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Z39.7 LIBRARY METRICS &
STATISTICS DATA DICTIONARY

OPENURL KNOWLEDGE BASES
RECOMMENDED PRACTICE



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Knowledge Bases And Related Tools (KBART): A NISO/UKSG Recommended Practice

The Knowledge Bases and Related Tools (KBART) working group was set up in January 2008 as a joint UKSG and NISO initiative to explore data problems associated with the OpenURL supply chain. The Recommended Practice from Phase I of KBART—NISO RP-9-2010, *KBART: Knowledge Bases and Related Tools*—was released in January 2010 and provides guidance on the role and importance of accurate and timely metadata supply to link resolver knowledge bases, along with a practical set of recommendations for metadata transfer.

The Importance of Knowledge Bases

In recent years, the proliferation of online content and multiple access points to that content has meant that traditional manual A-Z lists of static URLs are no longer a viable option for many libraries. As a result, link resolver technology has become integral to successful institutional access to electronic material. Many libraries now use a link resolver as their main route to content for library patrons. This uptake has meant that content providers have adopted the OpenURL standard to enable mediated link resolver access to the “appropriate copy.” However, the enabling of OpenURL technology is only part of the solution. Accurate, up-to-date and comprehensive knowledge bases are also vital in order for successful linking to take place.

Knowledge bases have become a highly valued tool for a variety of reasons. Most crucially, they describe to the user what an institution has entitled them to access and link them to this content. Much time and effort is currently spent by libraries in localizing knowledge bases to reflect their

individual and consortial entitlements. This is a constant task in order to assure that data is consistently accurate and comprehensive. Additionally, link resolver suppliers spend much effort in quality checking data in the knowledge base, normalizing it, adding to it frequently, and ensuring that it is as comprehensive as possible. With the complexities of customer and consortial entitlements, content packaging by providers, and the

Knowledge base accuracy is in everyone’s best interests. Reducing dead links for library patrons increases the usage of content through improved visibility, which in turn increases the value for money of that resource—a crucial factor in collection decision making, particularly in the current economic climate. It is important for publishers, aggregators, subscription agents, and libraries to be able to demonstrate that

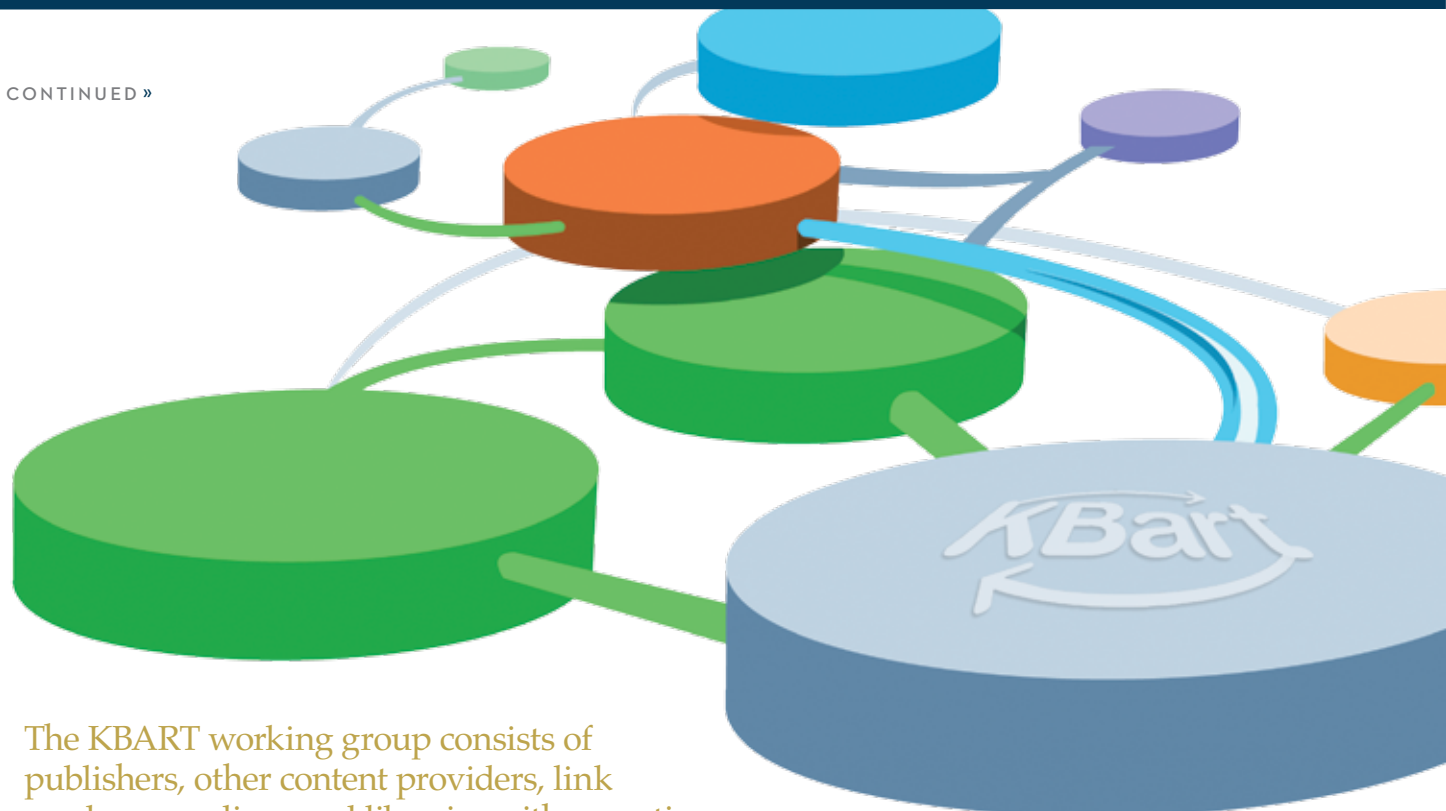
Ultimately, it doesn’t matter how great the article is if the target audience can’t locate and access it. Therefore adoption of best practice in this area is important to the whole supply chain. This is where KBART comes in.



growth of free, open access and hybrid content, this is becoming increasingly unmanageable. It is recognized that to ensure that knowledge bases are as accurate as possible, problems with metadata must also be addressed at their source, by content providers.

a resource is of value to the user base; exposing content within link resolvers is crucial for demonstrating such value. It is also increasingly the case that libraries use collection comparison tools within link resolver knowledge bases as a basis for informing purchasing decisions on

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The KBART working group consists of publishers, other content providers, link resolver suppliers, and libraries with expertise in the field of knowledge base metadata.

packages and collections. Link resolvers are now offering such functionality because of the depth of information on current collections that a customized knowledge base can provide. Knowledge bases should therefore be recognized by content providers as an important tool for reaching and selling into the library market. To have out of date metadata can be detrimental to such marketing.

Knowledge base accuracy is an area that is still to be effectively tackled by the information community. Without recommendations and ownership of knowledge base metadata within the supply chain, library patrons end up baffled by dead links, inaccurate descriptions of coverage, and lack of access to content to which they are entitled. This deters use of such content, which is damaging to all stakeholders within the supply chain. Ultimately, it doesn't matter how great the article is if the target audience can't locate and access it. Therefore adoption of best practice in this area is important to the whole supply chain. This is where KBART comes in.

The Role of KBART in Improving Knowledge Base Metadata

These issues of knowledge base quality were the impetus for the KBART working group, a joint initiative of the National Information Standards Organization (NISO) in the U.S. and the United Kingdom Serials Group (UKSG).

The KBART working group was established in January 2008 with two co-chairs: Peter McCracken (for NISO) and Charlie Rapple (for UKSG). Its work is governed by the NISO Discovery to Delivery Topic Committee and the UKSG Main Committee. The charter for KBART responds to recommendations in a research report commissioned by UKSG in 2007 entitled *Link Resolvers and the Serials Supply Chain* and written by James Culling of Scholarly Information Strategies. The report recommended that a "code of practice" be produced on the methods and frequency of metadata transfer, along with the metadata elements required. Additionally, education, promotion, and communication activities should be considered in order to promote adherence to the code of practice.

The KBART working group consists of publishers, other content providers, link resolver suppliers, and libraries with expertise in the field of knowledge base metadata. The main areas of activity were identified and are as follows:

- » Best practice guidelines
- » Educational materials and events
- » Web hub to act as a central resource for knowledge base information

In addition to the just published Recommended Practice, a series of other documents are available on the UKSG and NISO websites. These include a glossary of terms, FAQs on OpenURL and knowledge bases, a description of supply chain roles and responsibilities for metadata transfer, and an entry level description of OpenURL technology.

KBART Recommended Practice

To develop the Recommended Practice, the Working Group analyzed various problems resulting from poor metadata in knowledge bases with input from the information community at various events over the last two years.

The scope of the areas to address in the KBART Recommended Practice was then defined as:

- Identifier inconsistencies
- Title inconsistencies
- Incorrect date coverage
- Inconsistent date formatting
- Inconsistencies in content coverage description
- Embargo inconsistencies
- Data format and exchange
- Outdated holdings data
- Lack of customization

Much debate took place within the KBART working group on the extent to which the first phase of KBART recommendations should focus on elements such as customization. It was recognized that while there was a common consensus on the importance of addressing the complexity of customer

and consortial entitlements for example, the starting point needed to be much broader. The intention is to enable uptake from content providers who are not currently supplying metadata and to ensure that those that are, are supplying metadata consistently and frequently. This basis is something that can then be

built on in future work of the group. With this in mind, the group identified the data elements in Table 1 as those which a content provider should provide, if they exist, as metadata to the knowledge base.

The recommendations also include the method and frequency of exchange; the data file format and naming convention, and detailed descriptions of the data field requirements.

The Recommended Practice was tested in the 4th quarter of 2009 by a number of publishers, content providers, and knowledge base developers. This proved highly valuable both in terms of tweaking the final recommendations and gaining an insight into the ease with which content providers are able to supply metadata to the requirements outlined in the report. It was acknowledged that even the most basic information such as identifiers and coverage start and end dates can be difficult to supply. This was encouraging in that it proved

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TABLE 1: Recommended knowledge base metadata elements

LABEL	FIELD
publication_title	Publication title
print_identifier	Print-format identifier (i.e., ISSN, ISBN, etc.)
online_identifier	Online-format identifier (i.e., eISSN, eISBN, etc.)
date_first_issue_online	Date of first issue available online
num_first_vol_online	Number of first volume available online
num_first_issue_online	Number of first issue available online
date_last_issue_online	Date of last issue available online (or blank, if coverage is to present)
num_last_vol_online	Number of last volume available online (or blank, if coverage is to present)
num_last_issue_online	Number of last issue available online (or blank, if coverage is to present)
title_url	Title-level URL
first_author	First author (for monographs)
title_id	Title ID
embargo_info	Embargo information
coverage_depth	Coverage depth (e.g., abstracts or full text)
coverage_notes	Coverage notes
publisher_name	Publisher name (if not given in the file's title)

that the recommendations provided to the information community are of the right level to improve knowledge base metadata transfer.

Next Steps

The work of KBART does not end with the January 2010 release of the KBART Recommended Practice. We have also considered and documented the next steps and direction we would like to take in improving further the accuracy of link resolver knowledge bases. These include:

- » Definitions for global vs. local updates
- » Consortia-specific metadata transfer
- » Institution-specific metadata transfer
- » Documentation of guidelines for non-text content metadata transfer
- » Review of metadata transfer for e-books
- » Monitoring and enforcing compliance with KBART recommendations
- » Exchange of ERM data

There has been considerable debate in recent weeks on mailing lists regarding the knowledge base metadata problems associated with open access, hybrid, and free content. These are increasingly being activated by libraries alongside subscription content in order to provide a more comprehensive knowledge base for users. It is intended that KBART will have a role to play in forming recommended practice in this area.

Much debate was also had within the group of the role of KBART in mandating compliance in a similar vein

to the COUNTER *Code of Practice*. Although this is a direction we would like to discuss in the next phase of KBART, it was decided for Phase I that the Recommended Practice should enable content providers to start supplying metadata without detracting from the work that is already being done by content providers in supplying metadata. We would now urge all content providers and link resolver suppliers to review the KBART Recommended Practice and prioritize take-up of the guidelines within their organizations.

I would like to extend thanks to the KBART working group members for their expertise and enthusiasm for the aims of KBART. Thanks also to the KBART monitoring group who have read and commented on the report and to the testing group who provided such valuable feedback in a real world environment. If anyone has any comments about this Recommended Practice to feed into Phase II or alternatively would like to be involved in KBART for Phase II, we would love to hear from you.

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Elizabeth Stevenson
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RELEVANT LINKS

Culling, James. Link Resolvers and the Serials Supply Chain.
Oxford: Scholarly Information Strategies, 2007.
www.uksg.org/projects/linkfinal

KBART Recommended Practice (NISO RP 9-2010)
www.niso.org/publications/rp/RP-2010-09.pdf

KBART Working Group websites
www.uksg.org/kbart
www.niso.org/workrooms/kbart

KBART Interest Group E-mail List
www.niso.org/lists/kbart_interest/

OpenURL standard (ANSI/NISO Z39.88)
www.niso.org/standards/z39-88-2004/

OpenURL Quality Metrics Working Group webpage
www.niso.org/workrooms/openurlquality