PCC Task Group Final Report PCC Transmittal & Tracking Sheet

Date task group charged	July 1, 2022
Date task group discharged	January 1, 2023

This form is to be used to track progress on the review, approval, and implementation of the final reports of PCC task groups and committees. A link to this form can be found in the task group charge. Thereafter, the form should be updated each time the report is transmitted to a different body for review or action. Additional rows may be inserted as needed. The PCC Secretariat will insert the completed form as the cover sheet for the report when the process is complete.

Submission of report (completed by chair/leader of group):
Use the chart below to record the date the report was first submitted, the name of the PCC task group or committee submitting the report, and the title of the report.

Date	Name of Group	Title of Report
September 30, 2022	Enhancing Metadata and Practices in MARC Bibliographic Records	Preliminary report
December 31, 2022	Enhancing Metadata and Practices in MARC Bibliographic Records	Final report

Review of report (completed by PCC chair prior to passing report on for review):
Use the chart below to record the date the report was submitted for review, to which body, and its current status (e.g. in process, completed, etc.).

Date	Name of Body	Status of Review
May 11, 2023	PoCo	The report was vetted by PoCo. Due to multiple recommendations for 10 MARC fields, we would like to use a form to tally our votes.

Program for Cooperative Cataloging
PCC
BIBCO / CONSER / NACO / SACO

Decisions regarding report:
Use the chart below to record decisions made regarding the report.

Date	Name of Body	Decisions Made
August 31, 2023	PoCo	The PCC Policy Committee has approved all recommendations except for the 210 and 506 field. The implementation of the 210 field was not recommended by the PCC CONSER Pilot Group or the US ISSN Center. Regarding the 506 field, we need to investigate the value of $0 and $1 if 856 $l already exists for the same purpose.

Implementation of report:
Use the chart below to record actions taken regarding implementation of the decisions.

Date	Name of Body	Actions Taken
September 22, 2023	PCC chair	Recommendations sent to SCS for implementation

Final Report of the SCA Task Group on Enhancing Metadata and Practices in MARC Bibliographic Records

January 17, 2023

Membership

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Executive summary

The Task Group was charged to review and identify descriptive practices and non-access point MARC fields that could benefit from linked data vocabularies and propose strategies to implement improvements. After the review of relevant documents collected from previous PCC tasks groups and other professional organizations, the Task Group set out to evaluate and subsequently provide recommendations for the MARC descriptive fields that could benefit from changes of existing cataloging practices, inching toward an easier transition from a traditional to a linked data environment. In this report, the Task Group provides the principles by which reviews were conducted, makes recommendations regarding specific MARC fields, and lays out foreseeable complications with adoption of the proposed strategies. The recommendations may suggest future investigations or avenues that the PCC may consider and study.

Background Overview

Over the last decade, library communities under the leadership and auspices of the Program for Cooperative Cataloging (PCC) have invested many resources in establishing frameworks to help libraries actively move from string-based description for bibliographic and authority data to dynamic and robust platforms for managing collections of metadata and identity statements by engaging and deploying the emerging Web-based technologies. Library bibliographic description and authority data are encoded in a Web-unfriendly format, MARC. A Web-friendly and open data format, BIBFRAME, initiated by the Library of Congress, was launched in 2012. This new bibliographic framework has steadily taken root in the US and Europe. The road from MARC to BIBFRAME will be long and arduous for many. The PCC leadership has created various Task Groups looking at existing policies, which introduced standards and practices that govern information retrieval for the research community. Recommendations from these task groups seek to chart a course ahead for libraries to contribute to and benefit from the open and dynamically linked web of data.

To date, the PCC community has made tremendous progress in accommodating data elements that will facilitate our transition from a MARC-based information system to a linked-data based one, such as embedding URIs in the current MARC ecosystem, mindful of requirements for a linked data implementation and data models. Most of all, the community has reenvisioned PCC's role in a rapidly shifting information landscape by leveraging member' expertise, knowledge, and skills. *The Strategic Directions for 2018-2022* guides the community's many efforts. Reporting to the Standing Committee on Applications, this Task Group was called and charged on July 1st, 2022 to fulfill *SD 5.3 and 5.4* respectively, and present its findings in January 2023.

In addition to carrying out the tasks for the stated charge and deliverables, the Task Group will share the findings and concerns resulting from examining descriptive MARC fields and resource constraints in this report—in particular, the necessary resource adjustments in workflows for current and future data modeling, the introduction and deployment of new technological skills and tools in existing ILSes, and the future linked data landscape.

Charge, Deliverables, Scope of work

The Standing Committee on Applications Task Group on Enhancing Metadata and Practices in MARC Bibliographic Records was charged to:

1) review and identify descriptive practices that could benefit from linked data adoption,
2) identify non-access point MARC fields that could be enhanced with linked data vocabularies,
3) propose strategies to implement improvements to the above identified areas.

The four deliverables anticipated as the Task Group deliberated:

- Perform an environmental scan of improvements to MARC data already proposed by PCC and other cataloging communities

- Identify current MARC encoding practices that can be revised to benefit from published linked data vocabularies
- Propose strategies and tools to enhance existing metadata in those MARC fields
- If needed, propose new MARC fields and/or subfields to address deficiencies identified in current practice

The environmental scan of proposals for MARC coding and the review of current cataloging practices and reports from other Task Groups informed the Task Group how a group of descriptive MARC fields can be adjusted to fit into “linked data friendly” data practices. Reports and documents from the previous PCC Task Groups helped lay the foundation that the Task Group needed as it carried out the tasks at hand. The Task Group on URIs in MARC and the Task Group on MARC Simplification for BIBFRAME Conversion are of particular interest, along with the PCC Task Group on Linked Data Best Practices.

The Task Group collected MARC fields and examined each field to identify the ones that are in scope as descriptive fields and determined priorities for which fields to examine first. The extra care the Task Group took to work through the structure of URIs, such as the differences between subfields $u (Uniform Resource Identifier), $0 (Authority record control number or standard number), and $1 (Real World Object URI), and how the presence of subfield $2 (Source of term) may indicate fields which could benefit from linked data in the context of linked data, helped formulate strategies to achieve our goals. In addition, the Task Group examined the BIBCO Standard Record and CONSER Standard Record to consider how the descriptive fields are essential elements to linked data adaptability, and whether their impact is important in any known systems and cataloging workflow.

The repeatability of some subfields in descriptive fields represents layers of complication for linked data application of MARC data. A single triple illustrating a relationship from subject to object is not as straightforward when it is not clear which entity is the object in a field. The question of whether and how descriptive MARC fields can be made more hospitable to adaptation to linked data is one that the Task Group will endeavor to address.

Meetings and Documentation

The Task Group was formally charged on July 1, 2022. An introductory session was held on July 7 followed by bi-weekly meetings via Zoom, accommodating Task Group members with diverse schedules across different time zones. Meetings usually ran for an hour, including some asynchronous work in between. During the duration, two members departed and one member came onboard in August.

The Task Group met a total of 12 times via Zoom. Working documents were in Google Drive accessible to Task Group members.

Defining Terminology, Operating Principles and Methodology

The Task Group established the following principles which guided the methodology for evaluation criteria and formulating cataloging practices to recommend:

1. Respect and affirm recommendations from previous PCC Task Groups concerning descriptive fields.
2. Be mindful of the return on investment in cataloger time and resources when considering whether and how descriptive fields can be adapted for linked data.
3. Consider the need for retrospective reconciliation when evaluating proposed changes to practice, and the resources needed for such reconciliation.
4. Evaluate whether the MARC field conveys unambiguously a single object reference.
5. Remember that not all URLs/URIs can be used for linked data; linked data requires a URI that can be dereferenced into RDF.
6. Stay within the scope that the Task Group has determined based on the charge.
7. Field values with unambiguously identified vocabularies can be mechanically converted to linked data without necessarily requiring catalogers to embed subfield $0 or $1 URIs in the MARC data.
8. Human-readable fields do not need to be adapted to linked data when the data is duplicated in machine-readable fields elsewhere in the record that can more easily be used for linked data.

The presence of a subfield $2 (Source of term) in a descriptive field contributed to the Task Group's deliberation process as it records a usage of a vocabulary encoding scheme. A controlled vocabulary by itself does not imply suitability for linked data, as many important vocabularies are not published in RDF. But an identified controlled vocabulary is a first step for linked data deployment. Thus, fields with a subfield $2 were given closer attention in our reviews.

Fields which already have subfields $0 and $1 defined are already suitable for linked data. Examples include 251 (Version Information), 257 (Country of Producing Entity), and 310 (Current Publication Frequency). After a quick examination, the Task Group felt no further review of these fields was necessary at this time.

Per the Task Group's operating principles to respect and build upon the work of previous Task Groups, the Task Group chose to omit from assessment MARC fields that had already been reviewed for linked data adaptability by other groups. And per the scope of the charge, the Task Group would focus on non-access point fields.

In the course of our review, the Task Group deliberated on the role of standard identifiers in linked data. While the Task Group ultimately decided that these standard identifiers were outside of the group's scope, the Task Group recognizes their importance in uniquely identifying resources. The ISSN community has already moved to provide their information as linked data and the Task Group anticipates that other agencies that maintain identifiers will move in the same direction.

The Task Group then evaluated MARC fields by determining whether there is an unambiguous entity that could be represented by a dereferenceable URI.

Through evaluation of these fields, the Task Group arrived at one of several conclusions for each field, including but not limited to:

1. Yes, the field contains an unambiguous entity.
2. Yes, the field contains an unambiguous entity, but there exists another field, such as a fixed field or access point field, where this entity could potentially be represented with a dereferenceable URI.
3. No, the field does not contain a single unambiguous entity, but recommendations such as repeating fields so that each entity is in its own field could be a solution.
4. No, the field does not contain a single unambiguous entity, but it is possible that one of the entities in a subfield could be important enough to determine the entity to link to.
5. No, the field does not contain a single unambiguous entity, and it would require significant resources and/or a reconceptualization of the field to change this fact.
6. No, the field does not contain a single unambiguous entity, but the multiple entities are in a controlled vocabulary or codes which can be converted mechanically into linked data.

The Task Group also identified relevant policies and practices for the evaluated fields and assessed the documentation for possible changes toward more linked-data friendly practices.

With both evaluation of fields and related policies complete, the Task Group made final recommendations for either changes in practice and policy and/or retrospective metadata changes for select MARC descriptive fields. Recommendations can be found in this final report in Appendix A.

MARC Fields Reviewed by PCC Linked Data Best Practices Task Group	• 033, 034, 043 • 1XX • 240 • 336, 337, 338, 340, 344, 345, 346, 347, 348, 370, 377, 380, 381, 382, 385, 386, 388 • 518, 567 • 600, 610, 611, 630, 647, 648, 650, 651, 654, 655, 656, 657, 662 • 700, 710, 711, 730, 751, 752, 753, 754, 758 • 800, 810, 811, 830, 880, 883, 885
MARC Fields Out of Scope (Non-Descriptive, Has Existing Subfields $0/$1)	• 010-09X [024 exception] • 1XX • 251, 257 • 310, 321, 334, 335, 353, 384, 387 • 6XX [658 exception] • 7XX • 8XX

MARC Fields Reviewed by Current SCA Task Group	• 024 • 210, 222, 242, 243, 245, 246, 247, 250, 254, 255, 256, 258, 263, 264, 270 • 300, 306, 307, 341, 342, 343, 351, 352, 355, 357, 362, 363, 365, 366, 383 • 490 • 500, 501, 502, 504, 505, 506, 507, 508, 510, 511, 513, 514, 515, 516, 520, 521, 522, 524, 525, 526, 530, 532, 533, 534, 535, 536, 538, 540, 541, 542, 544, 545, 546, 547, 550, 552, 555, 556, 561, 562, 563, 565, 580, 581, 583, 584, 585, 586, 588 • 658

Accomplished Tasks

The Task gathered and reviewed documentation from previous Task Groups:

a. PCC Task Group on Linked Data Best Practices Final Report (2019): https://www.loc.gov/aba/pcc/taskgroup/linked-data-best-practices-final-report.pdf
b. PCC SCA Report of the Survey on Library of Congress BIBFRAME-to-MARC Conversion Specifications and Tools (2020): https://docs.google.com/document/d/12jA2nV6c5HM_QNks4nYIWrywSlcKQXkVU8VwiSRPAI4/edit#heading=h.wfvt5zx5shxn
c. Retrospective Implementation Best Practices (2022): https://docs.google.com/document/d/1z26hElRDCxXaxum_Or36-Xg5DBNqv2xt0Mfy0sVCKV4/edit#heading=h.e0a23hcvc884
d. URIs in MARC documentation on WikiData, maintained by the University of Washington: https://www.wikidata.org/wiki/Wikidata:WikiProject_URIs_in_MARC
e. Interim Report of the PCC Task Group on MARC Simplification for BIBFRAME Conversion (2022): https://www.loc.gov/aba/pcc/taskgroup/MARC-Simplification-for-BF-Conversion-interim-report.pdf
f. PCC RDA BSR (BIBCO Standard Record) Metadata Application Profile: https://www.loc.gov/aba/pcc/bibco/documents/PCC-RDA-BSR.pdf
g. CSR (CONSER Standard Record) RDA Metadata Application Profile: https://www.loc.gov/aba/pcc/conser/documents/CONSER-RDA-CSR.pdf

The Task Group also obtained data on the number of occurrences in the Worldcat database of the MARC fields and subfields. The Task Group solidified processes to complete the examination of the 181 of 239 MARC fields, then to select 10 for in-depth evaluation for recommendation. The preliminary report was submitted to the Standing Committee on Applications on September 30, 2022. The preliminary report can be found at: https://loc.gov/aba/pcc/sca/documents/SCA-TG-Enhancing-Metadata-in-MARC-Bibs-preliminary-report.pdf

Fields Identified for Recommended Changes

The Task Group has decided to make recommendations on changes to definitions, policies, and cataloging practices for the MARC fields listed below. Each field contains the description of the MARC tag, current cataloging policies from the communities, such as the *LC-PCC PS* from the Original RDA and the current Official RDA, *Metadata Guidance Documentation*, best practices from library professional groups, i.e., OLAC, etc. Recommendations are in Appendix A.

- 024 - Other Standard Identifier (R)
- 210 - Abbreviated Title (R)
- 300 - Physical Description (R)
- 341 - Accessibility Content (R)
- 504 - Bibliography, Etc. Note (R)
- 506 - Restrictions On Access Note (R)
- 536 - Funding Information Note (R)
- 540 - Terms Governing Use And Reproduction Note (R)
- 586 - Awards Note (R)
- 658 - Index Term--Curriculum Objective (R)

Appendices

A. Recommendations

024 - Other Standard Identifier

MARC field 024 contains a standard number or code published on an item which cannot be accommodated in another field. The type of standard number or code is identified in the first indicator position or in subfield $2 (Source of number or code):

0 - International Standard Recording Code
1 - Universal Product Code
2 - International Standard Music Number
3 - International Article Number
4 - Serial Item and Contribution Identifier
7 - Source specified in subfield $2
8 - Unspecified type of standard number or code

The source of each standard number or code in 024 is identified in the first indicator position or in subfield $2, and the field contains an unambiguous entity. Although the standard numbers/codes in field 024 have not been implemented as URIs yet, they

might be in the future. The ISSN has started providing ISSN information as linked data, and subfields $0 and $1 have been added to 022 to accommodate ISSN URIs.

Current Policies

Original RDA Toolkit: LC-PCC PS 2.15 provides several policy statements regarding which identifiers to use in certain situations.

Official RDA Toolkit: LC-PCC Policy Statements on identifier for manifestation say that if there is more than one identifier for manifestation, prefer an internationally recognized identifier, if applicable. An additional identifier for manifestation is optional. If a local encoding scheme is able to record the value of an element as an identifier or IRI, use judgment in applying the recording method.

Metadata Guidance Documentation: MGD provides guidance on recording ISBNs but not other standard identifiers.

Recommendations

The Task Group recommends:

- A proposal be made to add subfields $0 and $1 to field 024.
- That the *Metadata Guidance Documentation* be updated to provide guidance on recording other standard identifiers.

210 - Abbreviated Title

MARC field 210 records an abbreviated title for indexing or identification. The first indicator shows whether a title added entry is generated. A space in the second indicator shows the abbreviation is an abbreviated key title assigned by the ISSN Network. Other abbreviated titles get a 0 in the second indicator.

The abbreviated title goes into subfield $a, with qualifying information in subfield $b. The source of the abbreviated title is in subfield $2.

The Task Group is not aware of any source of abbreviated titles available in linked data. But it has similarities to uniform titles, and would benefit from SameAs relationships.

Current Policies

Original RDA Toolkit: LC-PCC PS 2.3.10 notes that abbreviated title is a core element for the U.S. ISSN Center for an abbreviated key title in conjunction with an ISSN assignment for scientific and technical publications.

Official RDA Toolkit: The LC-PCC PS for abbreviated title notes says it is LC Core for the U.S. ISSN Center for an abbreviated key title in conjunction with an ISSN assignment for scientific and technical publications. Policy statements say to apply the option to record the form found in the source of information, and to use the Guidelines on normalized transcription.

Metadata Guidance Documentation: The MGD provides no guidance on entering an abbreviated title.

CONSER Cataloging Manual: The CONSER Cataloging Manual (CCM) includes abbreviated title in Module 7 as a type of variant access point. However, the instructions only cover abbreviated titles found in the work and entered into field 246. The CCM provides no guidance on using the field 210.

Recommendations

The Task Group recommends:

- That subfields $0 and $1 be added to field 210.
- That new LC-PCC PS be created to explicitly permit recording a URI for abbreviated title.
- That the Metadata Guidance Documentation be updated to provide instruction for entering an abbreviated title.

300 - Physical Description

MARC field 300 records the physical description of the described resource, including its extent, dimensions, and other physical details, as well as a description of any accompanying materials. Subfield $a records the extent of the resource. Subfield $b records other physical details: “Physical characteristics such as illustrative matter, coloration, playing speed, groove characteristics, presence and kind of sound, number of channels, motion picture presentation format, etc.” Subfield $c records dimensions. Subfield $e records accompanying material. Subfield $f records type of unit. Subfield $g records size of unit. Subfield $3 records materials specified. Subfield $6 records linkage. Subfield $7 records data provenance. Subfield $8 records field link and sequence number.

Subfields $a and $c contain numeric values and units. The values in subfield $b could hypothetically come from vocabularies, but the variety of information makes that difficult. Other fields already exist for recording the same information using controlled vocabularies. While field 300 contains important details about the manifestation, it is not suited to linked data.

To move toward linked data, proper use of existing specialized fields for other physical details should be encouraged. The policies and recommendations below focus on subfields $b and $c.

Current Policies

Original RDA Toolkit: The RDA to MARC Bibliographic Mapping maps the following instructions to both field 300 $b and a field in the 34x range:

RDA Instruction Number	RDA Element Name	MARC 21 Field/ Subfield
RDA 3.6	Base Material	340 $a
RDA 3.7	Applied Material	340 $c
RDA 3.8	Mount	340 $e
RDA 3.9	Production Method	340 $d
RDA 3.11	Layout	340 $k
RDA 3.14	Polarity	340 $o
RDA 3.15	Reduction Ratio	340 $f
RDA 3.16	Sound Characteristic	344 $a-$h
RDA 3.17	Projection Characteristic of Motion Picture Film	345
RDA 3.18	Video Characteristic	346
RDA 3.19.3	Encoding Format	347 $b
RDA 7.15	Illustrative Content	340 $p
RDA 7.17	Colour Content	340 $g
RDA 7.18	Sound Content	344 $i

In addition, RDA 3.5, Dimensions, is mapped to field 300 subfield $c and to field 340 subfield $b.

Official RDA Toolkit: LC-PCC Policy Statements for colour content say to exercise cataloger's judgment on recording details or other unstructured information; to use a substitute term, such as "color" and phrases such as "some color" or "chiefly color"; and to not apply the option for recording an appropriate

term from the RDA Colour Content vocabulary encoding scheme. LC-PCC Policy Statements for other Physical Description elements typically encourage the use of cataloger's judgment on recording an unstructured structured description or a structured description.

Metadata Guidance Documentation: The MGD provides no guidance on entering other physical details or dimensions.

Recommendations

The Task Group recommends:

- That LC-PCC Policy Statements be updated to recommend use of both an unstructured description for elements to be recorded in field 300 subfield $b, and a structured description for the same elements that would be recorded in fields 340, 344, 345, 346, and 347.
- That a Metadata Guidance Document be created to:
    - encourage the use of fields 340, 344, 345, 346, and 347 to encode other physical details in addition to field 300 subfield $b
    - include examples showing the use of both field 300 subfield $b and the applicable fields 340, 344, 345, 346, and 347
    - encourage the use of field 340 subfield $b in addition to field 300 subfield $c

341 - Accessibility Content

MARC field 341 records modes of access to the content of a resource. Subfield $a records a primary mode of access (textual, visual, auditory, or tactile), while subfields $b, $c, $d, and $e record alternative methods of accessing the content of that mode through textual, visual, auditory, or tactile assistive features. Subfields $b through $e can come from a controlled list, with subfield $2 recording source of the controlled vocabulary terms. The Task Group is not aware of a controlled vocabulary for accessibility content except for the Tactile Notation vocabulary at https://id.loc.gov/vocabulary/mtactile.html and the Schema.org Accessibility Properties for Discoverability Vocabulary.

Historically, some accessibility features have been recorded in other places such as fields 008, 340, 532, 546, and 655, with varying degrees of specificity and control of terms.

Current Policies

Original RDA Toolkit: LC-PCC PS 7.14 gives guidance on recording sign language with some specific text, but does not specify which field to use.

Official RDA Toolkit: LC-PCC Policy Statements on recording a structured description leave accessibility content to cataloger judgment, and say 'do not apply the option' to record a vocabulary encoding scheme unless specifically required. For recording an identifier or IRI, the policy statements allow cataloger judgment in applying a *local* encoding scheme, with no reference to published encoding schemes.

Metadata Guidance Documentation: MGD provides a single example for recording a statement in field 532.

OLAC Best Practices for Cataloging Objects Using RDA and MARC21: Suggests adding accessibility information to field 340 subfields i, j, and k.

OLAC Best Practices for Cataloging Streaming Media: Recommends following LC-PCC PS 7.14, recording sign language information in field 546.

OLAC Best Practices for Cataloging DVD-Video and Blu-Ray Discs: Recommends following LC-PCC PS 7.14, recording sign language information in field 546.

Note: LC-PCC PS 7.14 predates the addition of fields 341 and 532 to MARC21. There are no useful policies in place for recording accessibility content in field 341.

Recommendations

The Task Group recommends:

- That new accessibility vocabularies be created for textual, visual, and auditory assistive features to be housed at id.loc.gov.
- That subfields $0 and $1 be added to field 341 to record URIs for terms in subfields $b, $c, $d, and $e.
- That a new source code list be created for accessibility content term sources, to be used in field 341 subfield $2.
- That new LC-PCC PS be created to:
    - explicitly permit the use of controlled vocabularies in accessibility content
    - explicitly permit recording the source of a vocabulary term for accessibility content
    - explicitly permit recording a URI for a vocabulary term of accessibility content
- That the Metadata Guidance Documentation be updated to:
    - encourage the use of field 532 for free text statements and/or field 341 controlled vocabulary terms for accessibility content
    - include examples of the use of field 341 for accessibility content, with subfield $2 in some examples

- if subfield $0 and $1 are added to field 341, include examples with those subfields

504 - Bibliography, etc. Note

MARC field 504 records bibliography, etc. note for the content of a resource. Subfield $a records a bibliographical note, subfield $b records number of references. Subfields $6 Linkage and subfield $8 Field link and sequence number. No provision is made to use terms from a controlled list. Even if the data originated from a controlled list, without subfield $2 recording the source of the controlled vocabulary terms, the field is not adaptable for linked data operation.

In contrast, field 353 provides specific subfields to encode necessary information relevant to bibliographic references and indexes, as well as many other types of supplementary material. Subfield $0 and subfield $1 were also included to record URI. Subfield $2 is in place to connect to controlled vocabularies. In some BIBFRAME implementations, such as Sinopia, field 353 is deployed to connect a term in subfield $a or code in subfield $b to the controlled vocabulary.

Current Policies

Original RDA Toolkit: LCC-PS 7.16.1.3 gives guidelines to record the presence of supplementary content in a note, such as bibliographies and bibliographical references, discographies, and filmographies, indexes, appendices, and errata slips.

Official RDA Toolkit: LC-PCC Policy Statements for Supplementary Content references MGD for Manifestation elements supplementary content. Optionally leaves the decision to the cataloger's judgment.

Metadata Guidance Documentation: Provides two examples for unstructured description notes of manifestation, *see:* Entities > Manifestation > supplementary content > Recording an unstructured description

Recommendations

The Task Group recommends:

- That LC-PCC PS be changed to encourage use of controlled vocabularies over unstructured descriptions for Bibliography, etc. Note, with optional URIs
- That the Metadata Guidance Document be changed to provide examples using field 353, including examples of using a URI
- That a Supplementary Content code list be added to the list of Source Codes for Vocabularies, Rules, and Schemes, and that the msupplcont vocabulary available

at https://id.loc.gov/vocabulary/msupplcont.html be assigned a code and added to that list

506 - Restrictions on Access Note

MARC field 506 records restrictions, or lack of restrictions, on access to the resource in question. Subfield $a contains a free-text note regarding any legal, physical, or procedural restrictions to access the resource. Subfields $b, $c, $d, $e, $g, and $q contain more specific information, such as who imposes the restrictions on the resource (jurisdiction), any requirements for physical access, date when a resource becomes available, and more. Subfield $f records a standardized term for access restriction. It is used in conjunction with subfield $2, which specifies the code for the controlled vocabulary used in subfield $f. Currently, accepted values in subfield $2–that is, acceptable vocabulary sources for subfield $f–are found in the Access Restriction Term Source Codes list.

In addition to sources already listed in the above list, vocabularies such as Wikidata and the COAR Controlled Vocabularies for Repositories include access restrictions as linked data entities.

Field 506 also contains a subfield $u to record a Uniform Resource Identifier that leads to additional information about access restrictions. This field does not hold information equivalent to URIs found in control subfield $1.

Current Policies

Original RDA Toolkit: There are no LC/PCC Practices with regard to recording a structured description for restriction on access.

Official RDA Toolkit: There are no LC/PCC Practices with regard to recording a structured description for restriction on access to manifestation. For restriction on access to an item, LC/PCC practice is to use cataloger's judgment when using the option to "use a vocabulary encoding scheme as a source of information", and to record the form found in the vocabulary encoding scheme. LC/PCC practices directs catalogers to NOT apply the option of recording "a vocabulary encoding scheme that is used as a source of information," unless "specifically required by policy or by the metadata system."

Provider Neutral E-Resource Guidelines: Provider neutral guidelines only allow the use of field 506 in the case of records for DLF Registry of Digital Masters, HathiTrust Digital Library and other digital preservation projects.

Recommendations

The Task Group recommends:

- A proposal be made to add subfields $0 and $1 to field 506 to record URIs for terms in subfield $f.
- That the current Access Restriction Term Source Codes list be updated to include additional vocabularies such as Wikidata and the COAR Controlled Vocabularies for Repositories that contain relevant access restriction terms, to be used in 506 subfield $2.
- That new LC/PCC policy statements be created to explicitly permit recording a URI for a vocabulary term for access restrictions
- That the Metadata Guidance Document be changed to
    - if subfields $0 and $1 are added to field 506, include examples with those subfields
    - encourage use of the recently approved field 856 subfield $l (*see MARC Proposal no. 2022-06*) to associate access restriction statements with the specific URL access point for electronic resources

536 - Funding Information Note

MARC field 536 records funding information for a resource.

$a - Text of note. Records a free-text note, as in: Sponsored by [name of organization].

Most other subfields record various sorts of number:
$b - Contract number
$c - Grant number
$d - Undifferentiated number
$e - Program element number
$f - Project number
$g - Task number
$h - Work unit number

All subfields except subfield $a are repeatable. There are also subfields $6 and $8 with their customary definitions.

The Task Group is aware of an initiative of CrossRef.org in which grant funders may set up a DOI for their grants. If these DOIs are compatible with linked-data URIs, it may be possible to use such a URI in reference to the grant number in subfield $c. More information may be found at https://www.crossref.org/documentation/research-nexus/grants/

The Task Group is not aware of any other categories of number recorded in field 536 which are available as linked data, but it would be theoretically possible for other types of numbers to have a linked data registry.

Note that the name of the funding source does not have its own subfield in this field, therefore the Task Group recommends that the name be recorded in the 710 field, along with an appropriate relationship designator such as “Sponsoring body.”

Current Policies

Original RDA Toolkit:

Contains no instruction for this data element and in the LC-PCC PSs there is only a notation about ending punctuation. The MARC Bibliographic to RDA mapping notes it as N/A.

Official RDA Toolkit:

No instruction was located regarding a note. However, relationship designators have been changed to properties and there are various flavors of sponsor.

Metadata Guidance Documentation:

The only instruction found was to use the Corporate body to Work relationship: sponsored work of corporate body

Recommendations

The Task Group recommends:

- Further investigation of the CrossRef.org initiative to see if the grant DOIs would be appropriate for linked data
- Further investigation of other possible initiatives which might provide linked-data friendly URIs for the other types of numbers in the other subfields
- Encouragement of the use of field 710 for the names of funding agencies, with the RDA relator term Sponsoring body or MARC relator terms Funder and Sponsor

540 - Terms Governing Use and Reproduction Note

MARC field 540 records terms governing restrictions, or lack of restrictions, on use of the resource in question. Subfield $a contains a free-text, legal or official statement of restrictions. Subfields $b, $c, $d, and $g contain more specific information, such as who imposes the restrictions on the resource (jurisdiction), date when terms change, and more. Subfield $f records a standardized term for use and reproduction rights. It is used in conjunction with subfield $2, which specifies the code for the controlled vocabulary

used in subfield $f. Currently, accepted values in subfield $2—that is, acceptable vocabulary sources for subfield $f—are found in the Access Restriction Term Source Codes list.

In addition to sources already listed in the above list, vocabularies such as Wikidata include use restrictions as linked data entities (e.g. public domain, NASA Open Source Agreement).

Field 540 also contains a subfield $u to record a Uniform Resource Identifier (URI) that leads to additional information about use and reproduction rights. This field does not hold information equivalent to URIs found in control subfield $1.

Current Policies

Original RDA Toolkit: LC-PCC PS 4.5 states that recording restrictions on use is a core element for archival resources and that an absence of restrictions should also be noted.

Official RDA Toolkit: There are no LC/PCC Practices with regard to recording a structured description for restriction on use of manifestation. For restriction on use of item, LC/PCC practice is to use cataloger's judgment when using the option to "use a vocabulary encoding scheme as a source of information", and to record the form found in the vocabulary encoding scheme. LC/PCC practice directs catalogers to NOT apply the option of recording "a vocabulary encoding scheme that is used as a source of information," unless "specifically required by policy or by the metadata system."

Metadata Guidance Documentation: The MGD provides no guidance on recording terms governing use and reproduction.

Provider Neutral E-Resource Guidelines: Provider neutral guidelines do not allow the recording of restrictions on use in records.

Recommendations

The Task Group recommends:

- A proposal to add subfields $0 and $1 to field 540 to record URIs for terms in subfield $f.
- That the current Access Restriction Term Source Codes list be updated to include additional vocabularies such as Wikidata that contain relevant terms for restrictions on use (see also recommendation for 506)
- That new LC/PCC policy statements be created to
    - explicitly permit recording a URI for a vocabulary term for restrictions on use

- That the Metadata Guidance Documentation be updated to
    - provide guidance on recording terms governing use and reproduction
    - if subfield $0 and $1 are added to field 540, include examples with those subfields
    - encourage use of the recently approved field 856 subfield $r (*see MARC Proposal no. 2022-06*) to associate restrictions on use with the specific URL access point for electronic resources

586 - Awards Note

MARC field 586 records awards that are associated with the described item. Subfield $a contains a free-text note generally listing the name of the award and the year. Field 586 is repeated for each instance of an award.

Vocabularies such as Wikidata include awards as linked data entities, such as the Caldecott Medal, Pulitzer Prize for Fiction, Academy Award for Best Picture, and more.

Current practice for recording Awards Note is very inconsistent. Sometimes the note records only the name of the general award, other times it may include category and the year, and not in any consistent format.

Current Policies

> ***Original RDA Toolkit:*** RDA.7.28 provides basic instructions on recording awards. There is no LC-PCC PS for recording an awards note.
>
> ***Official RDA Toolkit:*** There are no LC-PCC PS with regard to recording a structured description for award information for the content of an expression.
>
> ***Metadata Guidance Documentation:*** The MGD provides no guidance for recording an awards note.

Recommendations

The Task Group recommends:

- That a proposal be made to add subfields $0 and $1 to field 586 to record URIs for the award noted in subfield $a
- That a proposal be made to add subfield $c to field 586 to record the category of the award and subfield $d to record the date of the award
- That new LC-PCC policy statements be created to explicitly permit recording a URI for a vocabulary term for an award
- That the Metadata Guidance Documentation be updated to
    - provide guidance on recording an awards note
    - if subfield $0 and $1 are added to field 586, include examples

658 - Index Term-Curriculum Objective

MARC field 658 is for Index terms denoting curriculum or course-of-study objectives applicable to the content of the described materials. Curriculum objectives, curriculum codes, and correlation factors recorded in this field come from standard published lists and the list is identified in subfield $2 (Source of term).

MARC Advisory Committee circulated on December 21, 2022, a *MARC Discussion Paper No. 2023-DP02* that proposes adding subfields $0 and $1 to field 658.

Current Policies

Original RDA Toolkit: There is no element in the original RDA Toolkit for curriculum objective, so no instruction given in the LC-PCC PS for data element treatment

Official RDA Toolkit: There is no element in the official RDA Toolkit for curriculum objective, so no instruction given in the LC-PCC PS for data element treatment

Metadata Guidance Documentation: There is no element in the official RDA Toolkit for curriculum objective, so no instruction is given in the MGD for data element treatment

Recommendations

The Task Group recommends:

- That PCC support MARC Discussion Paper No. 2023-DP02 to add subfields $0 and $1 to field 658

B. Tools and Strategies for Enhancing Existing Descriptive Fields

The Task Group's third charge was to propose strategies and tools to enhance existing metadata in those MARC fields. External tools, such as MarcEdit, PyMARC (Python library), MARC::Record (Perl module), and MARC4J (Java library) have been used by librarians and developers to batch update MARC data. OCLC offers a variety of tools, such as Connexion client macros and the WorldCat Metadata API, to facilitate data integrity activities. Many vendors also provide APIs and tools to enable their customers

to perform this task or offer services to apply the changes on behalf of their customers. Below are high-level descriptions of processes that could be implemented by any of the above to apply our recommendations to existing bibliographic records.

For field 024, once subfields $0 and $1 are added to MARC 21, a URI could be formulated for each identifier associated with a source that provides URIs by making use of the guidance offered by the WikiProject URIs in MARC. These URIs could then be inserted into the appropriate subfield ($0 or $1) in the bibliographic record.

For field 210, once subfields $0 and $1 are added to MARC 21, abbreviated titles from sources providing URIs could be matched with their URI, and then those URIs could be inserted into the appropriate subfield ($0 or $1) in the bibliographic record.

For field 300 subfield $b, the data in subfield $b could be parsed into pieces, starting by splitting the subfield on commas, and then further examining the pieces to identify the elements present, such as colour content, illustrative content, polarity, etc. Once the elements have been identified, they could be mapped to standard vocabulary terms, and, if found, added to the bibliographic record in the appropriate field and subfield. The parsing method would need to take the language of cataloging into account while attempting to identify the elements.

For field 341, once subfields $0 and $1 are added to MARC 21, accessibility content from sources providing URIs could be matched with their URI, and then those URIs could be inserted into the appropriate subfield ($0 or $1) in the bibliographic record. That said, since field 341 is relatively new, having been added to MARC 21 in 2018, it has been added to relatively few records, and even fewer of those (approximately 50 records in WorldCat) include a subfield $2 containing a value *sapdv*, the only code currently valid on the Accessibility Content Source Codes list. It might be possible to examine fields 008, 340, 532, 546, and 655 to identify accessibility content, to then be added to field 341. However, that would require significantly more data analysis than was available to the Task Group.

For field 353, fields 504 and 500 could be scanned, looking for terms and phrases that could be mapped to vocabulary scheme members on the Library of Congress' Supplementary Content list, or another appropriate list, once others are made available and assigned a code appropriate for field 353 subfield $2. Once mapped, the appropriate term could be added to field 353 along with subfields $0 and/or $1 for that term. The parsing method would need to take the language of cataloging into account while attempting to identify the elements. Alternatively, or in addition to examining fields 504 and 500, which would primarily find phrases associated with supplementary content terms "bibliography", "filmography", "discography", and "index", the parser might consider examining appropriate bytes of field 008 to identify supplementary content not easily found in other fields of the record. As part of the process, the parser could account for discrepancies between coding in field 008 vs. fields 5xx by either not adding field 353 when these differ, or preferring data in one of those fields over the other.

For fields 506 and 540, once subfields $0 and $1 are added to MARC 21, access restriction terms from sources providing URIs could be matched with their URI, and then those URIs could be inserted into the appropriate subfield ($0 or $1) in the bibliographic record.

For field 536, the free-text nature of data in the field and difficulty in associating that data with authorized forms of corporate names make it unlikely that field 710 could be retrospectively added for sponsors or funding agencies mentioned in field 536. Addition of URIs for other subfields would depend on the outcome of the further investigations recommended by the Task Group.

For field 586, if subfields $0 and $1 are added to MARC 21, the free-text nature of the field up to now would make it difficult to add URIs based on the text in subfield $a. However, given a list of award names associated with their URIs, it might be possible to match them with data in field 586. A significant amount of human assistance would likely be required to verify the results.

For field 658, once subfields $0 and $1 are added to MARC 21, curriculum objectives from sources providing URIs could be matched with their URI, and then those URIs could be inserted into the appropriate subfield ($0 or $1) in the bibliographic record. As part of the process of implementation, additional data analysis would be needed to determine if matching is better done using subfields $a and $b or subfield $c. Looking at a sample of data in WorldCat, some subfields $c currently contain a URI rather than a code. A part of the mapping process could involve attempting to identify the appropriate code associated with those URIs, inserting that into subfield $c, and moving the URI to subfield $0 or $1.

C. Preliminary Report

The Preliminary Report was submitted to the Standing Committee on Applications on September 30, 2022 and posted at https://www.loc.gov/aba/pcc/sca/documents/SCA-TG-Enhancing-Metadata-in-MARC-Bibs-preliminary-report.pdf.