

TO: Joint Steering Committee for the Revision of AACR
FROM: Deirdre Kiorgaard, ACOC representative
Subject: Persistent identifiers and URLs

Related JSC documents:

5JSC/RDA/Part I RDA: Resource Description and Access Part I

5JSC/ACOC/1 and responses

Related reading:

Persistent identifiers <http://www.nla.gov.au/padi/topics/36.html>. National Library of Australia, Canberra, ACT 2600, Australia

Background to revised proposal

A key issue for RDA is the need to explicitly address the data elements that are applicable to online resources. *5JSC/ACOC/1* addressed this issue in relation to persistent identifiers and uniform resource locators.

Each of the constituencies responded to *5JSC/ACOC/1*, however there was insufficient time at the April 2006 JSC meeting for the issues and suggestions raised in those responses to be discussed. ACOC undertook to revise the proposal based on the responses to date and to highlight any issues that required further discussion. ACOC is very grateful for the feedback from each of the constituencies.

Structure of the revised proposal

The revised proposal has been organised as follows:

2.13.1 Standard numbers

2.13.2 Other resource identifiers

5.X Uniform Resource Locators

1.7.7 Notes citing uniform resource locators for related resources

Under each of these headings are two sections:

- Issues raised in responses to *5JSC/ACOC/1*
- Revised revision proposals

At the end of the proposal is a final section: Remaining issues for discussion

As in the initial proposal, examples have been suggested for illustrative purposes, and these examples should be reviewed by the RDA Examples group in due course.

Notes on decisions made at the April 2006 JSC meeting:

In *5JSC/RDA/Part I*, the instructions for Resource identifiers were at 2.12. Changes to the elements related to publication that were made as the result of discussion at the April 2006 JSC meeting have resulted in these instructions moving to 2.13 (see the revised Prospectus <http://www.collectionscanada.ca/jsc/working2.html#rda-prospectus>).

The term 'remote access resource' was used in the initial proposal *5JSC/ACOC/1* to reflect the terminology of the draft. In this revision 'online resource' has been used following the decision made at the April 2006 JSC meeting.

2.13.1. STANDARD NUMBER

Issues raised in responses to *5JSC/ACOC/1* and addressed in the revised proposal

Revisions to the initial proposal to address these issues are reflected in Proposed revisions below. Issues not addressed here are discussed under Remaining issues for discussion.

2.13. Resource identifier

Both the *5JSC/ACOC/1/CCC response* and *5JSC/ACOC/1/ALA response* suggested that "standard numbers" be renamed "standard identifiers". This suggestion also addresses the concern raised in *5JSC/ACOC/1/CCC response* regarding non-numeric identifiers.

2.13.1.1 Recording standard identifiers

5JSC/ACOC/1/LC response suggested adding an 'in case of doubt' provision to this instruction.

Proposed revisions

Strikethrough and underlining indicate changes from *5JSC/RDA/Part I*.

1. Revise the definition of standard identifier given in 2.13.0.1. Definition:

- A **standard identifier number** is an identifier ~~one that~~ is assigned by an ~~agency~~ authorized as registration agency for a ~~numbering~~ an identifier scheme approved by the International Organization for Standardization (ISO).

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- A **standard identifier** is an identifier assigned by an authorized registration agency for an identifier scheme approved by the International Organization for Standardization (ISO).

2. Add as a final paragraph in 2.13.1.1 Recording standard identifiers:

- In case of doubt as to whether a resource identifier is a standard identifier or not, treat it as an other resource identifier (see 2.13.2).

2.13.2. OTHER RESOURCE IDENTIFIERS

Issues raised in responses to 5JSC/ACOC/1 and addressed in the revised proposal

Revisions to the initial proposal to address each of these issues are reflected in

Proposed revisions below.

2.13.2.1. Recording other resource identifiers. First bullet

5JSC/ACOC/1/ALA response noted that JSC is moving away from prescribing introductory terms as part of separating the guidelines for presentation from the instructions, and so advocated replacing “precede” with “indicate” in 2.13.2.1.

5JSC/ACOC/1/ALA response also suggested that RDA should not instruct cataloguers to abbreviate agency names. At the April JSC meeting JSC confirmed that, as a general decision, although abbreviations could be used in recorded elements, their use should be minimised.

ACOC has since noted that this instruction could be simplified by removing the parenthetical statement, as this information is already given at 2.13.0.1 *Definition*.

ACOC had originally proposed introduction of the term “persistent identifier” in this instruction. For further discussion and proposals related to this, please see Remaining issues for discussion. Issue 10. *Persistent identifiers*.

2.13.2.1. Recording other resource identifiers. Second bullet

5JSC/ACOC/1/ALA response also questioned the use of “resolvable” and sought further clarification. The proposed revision to the second bullet point below has attempted to clarify what is intended, and ACOC would welcome further suggestions.

Proposed revision

Strikethrough and underlining indicate changes from 5JSC/RDA/Part I.

2.13.2.1. Recording other resource identifiers

- Record resource identifiers other than standard ~~identifiers numbers~~ (e.g., ~~publishers' numbers, identifiers assigned by an agency other than an ISO registration agency, etc~~) if they are considered to be important. ~~Precede the identifier with~~ Indicate the name of the agency, etc., responsible for assigning the identifier, if readily ascertainable, ~~using abbreviations as instructed in appendix D.~~

Supt. of Docs. no.: I 19.16:818

Warner Bros.: K56151

Tamla Motown: STMA 8007

Island: ILPS 9281

National Library of Australia: nla.arc-37733

National Library of Australia: nla.pic-an12766477

Harvard Name Resolution Service: urn-3:RAD.ARCH:15009

- For resource identifiers that are actionable, i.e. which potentially resolve to an online resource, see 5.X.

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5.X. UNIFORM RESOURCE LOCATORS

The URL of an online resource can be key in identifying that resource, and it is also essential for access to that resource. RDA needs to provide both guidance and instructions on recording this data element for those agencies that choose to record a URL as part of the description of the resource. The proposed instruction below addresses this need.

Note on inclusion of URLs in the bibliographic description

It may be preferable for the URL to be provided as part of the holdings record rather than in the bibliographic record¹, and it is recognised that some agencies will prefer to treat some or all URLs in that way. This proposal is not in conflict with that approach.

¹ For a summary of the arguments, see “Field 856 in bibliographic or holdings records”. In *MARC 21 Formats: Guidelines for the Use of Field 856*. Network Development and MARC Standards Office, Library of Congress. <http://www.loc.gov/marc/856guide.html>. Revised March 2003. Viewed 20 December 2005.

Impermanence of URLs

One argument against the inclusion of URLs in bibliographic descriptions relates to their impermanence. It is beyond the scope of this proposal or of RDA to solve this issue, however, this proposal does address aspects of this issue through providing some guidance on the maintenance of URLs (see 5.X.0.5 Recording changes in Uniform Resource Locators) and through the proposal to include persistent identifiers in the definition of standard identifiers (see Remaining issues for discussion. Issue 10. *Persistent identifiers*).

Issues raised in responses to 5JSC/ACOC/1 and addressed in the revised proposal

Placement of the proposed instruction

In ACOC's initial proposal 5JSC/ACOC/1 three options for the placement of this instruction were noted. 5JSC/ACOC/1/LC response, 5JSC/ACOC/1/CCC response, 5JSC/ACOC/1/ALA response and 5JSC/ACOC/1/BL response all preferred Option 3, i.e. with the Information on terms of availability etc., so the revised proposal places the instruction in Chapter 5.

5.X.0.3 Recording Uniform Resource Locators.

5JSC/ACOC/1/ALA response recommended that "for remote access resources" be removed from the caption and this has been done in the revised proposal.

5.X.0.4 Recording multiple Uniform Resource Locators. Second bullet.

5JSC/ACOC/1/ALA response recommended using "structural metadata to convey the specific relationships between the different URLs". The text of the bullet has been revised to say "indicate". 5JSC/ACOC/1/ALA response also noted that PDF is not an access method. The revised proposal removes the reference to access methods entirely, as both access methods, such as http and ftp, and encoding standards such as PDF, will usually be apparent from the URL.

5.X.0.5. Restrictions on access to, or use of, remote access resources.

5JSC/ACOC/1/CCC response, 5JSC/ACOC/1/LC response and 5JSC/ACOC/1/ALA response each expressed concerns about the first bulleted instruction, or recommended its deletion. The bullet has been deleted in the revised proposal. 5JSC/ACOC/1/ALA response also suggested that the second bulleted reference should be deleted. ACOC notes that the revised scope of Chapter 5 also places these instructions together, so the bullet has been deleted in the revised proposal.

5.X.0.5 Recording changes in Uniform Resource Locators (was 5.X.0.6).

5JSC/ACOC/1/LC response, 5JSC/ACOC/1/ALA response and 5JSC/ACOC/1/BL response suggested changes to this instruction. LC provided the most comprehensive suggestions, and these have been incorporated in the revised proposal.

Proposed Instruction

5.X. UNIFORM RESOURCE LOCATORS

5.X.0 BASIC INSTRUCTIONS ON RECORDING UNIFORM RESOURCE LOCATORS

Contents

- X.X.0.1 Definition
- X.X.0.2 Sources of information
- X.X.0.3 Recording Uniform Resource Locators
- X.X.0.4 Recording multiple Uniform Resource Locators
- X.X.0.5 Recording changes in Uniform Resource Locators

5.X.0.1. Definition

- ❑ A **Uniform Resource Locator**, or URL, is the global address of an online resource.
- ❑ Use these instructions for any resource identifiers that are actionable, i.e. which potentially resolve to an online resource.

5.X.0.2. Sources of information

- Take information on Uniform Resource Locators from any source.

5.X.0.3. Recording Uniform Resource Locators

- Record the Uniform Resource Locator for the online resource being described.

`http://www.lemonde.fr/`

`http://hdl.loc.gov/loc.rbc/jeff.16823`

`http://www.ietf.org/rfc/rfc3650.txt`

`ftp://aps.org/pub/jrnls/copy_trnsfr.asc`

`http://nrs.harvard.edu/urn-3:RAD.ARCH:15009`

`http://nla.gov.au/nla.arc-37733`

`http://nla.gov.au/nla.pic-an12766477`

`http://www.dlib.org/dlib/november05/lagoze/11lagoze.html`

- Record Uniform Resource Locators for related resources in a note (see 1.7.7).

5.X.0.4. Recording multiple Uniform Resource Locators

- Record one or more Uniform Resource Locators for the online resource being described in accordance with the policy of the agency preparing the description.
- If a resource is available from more than one location (e.g., mirror sites, or a publisher's site and an archive site) indicate the nature of the location if considered to be important (either for identification or for access).

Publisher's site: <http://www.artistsfootsteps.com/>

Archived at ANL: <http://pandora.nla.gov.au/nla.arc-14328>

(Resource held both at the publisher's site and at an archive)

5.X.0.5 Recording changes in Uniform Resource Locators

- If a Uniform Resource Locator is added or changed, revise the Uniform Resource Locator as appropriate. If a Uniform Resource Locator is deleted, delete the Uniform Resource Locator and record the deletion in a note.
- If another Uniform Resource Locator becomes available, add it to the description, if appropriate (see 5.X.0.4).
- If a Uniform Resource Locator no longer resolves to the resource, revise the Uniform Resource Locator to reflect a location that is resolvable.
- If a Uniform Resource Locator no longer resolves to the resource, and a resolvable location cannot be determined, remove the Uniform Resource Locator and record it in a note.

1.7.7. NOTES CITING UNIFORM RESOURCE LOCATORS FOR RELATED RESOURCES

A new instruction and/or new examples are needed to provide guidance or illustration of the treatment of URLs for related resources.

This would include:

- related resources providing additional descriptive metadata, (e.g. links to finding aids, summaries, contents listings, reviews, etc), or
- related content (e.g. links to book jacket images), or
- access to part of the resource available online (e.g. links to soundbites, excerpts, etc), or
- access to a different format of the resource (to an online version).

As this instruction may apply to any part of the description, this proposal suggests a general instruction be given as part of 1.7. Formulation of notes, and placed at 1.7.7. In conjunction with the proposed new instruction at 1.7.7, new examples should be added to at least the instructions noted below.

Links to biographical or historical information about persons, families or corporate bodies recorded in the description have been intentionally excluded from this proposal. However, such links could be considered for inclusion in the authority record.

Issues raised in responses to 5JSC/ACOC/1 and addressed in the revised proposal
The issues raised in responses have not been reflected in the Proposed revisions below, but are discussed under Remaining issues for discussion.

Proposed new instruction

1.7.7. NOTES CITING UNIFORM RESOURCE LOCATORS FOR RELATED RESOURCES

- Uniform Resource Locators for related resources can be cited in any note if appropriate.

Proposed additional examples

3.11 Other formats

Also available from the Dept. of Communications, Information Technology and the Arts website at:
http://www.dcita.gov.au/arts/arts/cvac_inquiry/report
(Uniform Resource Locator cited in other format note)

4.6 Summarization of the content

Publisher description:
<http://www.loc.gov/catdir/description/mh051/2001021593.html>
(Uniform Resource Locator cited in summarization of content note)

4.7 Contents list

Table of contents:
<http://www.loc.gov/catdir/toc/ecip057/2005002602.html>
(Uniform Resource Locator cited in contents list note)

4.9 Indexes and finding aids

Finding aid available in the Manuscript Reading Room and on the Internet at: <http://nla.gov.au/nla.ms-ms51>
(Uniform Resource Locator cited in finding aid note)

4.10 Related content

Book review (H-Net): <http://www.h-net.org/review/hrev-a0a7j5-aa>
(Uniform Resource Locator cited in related content note)

Sample text:
<http://www.loc.gov/catdir/samples/random051/98018706.html>
(Uniform Resource Locator cited in related content note)

REMAINING ISSUES FOR DISCUSSION

Issue 1. Expansion of 2.13.0.1. Definition

Issue 2. 2.13.1 vs. 2.13.2

These two issues are closely related and so have been grouped here.

5JSC/RDA/Part I makes a distinction between two types of resource identifier: Standard numbers and Other resource identifiers. Standard numbers are distinguished by being “assigned by an agency authorized as registration agency for a numbering scheme approved by the International Organization for Standardization (ISO).” ACOC’s initial proposal *5JSC/ACOC/1* maintained this distinction.

5JSC/ACOC/1/CCC response suggested that the definition of standard numbers be expanded “to accommodate international standard identifiers developed by organizations having an equivalent status to the ISO in their particular spheres of activity” specifying the Internet Engineering Task Force (IETF). *5JSC/ACOC/1/LC response* also noted that some agencies may choose not to pursue ISO registration of their schemes.

5JSC/ACOC/1/LC response made several arguments for removing the distinction between standard numbers and other resource identifiers, and proposed that the instructions be combined. This suggestion was supported in *5JSC/ACOC/1/ALA response*, however that response noted that “combining these two RDA instructions will have repercussions for the current relationship between 1.4 and 2.13 (i.e., the RDA mandatory elements)”.

Question 1.

Should the definition of Standard identifier be expanded to include identifiers assigned by registration agencies of other standards bodies, and if so which ones?

Question 2.

Should the distinction between Standard identifiers and Other resource identifiers be retained?

- Maintaining this distinction forces cataloguers to judge whether an identifier has been assigned by the ISO or an “equivalent international standardization body” and therefore whether it should be treated under 2.13.1 or 2.13.2.
- If this distinction is removed, even if at least one resource identifier was required under *1.4 Required elements of description*, there would not be any mechanism to prefer standard identifiers over other resource identifiers.
- If this distinction is removed, examples of Digital Object Identifiers and Uniform Resource Names could be added to this instruction.

Issue 3. Persistent identifiers and Standard identifiers

The well-documented impermanence of URLs due to their location-based nature is a major problem to scholarly researchers and Internet users in general as well as to the resource description community². The use of persistent identifiers is part of the solution to this problem^{3,4}. A persistent identifier is intended to be a permanent, location-independent and unique identifier for a resource. Persistent identifiers are generally assigned by agencies who undertake to provide reliable, long-term access to resources.⁵ Examples of persistent identifiers include Digital Object Identifiers, Uniform Resource Names, Handles and Archival Resource Keys. “Persistent identifier” is the most widely accepted generic term for this type of identifier.

ACOC’s initial proposal provided the following definition of persistent identifier: “A persistent identifier is a permanent, location-independent and globally unique identifier for a resource.”

Including persistent identifiers in resource descriptions has a vital role in ensuring online resources can be located and accessed now and in the future. Because of this, ACOC has advocated that persistent identifiers be mentioned explicitly in RDA, as they are in the December 2004 draft of the ISBD (E) which includes a reference to persistent identifiers at 8.1.1.

Issues raised in responses to 5JSC/ACOC/1

5JSC/ACOC/1/ALA response was strongly supportive of the inclusion of persistent identifiers in RDA. *5JSC/ACOC/1/LC response*, *5JSC/ACOC/1/BL response*, and *5JSC/ACOC/1/CILIP response* also indicated their support. *5JSC/ACOC/1/CCC response* preferred not to introduce this term to RDA.

5JSC/ACOC/1/CCC response and *5JSC/ACOC/1/ALA response* noted some issues (paraphrased below) which are related to the introduction of this term to RDA:

- The proposed definition might apply equally to standard numbers, and the proposed definition does not define persistent identifier in a way that justifies its inclusion in RDA as a distinct type of identifier (CCC).

ACOC agrees that the proposed definition of persistent identifier would apply equally to standard numbers, and that it is difficult to define persistent identifiers as a distinct type of identifier. ACOC also considers that the current definition for standard

² See for example Sellito, Carmine. “The impact of impermanent Web-located citations: A study of 123 scholarly conference publications: Research Articles” in *Journal of the American Society for Information Science and Technology archive*. Vol 56, Issue 7 pp. 695-703 (May 2005) <http://portal.acm.org/citation.cfm?id=1058436.1058444>. Viewed 23 December 2005.

³ *Managing web resources for persistent access*. <http://www.nla.gov.au/guidelines/persistence.html>. Viewed 23 December 2005.

⁴ Although few in number, all of the DOIs and handles in the following study were found to be accessible, McCown, Frank et al. “The Availability and Persistence of Web References in D-Lib Magazine.” www.iwaw.net/05/papers/iwaw05-mccown1.pdf. Viewed 23 December 2005.

⁵ Such as trusted digital repositories. See *Trusted Digital Repositories: Attributes and Responsibilities: An RLG-OCLC Report*. RLG, Mountain View, CA, May 2002. <http://www.rlg.org/legacy/longterm/repositories.pdf>. Viewed 3 February 2006.

numbers/identifiers would be improved by the inclusion of the concepts initially proposed for the definition of persistent identifier.

- Although a persistent identifier is intended to be permanent, there is no guarantee that it is (ALA); or, persistence is not an inherent attribute of the identifier, but is achieved through the commitment of an agency to maintenance of the identifier (CCC).

ACOC acknowledges that although persistence per se is an infrastructure issue⁶, a persistent identifier is a permanent identifier. That is, it is a permanent name for the resource in the same way, and with the same limitations, as standard numbers such as an ISBN.

- It is not clear whether the definition is intended to apply only to remote access resources (ALA).

ACOC notes that the field of identifiers for both digital and analogue resources is actively evolving, and that at present there is not a clear shared view of the future⁷. Schemes initially developed for analogue resources are being used for online resources; new schemes for online resources are being developed to encompass analogue resources.

Proposed revision

A revision of the definition of standard numbers was given in section 2.13.1. Standard number. The following revision builds on that revision to address these additional concerns. Other changes have been made to improve clarity. Due to the extent of the changes incorporated, the revision is provided in clean copy form only.

The outcome of the JSC discussion on questions 1 and 2 will also need to be taken into consideration.

Clean copy of proposed revision

2.13.0.1. Definition

- A standard identifier is a permanent, location-independent and unique identifier for a resource. Standard identifiers are assigned by authorized registration agencies for identifier schemes approved by the International Organization for Standardization (ISO). Standard identifiers may be assigned to resources in both analog and digital formats. Treat persistent identifiers as a type of standard identifier.

2.13.1.1. Recording standard identifiers

The following would also need to be added as the final sentence of this instruction:

⁶ For a discussion of this issue see Paskin, Norman. "The development of persistent identifiers" ERPANET Persistent Identifiers seminar, University College Cork, Cork, Ireland, 17th - 18th June 2004. <http://www.erpanet.org/events/2004/cork/presentations/040617PaskinPIConcepts.pdf>. Viewed 25 July 2006.

⁷ NISO Identifier Roundtable, March 13-14, 2006, National Library of Medicine, Bethesda, MD. http://www.niso.org/news/events_workshops/ID-docs/ID-06-report.pdf. Viewed 24 July 2006.

- For standard identifiers that are actionable, i.e. which potentially resolve to an online resource, see 5.X.

Issue 4. Placement of the instruction in Ch. 5

Chapter 5 currently has the following instructions.

- 5.0 Purpose and scope
- 5.1 Sources of information
- 5.2 Terms of availability
- 5.3 Contact information
- 5.4 Restrictions on access
- 5.5 Restrictions on use
- 5.6 Custodial history and immediate source of acquisition
- 5.7 Appraisal and accrual

Question 4

Where should the new instruction for Uniform Resource Locators be placed?

Issue 5. 5.X. Uniform Resource Locators – use of term

5JSC/ACOC/1/ALA response suggested that the phrase “Uniform Resource Identifier” (URI) be used in place of the more specific “Uniform Resource Locator” as has occurred in MARC21.

ACOC notes that the term URI covers both URLs and Uniform Resource Names (URNs)⁸. In most circumstances, the use of the terms URI and URL can be interchangeable. In the context of RDA a distinction is being made between identifiers which are treated within the context of *Chapter 2. Identification of the resource*; and locators which are treated within the context of *Chapter 5* which focuses on the elements used to access a resource. ACOC notes that re-naming this element may blur this distinction.

ACOC also notes that it may be useful to discuss this issue with other resource description communities.

Question 5

Should the “Uniform Resource Identifier” (URI) be used in place of “Uniform Resource Locator”?

Issue 6. 5.X.0.1. Definition.

Question 6.

Should “global” be removed from the definition of Uniform Resource Locator as recommended in 5JSC/ACOC/1/ALA response?

Issue 7. 5.X.0.2. Sources of information.

Question 7

⁸ URIs, URLs, and URNs: Clarifications and Recommendations 1.0: Report from the joint W3C/IETF URI Planning Interest Group: W3C Note 21. September 2001. <http://www.w3.org/TR/uri-clarification/>. Viewed 27 July 2006.

Should cataloguers take URLs only from the browser address window displaying the resource as suggested in *5JSC/ACOC/1/ALA response*?

Issue 8. 5.X.0.3 and 5.X.0.4.

Question 8

Should the instructions at 5.X.0.3 and 5.X.0.4 (single and multiple URLs) be combined as suggested in *5JSC/ACOC/1/ALA response*?

Issue 9. 5.X.0.4. Recording multiple Uniform Resource Locators, 1st bullet.

Question 9

Should the second sentence be deleted as suggested in *5JSC/ACOC/1/ALA response*?

Issue 10. 1.7.7. Notes citing uniform resource locators for related resources

5JSC/ACOC/1/LC response recommends replacing ‘nature or scope’ with ‘nature and scope and location’. ACOC notes that the intention of their initial proposal was not to limit the type of notes in which a URL can be cited, and so would prefer rewording in the broadest possible terms.

5JSC/ACOC/1/ALA response says that the instruction is not needed as RDA does not generally say what types of information can be included in notes.

Question 10

Should the proposed new instruction be given, and if so, in what form?

Issue 11. Work identifiers

5JSC/ACOC/1/BL response raised the question of “where instructions about other identifiers, such as work identifiers, might be placed”.

Question 11

Should RDA explicitly provide instructions for recording identifiers at all FRBR levels (work, expression, manifestation, and item), and if so, where should these instructions be placed?