container			x		Mappable to Storage Type
Container From Date				x	
Container To Date				x	
Releasable To				x	
Retention Trigger Date				x	

Optional Metadata Element	Compliant	Equivalent	Mappable	Non-compliant	Comments
Agent Individual Name				x	
Agent Institutional Entity				x	

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Optional Metadata Element	Compliant	Equivalent	Mappable	Non-compliant	Comments
Agent Position Title				x	
Approved By				x	
Approved Date				x	
Description			x		Mappable to Classification Description, Comment
Encryption Description				x	
Encryption Status				x	
Event Description			x		Mappable to Comments
Format Extent				x	
Subject				x	Mappable to Comments
Supplemental Markings				x	
Trustee Institution Name			x		Mappable to Trustee Description
Trustee Institutional Entity			x		Mappable to Trustee Description
Type	x				
Usage Conditions				x	

RM Metadata Application Profile Testing Worksheet

Transport Canada

Test Results – 34 compliant or mappable elements

Mandatory Metadata Element	Compliant	Equivalent	Mappable	Non-compliant	Comments
Access Rights		x			Equivalent to Document Access
Addressee				x	
Agent Individual Identifier			x		Mappable to History
Agent Institution Name			x		
Agent Role			x		
Aggregation				x	
Creator		x			Equivalent to Author
Data Format		x			Equivalent to Application
Disposition Action	x				
Disposition Authority	x				
Essential Status		x			Equivalent to Essential
Event Date/Time			x		Mappable to Date and Time in History log
Event Type			x		Mappable to Type and History log
File Code		x			Equivalent to File Classification
File Name		x			Mappable to File Description
Format Medium			x		Mappable
Identifier		x			Equivalent to File Number
Language	x				
Location				x	
Office of Primary Interest	x				

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Mandatory Metadata Element	Compliant	Equivalent	Mappable	Non-compliant	Comments
Record Date		x			Equivalent to Date
Record Locked		x			Equivalent to Final Document
Retention Period	x				
Retention Trigger			x		Mappable to Edit Date
Security Clearance				x	
Sensitivity		x			Equivalent to Security
Title		x			Equivalent to Name
Trustee Individual Name				x	

Mandatory if applicable Metadata Element	Compliant	Equivalent	Mappable	Non-compliant	Comments
Compound Record Links	x				*inherent in the system
Container			x		Mappable
Container From Date		x			Equivalent to From Date
Container To Date		x			Equivalent to To Date
Releasable To				x	
Retention Trigger Date				x	Mappable to Edit Date

Optional Metadata Element	Compliant	Equivalent	Mappable	Non-compliant	Comments
Agent Individual Name				x	
Agent Institutional Entity				x	
Agent Position Title				x	
Approved By				x	
Approved Date				x	
Description	x				
Encryption Description				x	
Encryption Status				x	
Event Description			x		Mappable to History
Format Extent				x	
Subject			x		Mappable to Description
Supplemental Markings				x	
Trustee Institution Name				x	
Trustee Institutional Entity				x	
Type				x	
Usage Conditions				x	

RM Metadata Application Profile Testing Worksheet

Industry Canada

Mandatory Metadata Element	Compliant	Equivalent	Mappable	Non-compliant	Comments
Access Rights		x			Equivalent to Access
Addressee	x				
Agent Individual Identifier			x		Mappable to History Log
Agent Institution Name				x	
Agent Role				x	
Aggregation		x			*inherent in system
Creator		x			Equivalent to Author
Data Format		x			Equivalent to Application
Disposition Action		x			Inherent in system
Disposition Authority	x				
Essential Status	x				
Event Date/Time			x		Mappable to History log
Event Type			x		Mappable to Type in History log
File Code	x				
File Name	x				
Format Medium		x			Equivalent to Medium Type
Identifier	x				
Language	x				
Location	x				
Office of Primary Interest			x		Mappable to Work Group
Record Date		x			Equivalent to Document Date
Record Locked		x			Equivalent to Finalized Date

Mandatory Metadata Element	Compliant	Equivalent	Mappable	Non-compliant	Comments
Retention Period			x		Mappable to Disposal Actions and Internal Processes
Retention Trigger			x		Mappable *met through processes
Security Clearance				x	
Sensitivity	x				
Title	x				
Trustee Individual Name		x			Equivalent to Trustee

Mandatory if applicable Metadata Element	Compliant	Equivalent	Mappable	Non-compliant	Comments
Compound Record Links	x				*inherent in the system
Container			x		Mappable to Object Type
Container From Date			x		Mappable to Open Date
Container To Date			x		Mappable to Closed Date
Releasable To				x	
Retention Trigger Date				x	Mappable to Event Date and Closed Date

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Optional Metadata Element	Compliant	Equivalent	Mappable	Non-compliant	Comments
Agent Individual Name				x	
Agent Institutional Entity				x	
Agent Position Title				x	
Approved By				x	
Approved Date				x	
Description		x			Equivalent to Comments
Encryption Description				x	
Encryption Status				x	
Event Description			x		Mappable to Extra Instructions
Format Extent				x	
Subject				x	
Supplemental Markings				x	
Trustee Institution Name	x				
Trustee Institutional Entity		x			Equivalent to Trustee Org
Type		x			Equivalent to Doc Type
Usage Conditions				x	

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RM Metadata Application Profile Testing Worksheet

Justice

Test Results – 35 compliant or mappable elements

iRIMS

Mandatory Metadata Element	Compliant	Equivalent	Mappable	Non-compliant	Comments
Access Rights		x			Equivalent to Access Control
Addressee		x			Equivalent to PD_Addressee
Agent Individual Identifier			x		Mappable to History Log
Agent Institution Name				x	
Agent Role				x	
Aggregation				x	
Creator		x			Equivalent to Originator
Data Format		x			Equivalent to Application
Disposition Action		x			Equivalent to Disposal Method
Disposition Authority		x			Equivalent to Disposal Authority
Essential Status		x			Equivalent to Essential
Event Date/Time			x		Mappable to History
Event Type			x		Mappable to History
File Code		x			Equivalent to File Number
File Name			x		Mappable to Subject
Format Medium		x			Equivalent to Medium
Identifier		x			Equivalent to # Field
Language	x				
Location	x				
Office of Primary Interest		x			Equivalent to Organization

Mandatory Metadata Element	Compliant	Equivalent	Mappable	Non-compliant	Comments
Record Date		x			Equivalent to Doc Date
Record Locked				x	
Retention Period		x			Equivalent to Retention Days
Retention Trigger				x	
Security Clearance		x			Equivalent to Security in Patron Table
Sensitivity		x			Equivalent to File Security
Title	x				
Trustee Individual Name		x			Equivalent to Short Name

Mandatory if applicable Metadata Element	Compliant	Equivalent	Mappable	Non-compliant	Comments
Compound Record Links	x				*inherent in the system
Container		x			Equivalent to Folder
Container From Date		x			Equivalent to From Date
Container To Date		x			Equivalent to To Date
Releasable To			x		Mappable to Notes
Retention Trigger Date			x		Mappable to Process Date

Optional Metadata Element	Compliant	Equivalent	Mappable	Non-compliant	Comments
Agent Individual Name			x		Mappable to Patron in the Audit Trail
Agent Institutional Entity				x	
Agent Position Title				x	
Approved By				x	
Approved Date				x	
Description	x				
Encryption Description				x	
Encryption Status				x	
Event Description				x	
Format Extent		x			Equivalent to File Size
Subject				x	
Supplemental Markings				x	
Trustee Institution Name				x	
Trustee Institutional Entity				x	
Type		x			Equivalent to Doc Type
Usage Conditions				x	