The International BIBFRAME Interoperability Group (BIG)--Background & Current Work

July 12, 2023 LD4 Conference
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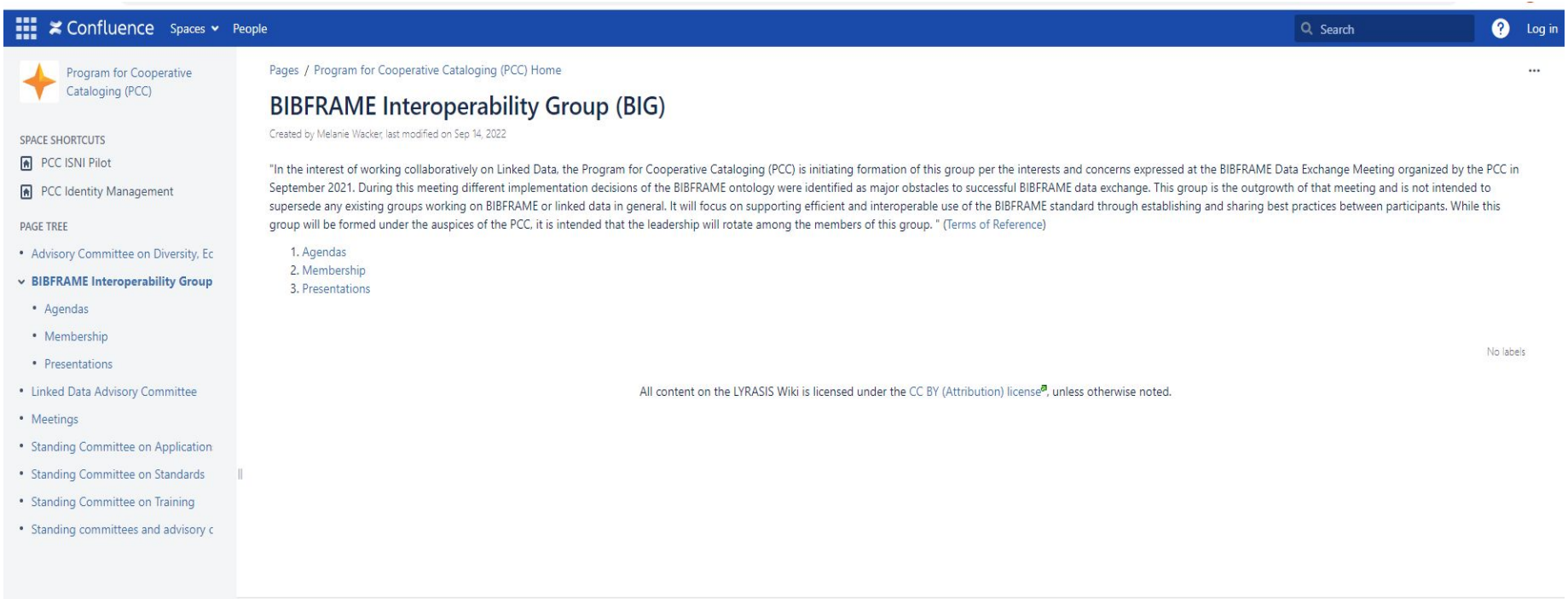
Outline

- Background
- Terms of Reference
- Accomplishments
- 2023 Work Plan
- Current Work
- Next steps
- Q&A

BIG Wiki



https://wiki.lyrasis.org/pages/viewpage.action?pageId=249135298

Origin of the BIBFRAME Interoperability Group

Result of the BIBFRAME Data Exchange Meeting, a virtual meeting organized by the PCC, September 9-10, 2021, to discuss exchange of BIBFRAME data between systems and implementations

Attendees represented national libraries, PCC committees, LD4 community, vendor community, European BIBFRAME Group, and other interested parties

Major challenge identified:
Interchange of BIBFRAME data caused by different choices in expressing the BIBFRAME ontology in original data creation and different results from data conversion from MARC

International Group focused on interoperable BIBFRAME data approved by PCC Policy Committee (PoCo): January 2022

Timeline

- Terms of Reference finalized April 2022
- Call for membership posted April 2022
- Membership finalized June 2022
- First virtual meeting July 2022
- Work plan established February 2023

Membership

Membership is institution-based

One member and one alternate per institution of the following:

- Standards bodies
- Libraries that have implemented BIBFRAME (or are actively working towards implementation)
- BIBFRAME data hosting organizations

- Current co-chairs:
  - Ian Bigelow (University of Alberta Library)
  - Melanie Wacker (PCC)

Current membership

Terms of Reference and Charge

Work collaboratively on the development and maintenance of interoperable BIBFRAME data guidelines

- to support production level implementation
- to address issues restricting interoperability, and
- to inform development of associated toolings and infrastructure.

BIG is not responsible for further development of the BIBFRAME ontology itself. While members may use open and/or proprietary tools to support BIBFRAME data creation and exchange locally, this group is primarily focused on interoperability for unrestricted metadata reuse.

Terms of Reference and Charge (cont.)

Work may include the following:

- Define a standard BIBFRAME “shape” to support data reuse including conversion to and from other formats
- Explore defining core BIBFRAME elements necessary for data exchange
- Surface issues regarding the use of the Official RDA with BIBFRAME and propose strategies for their resolution

Terms of Reference and Charge (cont.)

- Collaborate and communicate with other groups working in the area of BIBFRAME interoperability to ensure the ability to reuse BIBFRAME among different communities.
- Examine the work accomplished by the Communication Working Group (charged at the 2021 Linked Data Summit) and apply to this charge where appropriate
- Gather use cases as necessary to inform decision making, expanding on the efforts of the Use Case Working Group (2021 Linked Data Summit) and others
- Provide an avenue for other interested parties to contact the BIBFRAME Interoperability Group

Accomplishments

From the start of work in July 2022 through mid-2023:

- Incorporated work done by several other working groups, such as the Strawperson Working Group, Communication Working Group, and the Use Case Working Group
- Reviewed several BIG members BIBFRAME implementations and discussed their requirements for interoperability and issues encountered
- Surveyed BIG members on the cataloging standards they are currently using
- Conducted a BIBFRAME Implementation survey
- Incorporated feedback and actions from the 2023 Linked Data Summit held at LC
- Developed a work plan

Implementation Survey Result (as of August 2022)

Implementation	Institutions	Significantly different model from bf:2.0	BIBFRAME version base	MARC to BIBFRAME processing and version	BIBFRAME to MARC processing and version	Documentation
EBSCO	Libraries in 11 countries	Yes	http://bibfra.me/ (currently testing new alignments with BIBFRAME 2.0 and 2.1.0 at scale for release later this year.)			http://bibfra.me/
EXLibris	There are around 2,000 institutions use Alma. Some of them using linked data which include BIBFRAME to expose their data	No	bf:2.0	Using the latest version of the LC MARC2BIBFRAME convertor primarily for enriching and exposing records	Currently in development: using the latest version of LC MARC2BIBFRAME convertor to convert BIBFRAME (stored) to MARC to support library operations	https://knowledge.exlibrisgroup.com/Alma/Product_Materials/010Roadmap/Linked_Open_Data
RERO ILS	58 (non academic) libraries in Switzerland and in 13 university libraries in Belgium (RERO+ & UC Louvain	Yes	bf:2.0			https://bib.rero.ch/help/catalogage/liste-champs/

Implementation Survey Questions and Analysis

11 implementations

Significantly different model from bf:2.0:
50% yes — svde:Opus and svde:Work, bflc, local extension vocabularies or BIBFRAME lite

BIBFRAME version base: *Mostly 2.0, one 2.1 and one in the process of moving to 2.1*

MARC to BIBFRAME processing and version: *RDFizer tool (SVDE), local conversion logic (Sweden, Finland), LC MARC2BIBFRAME convertor*

BIBFRAME to MARC processing and version: *logic based on LC's conversion, local conversion logic (Sweden)*

Documentation & Sample data

Cataloging Standards Background (as of July 2022)

A	B	C	D	E	F	G
Member	**Country**	**General Standards Adherence**	**Local Standards**	**Official RDA Status**	**Notes 1**	**Notes 2**
University of Alberta Library	Canada	PCC MAP; member of NACO, SACO, BIBCO, CONSER	NEOS	Still using original toolkit. Holding off on implementation of official RDA pending PCC RDA Test and associated documentation and guidance.	Canadian context: CSH, RVM, Canadian Classification	Member of Share VDE and see importance to clarify use of OWII
Library of Congress	United States	PCC, NACO, SACO, BIBCO, CONSER		Various...		
National Library of Finland	Finland	We have extensive national implementation instructions and workflows in Finnish for original RDA (though without application profiles).	We maintain a national Metadata thesaurus which is linked to the RDA	Still using original toolkit. No official decision about implementing the Official RDA but it has been translated to Finnish. We do have a project preparing the implementation.		
National Library of Sweden	Sweden	Policy statement for RDA in the original toolkit (KBSP), ISBD	Libris codes for languages, Libris transliteration schemes.	Original toolkit	KRS (AACR2) in older records. DDC Classification, SAB (Classification for Swedish Libraries) SAO (Swedish SH)	
OCLC	Global	Variety of international standards including PCC and those built around languages of	OCLC Bibliographic Formats and	Original toolkit.		

Strawperson Working Group

- Charge:

  “Provide an interim solution for those that want to exchange BIBFRAME data in the short term while the PCC works on longer-term work through their working group for BIBFRAME Data Exchange.”

- Based their work on the Sinopia PCC templates (monographs)
- Created SHACL (Shapes Constraint Language) shapes
- Built a SHACL validation tool

2023 Work Plan

1. Define standard BIBFRAME “shape” necessary for data exchange
    a. Utilize PCC data and standards as a test case and starting point
    b. Start with Monographs, but include others as possible or at a later date
    c. Review needs based on native BIBFRAME description versus from conversion (from MARC)
    d. Ensure the group’s recommendations be readable by technical staff and librarians, but preferably updates would need to be made in only one place: Investigate how to produce tabular format, possibly using DC TAP, and generate SHACL
2. Codify interoperability scope (formats/extensions/legacy or new, etc)
3. Document best practices for technical aspects of BIBFRAME interchange as identified through the work of the group
4. Share with consultants for testing and validation of assumption

Current Work: Investigating DCTAP

DC Tabular Application Profiles

DCMI documentation: https://github.com/dcmi/dctap

Elements (column headers):

shapeID	shapeLabel	propertyID	propertyLabel	mandatory	repeatable	valueNodeType	valueDataType	valueConstraint	valueConstraintType	valueShape	note

Current work: Guiding Principles

Properties/classes are evaluated against guiding principles for interchange interoperability:

1. **Identification**
Guiding principles: Distinguishing principle; also disambiguation and deduplication of resources.

2. Discovery
Guiding principle: The shape of the data needs to be predictable for discovery (data consistency)

3. Data quality evaluation
Guiding principles: Does the existing data meet cataloging requirements of the institution
Records data provenance in a shared data environment

4. Data Re-Use
Guiding principles: Catalogers should not have to re-enter the facts about the original work
The work has to have a stable identity, so that distinguishing characteristics are preserved
Linking entities for resource discovery

Current Work: BIBFRAME Work Minimal Requirements

C	D	E	F	H	I	J
Top Class	SubClasses	Property	Property Label in Sinopia	Required?	General notes	Consider mapping
bf:Work	bf:Text					
		bf:title	Work Title	TRUE		
		bf:title	Variant Work Title	FALSE		
		bf:contribution	Primary Contribution	FALSE	required if	YES
		bf:contribution	Contribution	FALSE	required if	
		bf:genreForm	Form/Genre of Work	FALSE		

Selection of work property decisions for validation of minimal data exchange requirements

Example: Evaluating bf:title

Required for:

a) Identification
b) Data Re-use
c) Discovery

Next step: Compare exact title shape across institutions
(e.g. bf:title or bf:mainTitle or rdfs:label)

Example: Evaluating AdminMetadata

bf:adminMetadat	Administrative metadata		TRUE	Needs more discussion with group. Which specific parts are required?

Required for: Data evaluation

Further review required to determine which properties of bf:AdminMetadata are required for interchange

BIBFRAME Work AdminMetadata (Draft)*

Top Class	Property	Property Label in Sinopia	Required for BIG Work
bf:AdminMetadata			
	bflc:catalogerId	Cataloger ID	FALSE
	bf:creationDate	Date Cataloged or Updated/Changed	TRUE
	bf:changeDate		FALSE
	bf:assigner	Cataloging institution	TRUE
	bf:descriptionModifier	Modifying institution	FALSE
	bf:descriptionAuthentication	Description authentication	FALSE
	bflc:encodingLevel	Encoding level	FALSE
	bf:descriptionConventions	Description conventions	FALSE
	bf:descriptionLanguage	Description language	FALSE
	bf:generationProcess	NA	FALSE
	bf:generationDate	NA	FALSE
	bf:identifiedBy	Identifiers--Local	FALSE
	bf:status	Status	FALSE

Proposal made by subgroup; needs confirmation from BIG

Next Steps

- Data modeling to determine shapes for bf:Work properties based on sample data
- Determine minimal interchange requirements and property shapes for bf:Instance
- Create tabular data and generate SHACL
- Codify interoperability scope (formats/extensions/legacy or new, etc)
- Document best practices for technical aspects of BIBFRAME interchange
- Share with consultants for testing and validation of assumption

References

BIBFRAME Interoperability Group's Wiki Page:
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BIBFRAME Data Exchange Meeting summary:
https://www.loc.gov/aba/pcc/bibframe/PCC-BIBFRAME-Data-Exchange-Summary.pdf

Use Case Working Group Final Report:
https://docs.google.com/document/d/1n-Cmm8yfGnWp2mig2bpmvqFcKlbElQW3ud4jjSR_c5Y/edit

Communication Working Group Final Report:
https://docs.google.com/document/d/1CZNCSAszm4zbzUbjtoQjDQ8C4gJ6zchALG2UrynrPOw/edit

Linked Data Summit – Interoperability of Library Data (November 2022)
https://www.loc.gov/aba/pcc/bibframe/Linked-Data-Summit-2022-Summary.pdf

Shapes Constraint Language (SHACL):
https://www.w3.org/TR/shacl/

DCTap
https://www.dublincore.org/specifications/dctap/

Questions?

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Thanks to all BIG members who contributed to these slides