NISO Work Item:
Recommended Practice for Enhancing KBART for Automated Exchange of
Title Lists and Library Holdings
(Short Title: KBART Automation)

Proposal for Consideration by the NISO Voting Membership
Approval Ballot Period: June 16 – July 15, 2016

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Work Item Title: Update and extend the KBART Phase II recommended practice\(^1\) to support individual library holdings of electronic products and to automate the request and retrieval of KBART reports for title lists and library holdings.

Background and Problem Statement:
KBART (Knowledge Bases and Related Tools) was initially developed to improve OpenURL linking by providing a consistent message format for exchanging title lists/package contents between publishers & content providers and knowledge base vendors. KBART Phase I addressed the needs of serial publication title lists and KBART Phase II expanded the specification to include monographs. KBART has become a specification for exchanging title-list data that is accepted (and often preferred) by most Knowledge Base vendors for updating their knowledge bases.

Automating retrieval of KBART files
Each knowledge base provider must contend with the challenges of redundantly retrieving and loading thousands of title lists from hundreds, if not thousands, of content providers. Updating knowledge bases, even with KBART-formatted title lists, can be a time-consuming process and thus inhibitive of open, community management of knowledge base data through a project such as the Global Open Knowledgebase (GOKb). The introduction and adoption of an automated request/response mechanism (e.g. a RESTful web service) to retrieve title lists would greatly reduce the amount of work needed to update the knowledge bases and increase the frequency and accuracy of these updates. Such a specification would increase the likelihood of GOKb’s success not to mention reduce the operating cost and improve the quality of commercial knowledge bases.

Extending KBART to support individual library online serial and monograph entitlements
Several publishers are looking for ways to provide their library customers with a list of their entitlements so that the customer’s holdings in link resolvers and discovery services can be kept up-to-date and accurate, thus improving access to the content subscribed to through that publisher. It should be noted that libraries care about the packaging of titles (not just an overall list of entitlements) for effective link resolution management, usage analysis, tracking licensing/payment details, & troubleshooting access issues. Having a standard message format for holdings entitlements, an automated way for these to be retrieved and the ability to identify which package an entitlement is part of would increase the success of these services, improve access to library resources and improve management and analysis of these resources.

\(^1\) http://www.niso.org/publications/rp/rp-9-2014/
Usage Statistics Analysis needs Entitlements

Project COUNTER frequently receives requests to expand the scope of COUNTER usage reports so that all subscribed titles (used or not) are included in COUNTER reports. To modify COUNTER to accommodate this request would result in massive and unmanageable reports and may not even be possible for some content providers to comply with since entitlement data is often not stored with usage data. COUNTER believes that it is not practical to overload COUNTER reports to also act as holdings lists and that libraries should be able to get their entitlements (subscribed title lists) directly from their content providers. An expanded KBART specification that allows the exchange of holdings with an automated way of harvesting that data could help alleviate this problem. In such an environment, COUNTER data, providing the usage data, could be merged with the KBART data using the publisher’s own identifiers (required on both reports) to present a more complete usage analysis of the resources obtained from that provider.

Statement of Work:

Project Goals:
1. Extend the KBART Phase II format to more effectively allow the exchange of title lists for automated updates by including the identity of the title list/package and the provider of that title list/package. (Move away from overloading the file name with this information.)
2. Propose an optional JSON format for KBART data allowing for efficient inclusion of multiply occurring elements (e.g. ISxNs, Title History)
3. Consider adding standard or optional elements to the KBART format to improve the bibliographic data being exchanged (such as description of title history, classifications/subjects).
4. Consider leveraging the NISO SUSHI-Lite\(^2\) specification that is currently under development to provide the mechanism to request and retrieve KBART title lists and holdings data in JSON format.
5. Create at least one proof-of-concept delivering KBART data via a REST service
6. Produce a recommended practice that extends the KBART format and provides for the automated exchange of title lists and holdings.

Specific Deliverables:
1. A NISO Recommended Practice outlining the updated KBART format and methods to employ for automated retrieval.
2. A schema that allows KBART data to be represented in JSON or XML.
3. A promotion and education plan.
4. One or more proof-of-concept services (pilots) that can exchange KBART title lists and holdings data using the proposed approach.
5. Publishers and KB vendors begin to adopt the specification.

Process:
Create a working group that would meet via telephone and WebEx to create the deliverables. Test versions of the proposed solution will be developed in concert with the specifications so that proposed concepts can be tested and refined.

Partners and Participation:
The committee members should be drawn from the community that would benefit from these new features and who have the skill set to produce a specification that is effective in using current approaches to web services. The organization types we would like represented are as follows:

\(^2\) SUSHI-Lite ([http://www.niso.org/workrooms/sushi/sushi_lite/](http://www.niso.org/workrooms/sushi/sushi_lite/)) is a NISO initiative to develop an optional approach to retrieving COUNTER reports leveraging RESTful web services techniques to add much more flexibility to SUSHI while making it easier to implement. SUSHI-Lite’s filter mechanism and support for multiple kinds of reports makes it (or its approach) suitable for automating the harvesting of title lists and holdings as envisioned by this KBART work-item.
- KB providers – the primary consumers of the services to automatically retrieve KBART data and to use the extended elements. Include representatives from GOKb and from commercial KB vendors.
- Publishers – would implement the technology for delivery of title lists and library holdings.
- Full Text Database Providers – would also be expected to exchange title lists and customer holdings but have a slightly different organization of the data than publishers.
- COUNTER representative – to ensure that the needs for entitlements, as expressed to COUNTER, are being addressed.
- Discovery/Link resolver/ERM vendors – who would be interested in automated exchange of customer holdings
- Librarians – who are interested in accurate representation of their holdings in discovery services, link resolvers and ERMs; who would be merging COUNTER reports and holdings data for more complete analysis of subscribed resources.

The following skill sets from working group participants are needed; these may come from any of the participating organizations and a given individual may possess more than one of these skills:
- Experience in developing REST services and knowledgeable in JSON and XML.
- Understanding of a knowledge base/ERM provider's needs for managing title lists and holdings data in a KB/ERM.
- Understanding of a publisher/content provider's needs to provide title lists and individual library holdings to update KBs (title lists), ERMs, link resolvers & discovery services (library holdings).
- Understanding of how link resolvers, ERMs and/or discovery services use title lists and library holdings.
- Writing and communication skills for preparing and communicating the proposed recommended practice.

Timeline:
- Appointment of the working group: Month 1
- Approval of initial work plan: Month 3
- Completion of Information Gathering: Month 6
- Creation of prototype: Month 11
- Completion of Initial Draft: Month 13
- Completion of Final Draft for Publication: Month 17 (target: November 2017)