IFLA Cataloguing Section
ISBD Review Group

ISBD Linked Data Study Group

Activity Report, August 2013-July 2014

During the 2013 IFLA Conference in Singapore, the ISBD/XMLStudy Group changed its name to *ISBD Linked Data Study Group*. The change of name was approved by the ISBD RG and the Cataloguing Section's SC, as the new name represents more appropriately the actual tasks of the Study Group, which are devoted to maintaining the ISBD namespace and liaising the ISBD with the Semantic Web community, and increasingly to creating mappings and alignments with other bibliographic standards.
Two new members joined the ISBD Linked Data SG at the 2013 IFLA Conference in Singapore: Maria Violeta Bertolini and Massimo Gentili-Tedeschi.

The ISBD Review Group **ISBD Linked data Study Group** is in its **sixth, extended phase of the project, which was accepted by the ISBD Review Group and Cataloguing Section during the 2013 IFLA Conference in Singapore**.
An amount of 1,500 Euros was allocated in 2013 for funding the project on *ISBD Namespaces Alignments and Publication as Linked Data* (G3.13.2-1/13). The Study Group met in the Bibliothèque nationale de France, Paris, on October 16-18.
An amount of 1,800 Euros was allocated in 2014 for funding the project on *Development of ISBD Namespaces Alignments and Usage* (ID: 3-13-2-14), which corresponds to the funding for only one of the two requested meetings. This meeting took place in the Bibliothèque nationale de France, Paris, on April 7-9, 2014.

The current document reports on the actions such as they are listed in the minutes of the ISBD/XML SG meeting held in Singapore, on 20 August 2013.

  ▪ **Namespaces for the Consolidated ISBD**

The concept vocabularies were enriched with translations of preferred terms, along with definitions and associated scope notes in French.
However, the element set vocabulary does not include new translations of element names, definitions, and scope notes, into other languages.

- **Progress Report on the Activities defined in the Work Plan for 2013-2014**

Action 1/13: Revise the Alignment of the ISBD/RDA, and send it for publishing on the ISBD RG's web site. (Action 7/12 of the ISBD RG's Work plan)
Gordon Dunsire produced a new version of the ISBD to RDA mapping so as to account for the changes the JSC brought to RDA during its November 2013 meeting. This updated version, aligned on the April 2014 version of RDA, is the 3rd version of the mapping. It was reviewed during the SG meeting held in April 2014.
The finalized document has been circulated for adoption during the IFLA Conference in Lyon.

Action 2/13: Follow up developments regarding publication of the RDA/ONIX Framework namespace, and start the implementation of the ISBD/ROF namespaces mapping as appropriate. (Action 4/12 of the ISBD RG's Work plan)
The RDA/ONIX Framework Working Group was set up by the Joint Steering Committee for Development of RDA in February 2014. Mirna Willer joined the group as the representative of the ISBD RG, and also Françoise Leresche as the representative of EURIG.[1]
The draft mappings between ISBD (Area 0) and RDA/ONIX Framework prepared by Gordon Dunsire, the chair of the ROF WG were discussed during the SG meeting held in April 2014. The Study Group decided to distribute the document to the ISBD Review Group for approval during the IFLA Conference in Lyon.

Action 3/13: Liaise with DCMI on improving its infrastructure and support for Application Profiles, using the ISBD AP as a case study, and subsequently further develop the ISBD AP as soon as conditions are met. (Action 8/12 of the ISBD RG's Work plan)
The DC Application Profile still is under development by DCMI (see Singapore Framework for DCAP). ISBD is to be used by DCMI as a study case in this process.
A DCMI RDF Application Profiles Task Group[2] has been re-established in 2014.

Action 4/13: Consider developing specialized translation guidelines for ISBD namespaces. (Action 5/12 of the ISBD RG's Work plan)
The development of *Guidelines for translations of the IFLA ISBD namespace in RDF* was discussed during the October meeting, and further during the April meeting, which gave general direction for the guidelines. A draft was prepared by Elena Escolano Rodríguez and Dorothy McGarry, and distributed to the ISBD Review Group for approval at its meeting in Lyon, 2014. The guidelines present specific implementation of the more general ones prepared and published by the Namespaces Technical Group as Guidelines for translations of IFLA namespaces in RDF.[3] The guidelines are needed to help translators of ISBD elements and value vocabularies to get acquainted with procedures and rules in publishing ISBD namespaces in their national languages in the same way as the "paper based" ISBD text is being translated. The management service used for storing ISBD namespaces is Open Metadata Registry.[4]

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[1] JSC/RDA, Terms of reference for the JSC RDA/ONIX Framework Working Group, 9 January 2014, http://www.rda-jsc.org/docs/6JSC-Chair-10.pdf, and JSC RDA/ONIX Framework Working Group: 2014 membership and tasks, 16 January 2014, http://www.rda-jsc.org/docs/6JSC-Chair-10-2014.pdf
[2] http://wiki.dublincore.org/index.php/RDF_Application_Profiles
[3] http://www.ifla.org/node/5353
[4] http://metadataregistry.org/

Action 5/13: Continue to monitor and liaise with the Permanent UNIMARC Committee on the proposals to represent UNIMARC in RDF and develop mappings between the ISBD and UNIMARC namespaces.

The project of UNIMARC representation in RDF started last year. During the April meeting, Mirna Willer presented the mapping she produced in the context of that project from the 2XX fields in UNIMARC/B (UNIMARC Bibliographic Format) to ISBD. The ISBD LD SG welcomed this initiative and pointed that, for the whole of ISBD to be covered, the 3XX (the equivalent of area 7 of the ISBD) and 0XX (where the identifiers in area 8 of the ISBD are coded) blocks in UNIMARC/B are still to be included.

The tables for the three UNIMARC/B blocks were sent out for feedback by Mirna Willer to the members of the ISBD LD SG on April 17, 2014. Françoise Leresche reviewed and completed the tables in last July 2014.

Mirna Willer has drafted a final project based on this feedback which will be discussed at the IFLA Conference in Lyon.

Action 6/13: Revise the document on Resource vs. WEMI entity resolution according to the decision of the Singapore meeting and post it on the ISBD Linked Data web site.
Publish the new properties in the ISBD namespace. (Action 7 of the ISBD RG's Work plan)

Such clarification is a prerequisite for any mapping effort between ISBD and FRBR namespaces and, as such, was designed as a priority action for 2013.

The paper drafted by Gordon Dunsire for the Singapore conference, *Resource vs WEMI entity resolution: discussion paper*, was discussed further during the October meeting. It was modified so as to reflect the discussions that took place during the Singapore and Paris meetings, notably the FRBR RG's remarks about the label and definition of the 4 new properties. It was subsequently approved and published as *Resource and Work, Expression, Manifestation, Item* [prepared by] *Gordon Dunsire, 28 July 2013, Amended 6 October 2013, following comments by Patrick Le Boeuf and discussion at IFLA 2013*.[5]

The four new properties have been published in the ISBD namespace at the end of October 2013, with the status: "new proposed".

Action7/13: Monitor development of RDF representations of ISSN elements and instance data, and develop appropriate alignments with the ISBD namespaces.

PRESSoo, developed by ISSN IC and BnF as an extension of FRBRoo devoted to bibliographic information relating to serials and continuing resources, was presented to FRBR RG during the IFLA Conference in Singapore.

The PRESSoo model was validated from a technical standpoint by the CIDOC during the last meeting of the Working Group on FRBR/CRM Dialogue in April 2014. Besides, the model has been approved by FRBR RG, and will be proposed for approval by the Section's Standing Committee during the IFLA Conference in Lyon.

But serials specialists should be consulted as well: it would be useful to consult with the Section on Serials and Other Continuing Resources for a joint approval with the Cataloguing Section.

François-Xavier Pelegrin (ISSN IC) attended both ISBD Linked Data SG meetings in Paris: he presented the ISSN IC policy for representations of ISSN elements and instance data. He also

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[5] http://www.ifla.org/files/assets/cataloguing/isbd/OtherDocumentation/resource-wemi.pdf

reminded the SG that the ISSN International Centre intends to use the PRESSoo model for the ROAD project, and that it therefore needs a formal IFLA endorsement, followed by a namespace for PRESSoo.

Relationships and future alignments of the ISBD namespaces with FRBRoo and PRESSoo namespaces were also discussed, questioning the usefulness of such a mapping, insofar as the *FRBRoo Definition* contains a mapping from FRBRer to FRBRoo. The alignment between the ISBD and FRBRoo may therefore be indirect, passing from the ISBD to FRBRer alignment onto the FRBRer to FRBRoo alignment. In addition, it would need an unconstrained FRBRoo namespace which has not been developed yet.

Action 8/13: Monitor developments in the release of instance data based on legacy catalogue records, especially standard identifiers that can be linked to URIs that may apply to instances of ISBD Resources. Monitor use of ISBD classes and properties in library linked data triples.

The discussion of this issue started during the October 2013 meeting, and continued at the April 2014 meeting with the presentation of the work done by ABES and BNF.

Gordon Dunsire presented the approach taken to represent legacy records as RDF through an application profile, which is based on the decomposition of the areas into distinct statements (such as a complex title or a title associated with its statements of responsibility), and the definition of rules for the order of the component elements of these statements and areas, and the punctuation that separates them.

Michael Jeulin from ABES presented how ABES analysed the UNIMARC 200 field (which corresponds to ISBD Area 1), and the problems they faced in matching the various elements, most notably for resources that embody several works by different authors without a collective title. The properties declared in the ISBD namespace cannot be used in such complex cases, as it is necessary to account for the complete Title and statement of responsibility for each of the embodied works. Such an issue highlighted the usefulness of unconstrained properties to meet the needs identified by ABES.

The discussion continued during the April meeting, where Patrick Le Boeuf presented the RDF data model elaborated jointly between the ABES and the BnF to account for area 1 of ISBD, as well as all the implicit semantics induced by the repetition and order of elements within the area. The interest of the model developed by the ABES and the BnF is that it manages both data organization and layout, thus integrating a syntax encoding scheme. Being a reflection of the cataloguer's method when creating a record, it fits well into current cataloguing. But this approach differs from that taken on for the Application Profile.

Both approaches are interesting and complementary, as they allow meeting different needs.

Action 9/13: Plan work on Guidelines for use of ISBD as Linked Data for 2013-2014. (Action 6/12 of the ISBD RG's Work plan)

The planned *Guidelines for use of ISBD as linked data* are part of the project on *Development of ISBD namespace alignments and usage*, proposed for 2014 by the ISBD RG and accepted by the IFLA Professional Committee.

The action depends on the progress on Action 8, namely the use of ISBD classes and properties in library linked data triples, and the ISBD application profile, as they involve issues to be resolved before designing such guidelines. A discussion paper will be prepared for the August meeting.

Action 10/13: Develop mappings between the ISBD and Dublin Core Terms (DCT) namespaces.

During the 2012 IFLA Conference in Helsinki, it was decided to give the priority to the mappings between IFLA namespaces, especially FRBR and UNIMARC.

In consequence, the ISBD Linked Data SG focused its work on the ISBD FRBR mapping this year, and no significant work was done on the alignment with the Dublin Core Terms (DCT) namespaces.

Action 11/13: Monitor developments in related namespaces such as Bibliographic Ontology (BibO), SKOS (Simple Knowledge Organization System), and Friend of a friend (FOAF), and take ad hoc action to liaise with related namespaces and develop appropriate mappings from the ISBD namespaces.

There have been no significant developments in these namespaces.

Action 12/13: Report to the ISBD RG on any issues relevant to the ISBD revision process. (Action 9/12 of the ISBD RG's Work plan)

Most of the activities of the ISBD Linked Data Study Group, particularly the work on alignments and mappings with other namespaces such as RDA and FRBR, result in discovering significant issues for the preparation of the regular ISBD revision process. Thus, the ISBD/FRBRer mappings can serve as a basis for recommendations for FRBRized cataloguing rules.

During the April meeting, the SG began to make a list of issues for consideration during the revision of ISBD, and drafted some recommendations on the future structure of the standard.

**Action 13/13: Transmit the diagram of mappings/alignments and related projects to Cataloguing Section and to FRBR RG for additions reflecting FRBR perspective.
Put the diagram of mappings/alignments and related projects on the ISBD/XML web site in a visible manner**. (Action 10/12 of the ISBD RG's Work plan)

During its October meeting, the Study Group reviewed the document prepared for the ISBD Review Group meeting in Singapore 2013 *Alignments between the namespaces of ISBD, other IFLA standards, and external standards* in order to understand the landscape around the ISBD, and reconfirmed it.

The diagram was published on the ISBD Linked Data Study Group web page in March 2014[6].

Action 14/13: Publish an ISBD unconstrained namespace, as a separate sub-domain of the domain for the official element set.

The Study Group continued the discussion raised by the report prepared by Gordon Dunsire for the Singapore meeting *ISBD unconstrained elements and other extensions* of 28 July, 2013, during its October meeting.

It was decided to publish unconstrained namespaces for ISBD, which means a separate full set of ISBD elements as properties in RDF without defined domain and range. That is necessary because FRBR defines its entities (classes in RDF) WEMI (*work*, *expression*, *manifestation*, *item*) as the domain for its properties, while ISBD defines *Resource* as the domain for its properties.

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[6] http://www.ifla.org/files/assets/cataloguing/isbdrg/namespace-alignments_v1_20130725.pdf

Unconstrained properties for ISBD will be published in a sub-domain of the official, constrained namespace: their primary domain will therefore change, since it will accommodate the "unc" sub-domain. The label, however, remains the same. Likewise, the definition can remain unchanged, still using the word "Resource" (rather than "Thing", too generic and vague a term that tends to blur definitions). For each property, though, the domain will be unspecified (it will be empty). This publication work can be automated in a spreadsheet. Such a methodology will ease the updating of the namespace in case the constrained namespace should be modified or updated, and it is furthermore lighter in terms of processes and translation efforts, since it affects neither labels nor definitions. The unconstrained namespace will be published on the OMR, using developments occurring here.

- **Meetings**

The ISBD/XML Study Group held two technical meetings during this year, both in Paris, Bibliothèque nationale de France, on October 16-18, 2013 and April 7-9, 2014.

At the October 2013 meeting, the main topic on the agenda was the modelling of ISBD/FRBR semantic alignment to support the discussion between ISBD and the FR consolidated model, and related issues. The meeting also discussed the need for *Guidelines for translations of the IFLA ISBD namespace in RDF* and started the discussion on the ISBD application profile and the use of ISBD classes and properties in library linked data triples.
See the Minutes of the meeting.

The April 2014 meeting continued the work on the ISBD/FRBR namespaces alignment, RDF representation of ISBD resources and use of ISBD classes and properties in library linked data triples, and ISBD application profile. The meeting gave general direction for the development of planned *Guidelines for use of ISBD as linked data*, even if some technical issues have to be resolved before designing such guidelines.
The mappings with RDA and RDA/ONIX Framework were reviewed, and relationships and future alignments with other namespaces were also discussed, specifically UNIMARC for bibliographic data namespaces, FRBRoo and PRESSoo, identifying these as tasks to be included in the plans for next year's activities.
See the Minutes of the meeting.

Respectfully submitted,
Françoise Leresche
ISBD Linked Data Study Group chair, August 7th, 2014