Core Content Standard Metadata Application Profile (CORMAP)

Data and Content Management Division, Enterprise Content Management

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Introduction

The purpose of the Core Content Standard Metadata Application Profile (CORMAP) is to provide business rules and guidance on the use and application of the 15 descriptive metadata elements described in the Metadata Core Content Standard. These metadata elements are primarily based on internationally recognized Dublin Core metadata elements.

What is Metadata?

Metadata is information about information, which :

- describes, defines, explains, locates, and otherwise makes it easier to access and use content (i.e., records, information and data);
- supports the management of content through the information management lifecycle;
- guides the interpretation and use of content; and
- defines the purpose, function, attributes, methodologies, quality, and format of content.

Examples of metadata include (but are not limited to):

- a label on a box;
- properties fields in a Word file;
- information in a Word file (e.g., security classification); and/or
- associated information in an electronic database.

What is a Metadata Application Profile (MAP)?

Metadata Application Profiles (MAPs) are developed to provide business rules, guidance, and best practices for individuals that are involved in the creation, management, and use of metadata.

A comprehensive MAP documents element obligations, constraints, definitions, encoding schemes, vocabularies, and data models, and provides examples that enable understanding of the elements. MAPs may include elements integrated from one or more element sets, thus allowing a given application to meet its functional requirements.

Using CORMAP

Scenario 1 – Direct Application

When applying the standard “as is”, the MAP must be used in its entirety.

- The mandatory CORMAP elements (i.e., Title, Creator, Date Created, Date Modified, and Security Classification) must be included in the MAP.
- Each non-mandatory element must be evaluated for inclusion in the MAP. If evaluation determines that a non-mandatory element is not applicable, then the element is not required for the MAP.

Scenario 2 – Creating/Revising a MAP

When creating a new MAP, or revising an existing MAP, the following steps must be followed:

- The mandatory CORMAP elements (i.e., Title, Creator, Date Created, Date Modified, and Security Classification) must be included in the MAP.
- Mandatory if Applicable CORMAP elements must be evaluated for possible inclusion.
    - If deemed applicable, these elements become Mandatory in the respective business area’s new MAP.
- Add Optional or Recommended CORMAP elements as required.

    - Obligations may be retained or changed as required. For example, an Optional obligation may be deemed Mandatory for a new MAP.
- For additions to the Core Elements:
    - Best practice is to review Dublin Core and add additional elements, as necessary.
    - Use best practices that pertain to your business area (e.g., Statistical Data and Metadata eXchange extensions).
    - Guidance should be developed by the area developing the MAP to define and clarify the additional elements.
- Submit the new or revised MAP for review to IMT.Policy@gov.ab.ca.

See Appendix 1 – Example Extensions to the Metadata Core Content Standard for additional information.

CORMAP – Metadata Elements Details

Alternative Title

Obligation	Mandatory if Applicable
Repeatable	Yes
Definition	An alternative name used as a substitute or additional access point for content.
Purpose	Assists search and retrieval. Helps to distinguish content, as users can sometimes be more familiar with an informal version of a title.
Do not confuse with	The file name or title that a user assigns to content such as a web page or desktop document (e.g., "www.TIintranet.gov.ab.ca/ or “specifications.doc").
Additional information	Use Alternative Title for commonly used titles of content other than the title. Alternative titles should reflect how users typically search for content.
Examples	Title: Assured Income for the Severely Handicapped Program Alternative title: AISH Program
	Title (for a dataset): Family Size, Canada, Provinces and Territories, 2011 Alternative title: Family Size

Creator

Obligation	Mandatory
Repeatable	Yes
Definition	The business entity and/or individual(s) responsible for creating or compiling the content.
Purpose	Provides context and identifies the defined authority responsible for the accuracy and timeliness of content and its metadata, thus supporting quality assurance of, and accountability for, content.
Do not confuse with	• Contributor - contributes to the content, but does not have primary responsibility. • Publisher - makes the content available, and in many business contexts is the same as creator.
Additional information	Depending on the type of content, Creator may be composed of name(s), position, role, organization, and/or system. Organizations should establish naming conventions for the consistent capture of creator information. Use full official names rather than acronyms or codes, unless these are linked to an authoritative, stable source, such as a glossary or explanatory note.

Examples	A government body licenses a third-party resource for the Government of Alberta (e.g., from Statistics Canada or an independent research agency) and makes it available via the datalink portal. Creator: Third party
	A department revises a third-party resource to develop a new resource for distribution. Creator: Third party
	A department creates a new electronic information resource for distribution. Creator: Department
	Several departments jointly develop a new electronic information resource and make it available online, and a third party (public or private sector) has mandated responsibility for maintaining it. Creator: Department 1; Department 2; Department 3

Date Created

Obligation	Mandatory
Repeatable	No
Definition	The date, or date and time, the content was created or compiled.
Purpose	Enables users to find content by limiting retrieval according to specific dates or date ranges. Helps users assess the relevance of the content to their information needs. Enables producers to set the date of creation using a controlled format.
Do not confuse with	• Temporal Coverage - refers to the time period spanned by the information held in the content. • The date generated by a system upon capture of content into a system/application may be identified by as the "Date Created". • Date Modified - the date, or date and time, the content was changed.
Encoding Schemes	• Date Exchange Standard – Date, Time, and Date and Time Standard • ISO 8601-1:2019 Date and time – Representations for information interchange – Part 1: Basic rules • ISO 8601-2:2019 Date and time – Representations for information interchange – Part 2: Extensions
Additional information	Systems generally record the dates and times of actions automatically, but some contexts could require manual entry. Systems tend to identify the Date Created of the content as the date on which it is captured into a repository. The actual creation of content and its capture may occur on the same date, but this is not always the case. Organizations should make provisions to capture an accurate Date Created, or an approximation of that date, when bringing existing content (and/or their metadata) into a repository, according to the level of risk and the value associated with that content. This date could be system-generated or entered manually, depending on the volume and type of content, the business requirements, and the capabilities of the destination repository. Whenever possible, use the Data Exchange Standard syntax for both recording and displaying dates and times, from the largest unit to the smallest unit (e.g., YYYY-MM-DD); however, display forms must support business needs first.
Example	A specific context might require that a date stored as 2015-05-03 be displayed as May 3, 2015.

Date Modified

Obligation	Mandatory
Repeatable	Yes
Definition	The date, or date and time, the content was changed.
Purpose	Enables users to find content by limiting retrieval according to specific dates or date ranges. Helps users assess the relevance of the content to their information needs. Enables producers to set the date modified using a controlled format.
Do not confuse with	• Date Created – the date, or date and time, the content was created or compiled.
Encoding Schemes	• Date Exchange Standard – Date, Time, and Date and Time Standard • ISO 8601-1:2019 Date and time – Representations for information interchange – Part 1: Basic rules • ISO 8601-2:2019 Date and time – Representations for information interchange – Part 2: Extensions
Additional information	Systems generally record the dates and times of actions automatically, but some contexts could require manual entry. Whenever possible, use the Data Exchange Standard syntax for both recording and displaying dates and times, from the largest unit to the smallest unit (e.g., YYYY-MM-DD); however, display forms must support business needs first (e.g., a specific context might require that a date stored as 2015-05-03 be displayed as May 3, 2015). Date Modified is closely related to the business practices for version control. Organizations should determine which kinds of changes they need to track (i.e., which ones they consider to be minor and major revisions).
Examples	The content is changed the next day and is saved as the same version (i.e., replacing the previous version).
	The content is updated with a minor revision after import, and the revised version replaces the previous resource.

Description

Obligation	Mandatory if Applicable
Repeatable	No
Definition	A concise narrative of the content that includes its purpose and function.
Purpose	Provides an in-depth explanation of the content so that users can determine if it is useful for their information requirements.
Do not confuse with	• Abstract - although not a core content element, it is a brief statement about the content, typically displayed with the Title, to support search results. • Risk Considerations - although not a core content element, describes factors limiting the distribution of content. • Usage Considerations – a description of factors that support the effective interpretation and use of the content.
Additional information	Description provides a detailed synopsis. Do not repeat only the title in the Description field. A Description should consist of complete sentences, written in an easily understandable manner. It could cover aspects such as: • the purpose and function of the content; • what the content is or what it measures;

	• potential uses for the content; • audience, (e.g., entry level, experienced user); and • other useful information not already captured in more specific metadata elements.

Extent

Obligation	Optional
Repeatable	Yes
Definition	The size and/or duration of the content.
Purpose	Extent can provide information to determine the size of the content, the amount of digital storage it requires, and/or the time required to download it.
Do not confuse with	N/A
Additional information	Systems that manage content can generally calculate their size or duration automatically; however, in some contexts, Extent must be captured manually. In some cases, more than one aspect of Extent needs to be recorded for content (e.g., duration, size and/or number of units).
Examples	Digital: 420KB; or 5.24MB; or 1.3GB
	Download time: 1.5 minutes
	Audio: 5 minutes; or 1.5 hours
	Video: 9 minutes; or 17 images

Format

Obligation	Mandatory if Applicable
Repeatable	No
Definition	The particular file format or encoding method used during the lifecycle of the content.
Purpose	Supports retrieval and display, as well as control, storage, preservation, and access management of content through time. Can alert users to the existence of requirements for software, hardware, or equipment other than a web browser to display, use, or manage content.
Do not confuse with	• Medium – the physical material used to store and/or retrieve information. • Type – the class of content as distinguished by common essential characteristics.
Encoding Schemes	• MIME Media Types (Internet Assigned Number Authority (IANA)) • Program-, organization-, or application-specific schemes based on MIME Media Types (IANA) • PRONOM, the technical registry (U.K. National Archives)
Additional information	Format refers to the encoding method used to store content and convert it into human-accessible form. Content management systems generally embed values for Format based on the Internet Assigned Number Authority (IANA) Multipurpose Internet Mail Extensions (MIME) Media Types, and recognize the Format of content automatically upon capture to support correct display. In some contexts, Format must be captured manually. In some contexts, Format is entered manually and displayed to users as an icon. Format forms part of the metadata synopsis when a user requests further information about content.
Examples	Ivt, doc, pdf, xls, txt, rtf, html, xml

Identifier

Obligation	Mandatory if Applicable
Repeatable	Yes
Definition	A unique number, code, or reference value assigned to the content.
Purpose	Supports unambiguous identification of content, helps to prevent duplication, and facilitates retrieval, as users may retrieve resources by specific identifiers.
Do not confuse with	• Title - the full and formal name given to the content.
Encoding Schemes	• Statistics Canada numbering schemes for series, datasets, and publications • International Standard Book Number (ISBN) o Note: Apply to the Queen's printer for Alberta to assign ISBNs for Alberta government publications. • International Standard Serial Number (ISSN) • Uniform Resource Identifier (URI) • Digital Object Identifier (DOI) • Enterprise-, organization-, unit-, or program-specific numbering or coding schemes for content
Additional information	Various systems use different terms for Identifiers and different methods to generate them. Identifiers might not be unique across multiple applications (e.g., "AB-100" could identify a map, a report, and a dataset; however, each one is unambiguous within its own context). Identifiers for content could be assigned sequentially, without inherent meaning. Alternatively, Identifiers could be constructed to support specific processes or to identify business objects about which content is created (e.g., population subsets, geographic, or geo-administrative locations). Title should not be used as an Identifier for content because it is not necessarily unique.
Examples	Case IDs that identify unique instances in case-handling environments
	Bibliographic call numbers and other shelf locator codes
	Numbers or other codes for maps, plans, forms, and brochures
	Class, folder, and records schedule numbers in a records management system
	Geographic locations
	Department identification codes
	Bar coding or other item tagging schemes

Language

Obligation	Mandatory if Applicable
Repeatable	Yes
Definition	The language(s) of content.
Purpose	Provides additional contextual information and enables users to limit search results to content in a particular language.

Encoding Schemes	Available schemes include: • Internet Engineering Task Force (IETF) language tags as defined in RFC 5646 and RFC 4647; and • The Internet Assigned Numbers Authority (IANA) *Language Subtag Registry*.
Additional information	Language applies mainly to publications; however, some datasets could also be provided with metadata in more than one language. The Language property defines the primary language of the intended audience. If content is titled both in English and in another language, refer to Title for dealing with titles in multiple languages. In some contexts, the default value may be "en-CA" for English (Canadian).
Examples	English use “en”
	English (Canadian) use “en-CA”
	French use “fr”
	Cree use “cr”

Medium

Obligation	Mandatory if Applicable
Repeatable	No
Definition	The physical material used to store and/or retrieve information.
Purpose	Supports the effective planning for, and selection of, storage, backup, and maintenance technology, as well as development of migration strategies for continued access and viability of content as a source of evidence.
Additional information	Medium is often used to describe content, but can also be used to describe digital resources, especially those stored on portable electronic media. Organizations or applications might already use a controlled vocabulary for Medium that is related to business requirements.
Examples	CD, DVD, optical disc
	removable drive, hard disk drive, external drive
	Paper, mylar, photographic print
	Photographic negative, or x-ray, film
	Microfilm, microfiche
	Video tape, digital betacam
	DVCPRO P2, XDCAM, AVCHD

Security Classification

Obligation	Mandatory
Repeatable	No
Definition	A designation that identifies the minimum level of protection required for the management of the content.
Purpose	Enables content to be appropriately identified, managed, and disclosed as per the Data and Information Security Classification Standard. Supports privacy protection, as well as the broad distribution of non-sensitive resources. Helps to prevent unauthorized access and disclosure.

Subject

Obligation	Recommended
Repeatable	Yes
Definition	A controlled term that describes the general topic expressed by the content.
Purpose	Enables users to find content on the same topic consistently and efficiently. Provides access to related resources produced or collected by different Creators.
Do not confuse with	• Type – the class of content as distinguished by common essential characteristics.
Encoding Scheme	If a department or program has a controlled vocabulary, apply for Subject.
Additional information	Subject terms assigned to content should reflect its most important topics, and must be chosen from approved controlled vocabularies. Controlled vocabularies could be government-wide or program specific, such as agriculture, health, online service delivery, etc. Uncontrolled terms assigned at the discretion of individual creators or users are considered "keywords," not Subjects, and should be recorded in a separate metadata element. Specific business contexts might need to use both Subject and keyword approaches.

Title

Obligation	Mandatory
Repeatable	No
Definition	The full and formal name given to the content.
Purpose	A meaningful Title describes the content of a resource concisely, and supports access, speed of identification, and control of content.
Do not confuse with	• Identifier – a unique number, code, or reference value assigned to the content. • A digital file name - what a user assigns to an electronic resource such as a web page or desktop document (e.g., "www.saintranet.gov.ab.ca/7.htm" or "specifications.xls" or "metaDATMAP 2008.doc").
Additional information	Title should be the starting point for metadata creation, and should be derived from the content of the resource. Use the full and complete name of the resource. Title should not: • consist of the content's digital file name; • be altered except to add terms for clarity; or • be constructed by combining the content of other metadata properties.
Examples	Metadata – Core Content Standard
	Information Management Strategy

Type

Obligation	Recommended
Repeatable	No
Definition	The class of content as distinguished by common essential characteristics.
Purpose	Type expresses what a resource is, not what it is about. Supports consistent metadata for similar kinds of content, and helps users to retrieve content and

	understand their purpose and function.
Do not confuse with	• Format – the particular file format or encoding method used during the lifecycle of the content. • Medium – the physical material used to store and/or retrieve information.
Encoding Scheme	Recommended best practice is to select a value from an approved controlled vocabulary list.
Additional information	Assigning Type establishes groupings of content that support the same business use and have a consistent structure. Systems that manage content may use Type as a basic method to manage workflows and/or templates to capture uniform metadata.
Examples	Annual report
	Form
	Minutes
	Policy

Usage Considerations

Obligation	Mandatory, if applicable
Repeatable	No
Definition	Description of factors that support the effective interpretation and use of the content.
Purpose	Provides users with explicit information on the appropriate use and limitations of the resource. Usage Considerations can originate from a variety of sources, including (but not limited to) policy direction, applied methodologies, quality guidelines, standards compliance, system capabilities, and risk considerations. Usage Considerations should provide details to specialists to determine whether the content (raw/open data, analytical data, and/or derived data) fits their proposed use and whether it can be related appropriately to other data. It should broadly and concisely cover methodologies used to acquire and disseminate data, along with known limitations.
Do not confuse with	• Description - describes the content, rather than the details of its effective use. • Risk Considerations - describes the factors limiting the distribution of the content. • Security Classification - refers to the information security classification applied to the content.
Additional information	Usage Considerations should broadly cover methodologies used, but should not include: • Time period covered by the data > use time coverage. • Geographic extent > use spatial coverage. • Topics covered > assign at least one category.
Examples	Examples of Usage Considerations related to methodologies and techniques: • data collection methods; • characteristics of data collection; • methods of instrument design; • forms of data;

	• procedures used for compiling and editing data; • processes for data validation; • target population(s) and breakdowns used; • economic or other sectors covered and their size; and • other dimensions not already expressed by Title or Description.
	Examples of Usage Considerations related to quality dimensions: • overall assessment of data quality (based on standards) with main strengths and deficiencies; • trade-offs between quality aspects and planned quality improvements; • inconsistencies in dimensions, gaps or anomalies in the data; • completeness of the data; • coherence of the data; and • comparability of the data.

Definitions

Descriptive Metadata: Metadata that supports the discovery of a digital object.

Dublin Core: The Dublin Core metadata terms are a set of vocabulary terms which can be used to describe resources for the purposes of discovery. The terms comprise the original set of 15 classic metadata terms.

Element: A discrete unit of data or metadata. An element may contain sub-elements (element refinements) that are called “qualifiers” in Dublin Core.

Encoding Scheme: An encoding scheme captures information about the values that populate a metadata element, and/or the syntax of the information in an element. For example:

- A "Vocabulary Encoding Scheme" documents the controlled set of terms that are authorized for use with an element, such as the Alberta Open Data Portal Subject Encoding Scheme.
- A "Syntax Encoding Scheme" documents rules for the notation of the data, such as "YYYY-MM-DD" as the standard expression of a date.

Extensible: Having the potential to be expanded in scope, area, or size. In the case of Dublin Core, the ability to extend a core set of metadata with additional elements.

Interoperability: The ability of different types of computers, networks, operating systems, and applications to work together effectively, without prior communication, in order to exchange information in a useful and meaningful manner.

Metadata Application Profile: A set of metadata elements, policies, and guidelines defined for a particular application. The elements may be from one or more element sets, thus allowing a given application to meet its functional requirements by using metadata from several element sets including locally defined sets.

Repeatable: indicates that a metadata field may appear more than once (e.g., security classification is not repeatable, but date modified is).

Technical Metadata: Metadata created for, or generated by, a computer system, relating to how the system or its content behaves or needs to be processed.

References and Supporting Resources

- Metadata – Core Content Standard
- Dublin Core Metadata Initiative Glossary

Appendix 1 – Example Extensions to the Metadata Core Content Standard

In the example below, metadata elements included in the Standard align with the Dublin Core Metadata element set. Metadata elements specific to various business needs and content types are applied as extensions to the Standard. The combination of core metadata elements used to support the management of electronic information form a complete metadata element set or application profile. In this way, the Standard acts as a foundation for the creation and management of all other MAPs.