



## SHARING OF BIBLIOGRAPHIC INFORMATION AND RESOURCES

### IFLA Bibliographic Standards and Interoperability

#### I. What is “Interoperability”?

Within this context, the term “interoperability” is intended to convey the idea of enabling the sharing of bibliographic information and resources in both traditional and digital environments. The focus is on technical and bibliographic standards. This includes the electronic exchange of machine-readable information, as well as the standards for metadata content and communication formats that support such exchange.

#### II. Types of Interoperability for Metadata Exchange

There are at least three levels of interoperability required for exchange of metadata: **semantic**, **structural**, and **syntactic**.

**Semantic** interoperability refers to the names of the fields. For example, in order to be semantically interoperable, the field name **Creator** in *Dublin Core* and the field tagged 100 with first indicator 0 or 1 named **Personal Author** in *MARC 21* must be understandable to search engines as differently-named fields that convey the same information in relation to the resource, that is, who is primarily responsible for the intellectual or artistic content of the resource.

**Structural** interoperability means that the fields that compose the schema must be, at least in part, the same fields. For example, many metadata schema used by very different communities (e.g., educational institutions, museums) base their field structure on the Dublin Core, adding additional fields as they see fit in order to describe their specific kinds of resources more precisely. Thus, at least the core fields of the schema are structurally interoperable.

**Syntactic** interoperability refers to the grammar of the metadata – the rules which govern how the information is presented, such as which fields are required and which optional, which fields are repeatable and which are not, what the hierarchical

arrangement of the fields should be, what tags or codes are required at the beginning and/or end of nesting subfields, such as in an XML schema, etc.

Interoperability among all the rich and varied metadata formats created and used by all the rich and varied communities to describe and access their digital and analog objects still has a long way to go. The library and archive community, with IFLA as a key international standards-setting organization, is at the forefront of efforts at harmonization.

### **III. IFLA Standards That Are Currently Influencing Interoperability Worldwide**

Most of these standards are available in print and on IFLANET: <http://www.ifla.org>

#### **Principles**

“**Paris Principles, 1961**”: *Statement of principles adopted at the International Conference on Cataloguing Principles, Paris, October, 1961*. Definitive ed. 1971. 119 p. ISBN: 0-903043-00-9

These cataloguing principles are the foundation of nearly every cataloguing code used throughout the world today (currently in the process of a multi-year worldwide, regional review and update involving the world's cataloguing rule-makers and other cataloguing experts.

Draft “Statement of International Cataloguing Principles” available on IFLANET was the result of the 1<sup>st</sup> meeting in Frankfurt, 2003 for European experts as modified by the 2<sup>nd</sup> meeting in Buenos Aires, 2004 for Latin American and Caribbean experts.)

*Functional Requirements for Bibliographic Records : Final report*. (FRBR) 1998. viii, 136 p. (IFLA UBCIM Publications, New Series, v. 19) ISBN 3-598-11382-X

<http://www.ifla.org/VII/s13/frbr/frbr.pdf>

A conceptual, entity-relationships model of the bibliographic universe, describing basic user tasks: find, identify, select, obtain, and the data elements required in national level bibliographic records.

#### **International Standards for Bibliographic Description – ISBDs**

(<http://www.ifla.org/VI/3/nd1/isbdlist.htm>)

ISBD(A) (Antiquarian) 2<sup>nd</sup> rev. ed. 1991. xiii, 100 p. ISBN 3-598-10988-1

<http://www.ifla.org/VII/s13/pubs/isbda.htm> (currently undergoing revision)

ISBD(CM) (Cartographic Materials) 2<sup>nd</sup> rev. ed. 1987. vii, 55 p.

ISBN 0-903043-47-5 <http://www.ifla.org/VII/s13/pubs/CM1987ed.pdf>

(in the process of being updated)

ISBD(CR) (Serials and Other Continuing Resources) 2002. xi, 112 p. ISBN 3-

598-11599-7 <http://www.ifla.org/VII/s13/pubs/isbdcr-final.pdf>

ISBD(ER) (Electronic Resources) 1997. x, 109 p. ISBN 3-598-11369-2

<http://www.ifla.org/VII/s13/pubs/isbd.htm> (currently undergoing revision)

ISBD(G) (General) [3d rev. version] 2004

- <http://www.ifla.org/VII/s13/pubs/isbdg.htm> (currently undergoing revision)
- ISBD(M) (Monographic Publications) [4<sup>th</sup> rev. version] 2002. [PDF. v, 67 p.]  
[http://www.ifla.org/VII/s13/pubs/isbd\\_m0602.pdf](http://www.ifla.org/VII/s13/pubs/isbd_m0602.pdf)
- ISBD(NBM) (Non-Book Materials) 2<sup>nd</sup> rev.ed. 1987. vii, 74 p. ISBN 0-903043-46-7  
[http://www.ifla.org/VII/s13/pubs/ISBDNBM\\_sept28\\_04.pdf](http://www.ifla.org/VII/s13/pubs/ISBDNBM_sept28_04.pdf)  
 (in the process of being updated)
- ISBD(PM) (Printed Music) 2<sup>nd</sup> rev. ed. 1991. 73 p. ISBN 3-598-10985-7  
[http://www.ifla.org/VII/s13/pubs/ISBDPM\\_Nov10\\_2004.pdf](http://www.ifla.org/VII/s13/pubs/ISBDPM_Nov10_2004.pdf)
- Guidelines for the Application of the ISBDs for the Description of Component Parts*. 1988. viii, 22 p. ISBN 0-903043-50-5.  
 PDF version with corrections 2004:  
[http://www.ifla.org/VII/s13/pubs/Component\\_Parts\\_final.pdf](http://www.ifla.org/VII/s13/pubs/Component_Parts_final.pdf)

### **Authority Guidelines**

- Anonymous Classics : A List of Uniform Headings for European Literatures*. 2<sup>nd</sup> rev. ed. [PDF] 2004. vi, 235 p.  
<http://www.ifla.org/VII/s13/pubs/AnonymousClassics2004.pdf>
- Form and Structure of Corporate Name Headings* (FSCH) 2000.  
<http://www.ifla.org/VII/s13/scatn/final2000.htm>
- Guidelines for Authority Records and References (GARR)*  
 2nd ed., revised by the IFLA Working Group on GARE Revision. 2001. xii, 46 p. (IFLA UBCIM Publications, New Series, v. 23) ISBN 3-598-11504-0  
<http://www.ifla.org/VII/s13/garr/garr.pdf>
- Guidelines for Subject Authority and Reference Entries*. (GSARE) 1993. 62 p. (IFLA UBCIM Publications, New Series, v. 12) ISBN 3-598-11180-0
- Guidelines for Multilingual Thesauri (GMT)*  
 (in progress)
- Minimal Level Requirements for Authority Records (MLAR)* 1996. Available upon request, and also online at: *Working Group on the Minimal Level Authority Record and the ISADN*  
<http://www.ifla.org/VI/3/p1996-2/mlar.htm>
- Names of Persons : National Usages for Entry in Catalogues*. 4., rev. and enl. ed. 1996. xv, 263 p. (IFLA UBCIM publications. New series, v. 16) ISBN: 3-598-11342-0 (in the process of being updated)

### **Communication Formats**

- UNIMARC Manual : Bibliographic Format*. Fourth update (2002). ISBN 3-598-11215-7. (IFLA UBCIM Publications, New Series, v. 14) –  
 A concise Web UNIMARC, updated March 2002, is available at  
<http://www.ifla.org/VI/3/p1996-1/concise2.pdf>
- UNIMARC Manual : Authorities Format*. 2nd rev. and enl. ed. 2001. 200 pages. (IFLA UBCIM Publications, New Series, v. 22) ISBN 3-598-11503-2
- UNIMARC Holdings Format : Final draft*. Version 1.1. [2004] [PDF]  
<http://www.ifla.org/VI/8/projects/UNIMARCFinalRevision.pdf>
- Concise UNIMARC classification format (20001031)*. 2000.

<http://www.ifla.org/VI/3/p1996-1/concise.htm>

The IFLA/CDNL Alliance for Bibliographic Standards (ICABS) directly supports and funds the development of the IFLA standards of ISBD, FRBR, and UNIMARC and additionally promotes the communication formats: MARC 21, METS, MODS and MADS.

Sections within the Division of Bibliographic Control frequently send out a call for worldwide review for their proposed standards and guidelines. Currently several are in such status:

*Guidelines for Public Access Catalogue (OPAC) Displays*. Sept. 2003.

<http://www.ifla.org/VII/s13/guide/opacguide03.pdf>

*Guidelines on the Structure, Content, and Application of Metadata Records for Digital Resources and Collections*. Oct. 2003.

<http://www.ifla.org/VII/s13/guide/metaguide03.pdf>

*Functional Requirements for Authority Records*. Jan. 2005. (Internal IFLA review in progress)

### **Technology Standards**

*Standards Watch*: IFLA's Information Technology (IT) Section intends to disseminate selected information to the membership, in the form of resource pages similar to the "Tech Watch" page that they developed at <http://www.ifla.org/VII/s21/techwatch.htm>, but focusing on standards; it will be called Standards Watch.

The IT Section also started a project in 2003 to share information that includes a standards element: "Resource pages on Third Generation Library Information Systems," chaired by Larry Woods. While this is not exclusively about standards, standards will be included, but the main objective is information dissemination.

"Standards for Graphical User Interfaces," developed 1993-2000; the most recent information about this is available at

[http://www.scran.ac.uk/iconstd/1999\\_status.html](http://www.scran.ac.uk/iconstd/1999_status.html)

"Design and Implementation of a Unified Standard of Cyrillic Information Representation in Electronic Form" developed from 1996-1999, aimed at the unification of the various Cyrillic character sets in use. Information about this project and its results is available at

<http://www.iis.ru/cyrillic/resource/resource.en.html>

### **IV. IFLA Partnerships to Discuss, Promote, and Develop Standards for Interoperability**

The IFLA Division of Bibliographic Control maintains a working relationship with the International Council of Archives (ICA) in the development and evolution of our respective standards. IFLA provides formal comment on ICA proposed standards, such as the ISAAR (CPF).

IFLA also responds to proposed standards from the International Organization for Standardization (ISO) TC46, and have contributed to the development of such standards as codes for countries, codes for languages, etc.

IFLA's Cataloguing Section's FRBR Review Group maintains a Web site and very active listserv for discussion and evolution of the FRBR model for materials in the bibliographic universe. This model is influencing the construction of systems for bibliographic control, rights management, archival controls, etc.

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