1. Introduction

This document provides a full account of changes made to the fifteen terms of the Dublin Core Metadata Element Set between the time of its approval as ANSI/NISO Z39.85 [Z3985] in September 2001 and the date of this report in December 2006.

In 2002, DCMI changed the case of “names”—short, natural-language-based tags intended for use as machine-readable tokens in software applications and data schemas—from uppercase to lowercase. When it became clear that emerging practice among implementers and in the Semantic Web community dictated the use of lowercase names for properties and uppercase names for classes, the DCMI Directorate changed the names of all DCMI elements and element refinements from uppercase to lowercase in the context of a more general DCMI Policy on Naming Terms [DECISION200203, NAMING].

A few editorial changes were made between 2002 and 2004—improvements in methods for documenting DCMI terms and their status [DECISION200201] and the replacement of obsolete URIs pointing to referenced standards [DECISION200403].

In 2006, the DCMI Usage Board undertook an editorial review of terms in the Dublin Core Metadata Element Set (DCMES) in order to clarify intended semantics and bring the wording of their definitions and usage comments into line with the language of the DCMI Abstract Model [DCAM]. A set of proposed changes was posted for Public Comment from 28 August to 25 September 2006 [PUBLIC-COMMENT]. A face-to-face Usage Board meeting in Manzanillo, Mexico, on 30 September 2006 [MANZANILLO] resulted in the publication on 18 December 2006 of a decision text, a response to comments, and revised terms documentation [DECISION200603, RESPONSE, DCTERMS, DCES].

Section 2 below discusses the general categories of change made in the terms between 2001 and 2006. Section 3 shows the 2001 wordings and the 2006 wordings side-by-side, pointing out the changes, with cross-references to the general categories of Section 2. The 2006 wordings recorded here are those recorded in revised versions of “DCMI Metadata Terms” [DCTERMS], “Dublin Core Metadata Element Set, Version 1.1” [DCMES], and “DCMI Metadata Terms: A complete historical record” [DCTERMS-HISTORY].

All of the changes made between 2001 and 2006 were evaluated by the DCMI Usage Board in light of the DCMI Namespace Policy [NAMESPACE]. The namespace policy says that DCMI terms are identified using Uniform Resource Identifiers (URIs). In accordance with the principle that distinct URIs should be assigned to distinct resources, the policy sets limits on the range of editorial changes that may allowably be made to the official labels, definitions, and usage comments associated with DCMI terms. The changes described in this document were all judged by the DCMI Usage Board as falling within the allowable range of editorial change.
2. General categories of change

2.1 Replacement of the phrase "the content of the resource" (or "intellectual content of the resource") with "the resource".

Implementation experience has shown the semantic distinction between a resource and the "content of" a resource to be a source of confusion. According to the DCMI Abstract Model, a DCMI metadata description "describes one, and only one, resource" [DCAM]. In the DCMI context, this principle dates back to 1997, when it was known as the "one-to-one principle". When the one-to-one principle is correctly followed, the semantic restriction to "the content of" a resource is in effect redundant.

Moreover, Dublin Core elements are used to describe things other than document-like resources—things such as physical objects and abstract concepts. For example, a stuffed animal has a Creator (perhaps a taxidermist, or an artist) but that person is not specifically the creator of "the content of" the stuffed animal. In light of current usage, the meaning of the original distinction between a resource and its content is no longer clear.

In the opinion of the Usage Board, dropping the words "the content of" from definitions affirms the semantics of these terms as they have been understood in practice and with no significant practical impact on implementation.

This change is relevant to the definitions of Contributor, Creator, Coverage, Description, Subject, Type, and Language.

2.2 Replacement of the phrase "a reference to a resource" with "a resource".

In metadata, a related resource can be "referred to" only by means of a "reference", whether that reference is a text description or a formal identifier. The extra words are therefore redundant. The recommendation that formal identifiers be used is retained in the usage comments.

This change is relevant to the definitions of Source and Relation and to the comment for Description.

2.3 Replacement of phrases such as "use a value from an encoding scheme" and "select a value from a controlled vocabulary" with "use a controlled vocabulary".

The wording "use a controlled vocabulary" is more concise. The term "controlled vocabulary" is intentionally broad; a definition will be provided in future versions of the DCMI Abstract Model.

This change is relevant to the comments for Coverage, Format, Subject, and Type.

2.4 Deletion of word "Resource" from the labels "Resource Type" and "Resource Identifier".

In the DCMI context, the terms Type and Identifier are the only two to have used the qualifier "resource" in their labels. For example, Title is not called "Resource Title" and Date not "Resource Date". This has been corrected by dropping the unnecessary reference to "resource" in the labels of Type and Identifier. This change also brings the labels of the elements ("Type" and "Identifier") in line with their names ("type" and "identifier").

2.5 Replacement of the phrase "a string or number conforming to a formal identification system" with "a string conforming to a formal identification system". A number is also a string, so the words "or number" are redundant. This change is relevant to the comments for Identifier, Relation, and Source.

2.6 Changed "names" from uppercase to lowercase.

The "names"—short, natural-language-based tags intended for use as machine-readable tokens in software applications and data schemas—were published in uppercase in Z39.85. Shortly thereafter, it became clear that emerging practice among implementers and in the Semantic Web community was to use lowercase names for properties and uppercase names for classes. After consultation, the DCMI Directorate changed the "names" of all DCMI elements and element refinements from uppercase to lowercase in the context of a more general DCMI Policy on Naming Terms [DECISION200203, NAMING].
3. Editorial changes between 2001 and 2006, term by term

3.1 Title

2001> Element Name: Title
2001> Label: Title
2001> Definition: A name given to the resource.
2001> Comment: Typically, Title will be a name by which the resource is formally known.

2006> Name: title
2006> Label: Title
2006> Definition: A name given to the resource.
2006> Comment: Typically, a Title will be a name by which the resource is formally known.

— Element Name now called Name, since 2002 in lowercase [see Section 2.6]
— In comment, reference to "Title" changed to "a Title"

3.2 Creator

2001> Element Name: Creator
2001> Label: Creator
2001> Definition: An entity primarily responsible for making the content of the resource.
2001> Comment: Examples of Creator include a person, an organization, or a service. Typically, the name of a Creator should be used to indicate the entity.

2006> Name: creator
2006> Label: Creator
2006> Definition: An entity primarily responsible for making the resource.
2006> Comment: Examples of a Creator include a person, an organisation, or a service. Typically, the name of a Creator should be used to indicate the entity.

— Element Name now called Name, since 2002 in lowercase [see Section 2.6]
— In definition, "content of the resource" replaced with "resource" [see Section 2.1]

3.3. Subject

2001> Element Name: Subject
2001> Label: Subject and Keywords
2001> Definition: A topic of the content of the resource.
2001> Comment: Typically, Subject will be expressed as keywords, key phrases, or classification codes that describe a topic of the resource. Recommended best practice is to select a value from a controlled vocabulary or formal classification scheme.

2006> Name: subject
2006> Label: Subject
2006> Definition: The topic of the resource.
2006> Comment: Typically, the topic will be represented using keywords, key phrases, or classification codes. Recommended best practice is to use a controlled vocabulary. To describe the spatial or temporal topic of the resource, use the Coverage element.

— Element Name now called Name, since 2002 in lowercase [see Section 2.6]
— Change of label from "Subject and Keywords" to "Subject". It continues to be acknowledged in the comment that a subject may be expressed with keywords. This change also brings the label of the element ("Subject") in line with its name ("subject").

— In definition, replaces "content of the resource" with "resource" [see Section 2.1]

— In comment, adds advice that the Coverage element be used to describe the spatial or temporal topic of the resource

— In comment, replaces "use a value from an encoding scheme" with "use a controlled vocabulary" [see Section 2.3]

— In comment, "expressed as" reworded as "represented using"

### 3.4. Description

2001> Element Name: Description
2001> Label: Description
2001> Definition: An account of the content of the resource.
2001> Comment: Examples of Description include, but are not limited to, an abstract, table of contents, reference to a graphical representation of content, or free-text account of the content.

2006> Name: description
2006> Label: Description
2006> Definition: An account of the resource.
2006> Comment: Description may include but is not limited to: an abstract, a table of contents, a graphical representation, or a free-text account of the resource.

— Element Name now called Name, since 2002 in lowercase [see Section 2.6]

— In definition, replaces "content of the resource" with "resource" [see Section 2.1]

— In comment, replaces "a reference to a resource" with "resource" [see Section 2.2]

### 3.5. Publisher

2001> Element Name: Publisher
2001> Label: Publisher
2001> Definition: An entity responsible for making the resource available.
2001> Comment: Examples of Publisher include a person, an organization, or a service. Typically, the name of a Publisher should be used to indicate the entity.

2006> Name: publisher
2006> Label: Publisher
2006> Definition: An entity responsible for making the resource available.
2006> Comment: Examples of a Publisher include a person, an organisation, or a service. Typically, the name of a Publisher should be used to indicate the entity.

— Element Name now called Name, since 2002 in lowercase [see Section 2.6]

### 3.6. Contributor

2001> Element Name: Contributor
2001> Label: Contributor
2001> Definition: An entity responsible for making contributions to the content of the resource.
2001> Comment: Examples of Contributor include a person, an organization, or a service. Typically, the name of a Contributor should be used to indicate the entity.
3.7. Date

- Element Name now called Name, since 2002 in lowercase [see Section 2.6]
- As with Language [see Section 4.12], the reference to a specific encoding scheme in the comment is changed from "recommended best practice" to the status of an example. Hence: "Recommended best practice is to use an encoding scheme, such as the W3CDTF profile of ISO 8601 [W3CDTF]"
- The intended scope of the Date element has been the object of much discussion in the DCMI community. In practice, Date has long been interpreted to include the notion of a date range. The release in July 2000 of a first set of "Dublin Core qualifiers" — which included Available, defined as referring to a "date (often a range)" — consolidated this interpretation. The Usage Board has now brought the definition of Date into line with this long-standing practical interpretation by explicitly allowing date ranges.

3.8. Type

- Element Name now called Name, since 2002 in lowercase [see Section 2.6]
- Recommended best practice is to select a value from a controlled vocabulary (for example, the DCMI Type Vocabulary [DCT]). To describe the physical or digital manifestation of the resource, use the Format element.
2006> Name: type
2006> Label: Type
2006> Definition: The nature or genre of the resource.
2006> Comment: Recommended best practice is to use a controlled vocabulary such as the DCMI Type Vocabulary [DCMI TYPE]. To describe the file format, physical medium, or dimensions of the resource, use the Format element.

— Element Name now called Name, since 2002 in lowercase [see Section 2.6]
— In label, changed "Resource Type" to "Type" [see Section 2.4]
— In definition, replaces "content of the resource" with "resource" [see Section 2.1]
— In comment, replaces the phrase "select a value from a controlled vocabulary" with "use a controlled vocabulary" [see Section 2.3]
— In comment, deletes sentence: "Type includes terms describing general categories, functions, genres, or aggregation levels for content."

3.9. Format

2001> Element Name: Format
2001> Label: Format
2001> Definition: The physical or digital manifestation of the resource.
2001> Comment: Typically, Format will include the media-type or dimensions of the resource. Format may be used to identify the software, hardware, or other equipment needed to display or operate the resource. Examples of dimensions include size and duration. Recommended best practice is to select a value from a controlled vocabulary (for example, the list of Internet Media Types [MIME] defining computer media formats).

2006> Name: format
2006> Label: Format
2006> Definition: The file format, physical medium, or dimensions of the resource.
2006> Comment: Examples of dimensions include size and duration. Recommended best practice is to use a controlled vocabulary such as the list of Internet Media Types [MIME].

— Element Name now called Name, since 2002 in lowercase [see Section 2.6]
— The definition of Format as "The physical or digital manifestation of the resource" has been a source of confusion. Specifically, it has been misinterpreted as referring to a related resource that is a "manifestation" in the sense of Functional Requirements for Bibliographic Records (FRBR). The new wording moves words from the original comment into the definition in order to describe the intended meaning more concretely.
— In comment, drops the sentence: "Format may be used to identify the software, hardware, or other equipment needed to display or operate the resource."
— In comment, replaces "select a value from an encoding scheme" with "use a controlled vocabulary" [see Section 2.3]
3.10. Identifier

2001> Element Name: Identifier
2001> Label: Resource Identifier
2001> Definition: An unambiguous reference to the resource within a given context.
2001> Comment: Recommended best practice is to identify the resource by means of a string or number conforming to a formal identification system. Formal identification systems include but are not limited to the Uniform Resource Identifier (URI) (including the Uniform Resource Locator (URL)), the Digital Object Identifier (DOI), and the International Standard Book Number (ISBN).

2006> Name: identifier
2006> Label: Identifier
2006> Definition: An unambiguous reference to the resource within a given context.
2006> Comment: Recommended best practice is to identify the resource by means of a string conforming to a formal identification system.

— Element Name now called Name, since 2002 in lowercase [see Section 2.6]
— Definition unchanged.
— In label, changed “Resource Identifier” to “Identifier” [see Section 2.4]
— In comment, drops the redundant words “or number”
— In comment, deletes references to specific identification systems

3.11. Source

2001> Element Name: Source
2001> Label: Source
2001> Definition: A reference to a resource from which the present resource is derived.
2001> Comment: The present resource may be derived from the Source resource in whole or in part. Recommended best practice is to identify the referenced resource by means of a string or number conforming to a formal identification system.

2006> Name: source
2006> Label: Source
2006> Definition: The resource from which the described resource is derived.
2006> Comment: The described resource may be derived from the related resource in whole or in part. Recommended best practice is to identify the related resource by means of a string conforming to a formal identification system.

— Element Name now called Name, since 2002 in lowercase [see Section 2.6]
— In the definition, changes “present resource” to “described resource”, both more precise and consistent with the DCMI Abstract Model
— In definition, replaces “a reference to a resource” with “resource” [see Section 2.2]
— In comment, drops the redundant words “or number”
3.12. Language

2001> Element Name: Language
2001> Label: Language
2001> Definition: A language of the intellectual content of the resource.
2001> Comment: Recommended best practice is to use RFC 3066 [RFC3066], which, in conjunction with ISO 639 [ISO639], defines two- and three-letter primary language tags with optional subtags. Examples include "en" or "eng" for English, "akk" for Akkadian, and "en-GB" for English used in the United Kingdom.

2006> Name: language
2006> Label: Language
2006> Definition: A language of the resource.
2006> Comment: Recommended best practice is to use a controlled vocabulary such as RFC 3066 [RFC3066].

— Element Name now called Name, since 2002 in lowercase [see Section 2.6]
— Six of the fifteen elements of DCMES — Type, Format, Coverage, Subject, Language, and Date— are recommended to be used with encoding schemes. Only in the cases of Language and Date, however, did the comments prescribe specific encoding schemes. In current DCMI practice, the prescription of encoding schemes (i.e., of "controlled vocabularies"—see Section 2.3) is seen as being more properly the role of an application profile, not of a term declaration. The Usage Board therefore amended the comment to reflect this, retaining a reference to one controlled vocabulary as an example.
— In definition, replaces "content of the resource" with "resource" [see Section 2.1]
— In comment, replaces "use a value from an encoding scheme" with "use a controlled vocabulary" [see Section 2.3]

3.13. Relation

2001> Element Name: Relation
2001> Label: Relation
2001> Definition: A reference to a related resource.
2001> Comment: Recommended best practice is to identify the referenced resource by means of a string or number conforming to a formal identification system.

2006> Name: relation
2006> Label: Relation
2006> Definition: A related resource.
2006> Comment: Recommended best practice is to identify the related resource by means of a string conforming to a formal identification system.

— Element Name now called Name, since 2002 in lowercase [see Section 2.6]
— In definition, replaces "a reference to a resource" with "resource" [see Section 2.2]
— In comment, drops the redundant words "or number"
3.14. Coverage

2001> Element Name: Coverage
2001> Label: Coverage
2001> Definition: The extent or scope of the content of the resource.
2001> Comment: Typically, Coverage will include spatial location (a place name or geographic coordinates), temporal period (a period label, date, or date range), or jurisdiction (such as a named administrative entity). Recommended best practice is to select a value from a controlled vocabulary (for example, the Thesaurus of Geographic Names [TGN]) and to use, where appropriate, named places or time periods in preference to numeric identifiers such as sets of coordinates or date ranges.

2006> Name: coverage
2006> Label: Coverage
2006> Definition: The spatial or temporal topic of the resource, the spatial applicability of the resource, or the jurisdiction under which the resource is relevant.
2006> Comment: Spatial topic may be a named place or a location specified by its geographic coordinates. Temporal period may be a named period, date, or date range. A jurisdiction may be a named administrative entity or a geographic place to which the resource applies. Recommended best practice is to use a controlled vocabulary such as the Thesaurus of Geographic Names [TGN]. Where appropriate, named places or time periods can be used in preference to numeric identifiers such as sets of coordinates or date ranges.

— Element Name now called Name, since 2002 in lowercase [see Section 2.6]
— In definition, replaces the ambiguous phrase "extent or scope of the content of the resource" with the phrase "spatial or temporal topic of the resource". The use of "extent" in the term Coverage had caused confusion with respect to the term Format—the comment of which refers to "dimensions" such as "size" and "duration"—and to the term Extent, a refinement of Format defined as "The size or duration of the resource".
— In definition, added the words "or the jurisdiction under which the resource is relevant. The notion of "jurisdiction" entered into the scope of Coverage at an early date as part of the comment and has informed a significant number of implementations. The Usage Board has made this meaning explicit by referring to "jurisdiction" in the definition itself and by further clarifying the intended meaning in the comment.
— In definition, replaces "content of the resource" with "resource" [see Section 2.1]
— In comment, replaces the phrase "select a value from a controlled vocabulary" with "use a controlled vocabulary" [see Section 2.3]

3.15. Rights

2001> Element Name: Rights
2001> Label: Rights Management
2001> Definition: Information about rights held in and over the resource.
2001> Comment: Typically, Rights will contain a rights management statement for the resource, or reference a service providing such information. Rights information often encompasses Intellectual Property Rights (IPR), Copyright, and various Property Rights. If the Rights element is absent, no assumptions may be made about any rights held in or over the resource.

2006> Name: rights
2006> Label: Rights
2006> Definition: Information about rights held in and over the resource.
2006> Comment: Typically, rights information includes a statement about various property rights associated with the resource, including intellectual property rights.
— Element Name now called Name, since 2002 in lowercase [see Section 2.6]

— Label changed from "Rights Management" to "Rights". The reference to "management" had more to do with possible uses of the element than with the substance of the element itself. This change also brings the label of the element ("Rights") in line with its name ("rights").

— In comment, removed the sentence "Typically, Rights will contain a rights management statement for the resource, or reference a service providing such information"—an implementation issue not appropriately addressed in a comment.

— In comment, removed the sentence: "If the Rights element is absent, no assumptions may be made about any rights held in or over the resource." The point is inappropriate because it implies that the element can only be used (or not) as part of a fixed element set.

References