Report of the Task Force to Investigate the Use of SFX for Electronic Journal Holdings in OskiCat
June 22, 2012

Background
Since the mid-2000s, UC Berkeley Libraries have not maintained holdings information in our catalog for locally-licensed e-journals due to lack of staffing. While this information is maintained in UC-eLinks (SFX) when possible, it is also essential to patrons and staff searching our catalog. Many patrons simply give up before choosing the correct link, because there are often multiple links, but no indication of the holdings they need:

This problem has grown worse over time, as we have purchased backfiles independently, as journals have changed publishers and split holdings across platforms, as we have canceled e-journals, and as the number of aggregator links has increased.

In August 2011, Sciences Council and Social Sciences Council submitted a proposal to use SFX OpenURL to provide access to e-journals in OskiCat. Collections Council and Public Services Council endorsed the idea of resolving the problem, and in October 2011, the Director for Collections Services, Library Technologies and the NRLF established this task force to investigate the proposed solution (see Appendix 1 and 2 for the original proposal and charge).

Why SFX OpenURL?
The SFX OpenURL option was preferred for a number of reasons related to workload and user experiences:

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<thead>
<tr>
<th>Title</th>
<th>SIAM review</th>
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<tr>
<td>Imprint</td>
<td>Philadelphia, Society for Industrial and Applied Mathematics</td>
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No indication that we also have access to current issues via SIAM

<table>
<thead>
<tr>
<th>Link to online version(s):</th>
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<tr>
<td><em>v.1</em>(1959)-<em>v.39</em>(1996). SIAM, Restricted to UC campuses</td>
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<tr>
<td><em>v.1</em>(1959)-[Latest 5 years not available online], JSTOR, Restricted to UC campuses</td>
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<tr>
<td>Selected article text for <em>v.39:no.4</em>(1997:Dec). [Latest 12 months not available online], Business source complete, Restricted to UC campuses</td>
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<tr>
<td>Selected article text for Mar 1997-[Latest 12 months not available online], Academic search complete, Restricted to UC campuses</td>
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<tr>
<td>Restricted to UCB IP addresses,</td>
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<tr>
<td>Request an article from NRLF (photocopy or web delivery)</td>
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• Holdings would continue to be maintained in one place only (SFX)
• Users are familiar with the SFX OpenURL experience since SCP already uses the SFX OpenURL when possible for Tier 1 and Tier 2 purchases
• Displaying only one option in OskiCat – the SFX OpenURL link – postpones the choice for users until they can see all holdings information in the UC-eLinks window
• Displaying only one option in OskiCat also simplifies the selection process for users since they make the choice once in UC-eLinks rather than twice (once in OskiCat and again in UC-eLinks) as currently happens with SCP links that use SFX OpenURL

Investigation Process
The task force met several times per month to discuss the proposed solution, the options for implementing the solution, and the pros and cons of these options. Some things became immediately clear:

• There would need to be an initial programmatic solution to implement SFX OpenURL in OskiCat
• There would need to be recommendations for ongoing programmatic and manual maintenance of our e-journal holdings
• Programmatic solutions could only be applied to OskiCat e-journal records that meet certain conditions:
  ▪ Must have a unique and reliable identifier such as SFX ID or ISSN because links based on titles are unreliable
  ▪ Must have a match on that unique identifier in our SFX instance in order for the link to work
• E-journal records could be divided into several categories based on how they are added to OskiCat and whether they have a unique identifier
  ▪ We would not be able to apply the proposed solution to all categories of e-journal records

In order to help us develop recommendations, the group devised a quality assurance (QA) process to test the impact of the proposed solution on user access to the various categories of e-journals. First, we divided our e-journal records into the following categories based on whether they have a unique identifier (ISSN in our case because our records do not include the SFX Object ID):

A. Records with ISSN and no MARC 785 (succeeding entry) field
B. Records with ISSN and a MARC 785 (succeeding entry) field
C. Records with no ISSN

Next, within these categories, we divided our records further into the following groups:

1. Group 1: Contain only UCB local URLs, access restricted to UCB, and not batch loaded (i.e., Journals with only Tier 3 licensed content)
2. Group 2: Contain only SCP URLs (i.e., Journals with only Tier 1/2 licensed content and/or freely available content cataloged by SCP)
3. Group 3: Contain both SCP and UCB local URLs (i.e., Journals with both Tier 3 licensed content/locally-cataloged free content and Tier 1/2 licensed content/SCP-cataloged free content)
4. Group 4: Contain UCB local URLs and batch loaded URLs (i.e., batch loaded records such as MARCIVE)
5. Group 5: Contain only UCB local URLs and access not restricted to UCB (i.e., Freely available journals cataloged by UCB)

Lastly, the records were checked against an XML file from SFX and divided into those with an ISSN match in SFX and those without a match.

Using statistical tools, Library Systems determined the appropriate number of items to QA and selected a random sample from each group. For items with an ISSN match in SFX, task force members checked the random sample to see if all links in OskiCat were present in SFX. For those without a match, the members tried to determine why there was no match. (See Appendix 4 for the number of records in each category and the QA results).

Recommendations
The task force recommends that the UC Berkeley Libraries use the SFX OpenURL in OskiCat whenever possible (i.e., when there is an ISSN match between the OskiCat record and our SFX instance). To accomplish this, the task force further recommends that Library Systems, the Catalog Department, and the Electronic Resources Unit develop an initial programmatic implementation and procedures for ongoing maintenance.

To be clear, this is an imperfect and partial solution, which can only be applied to certain records. This means that some e-journal records would have a single SFX OpenURL link in OskiCat, while others would continue to have one or more direct links that may or may not have holdings information. In addition, because of the way electronic holdings information is sent to OCLC, this solution would have no impact on the display in Melvyl. Still the task force felt it was worth implementing the SFX OpenURL solution.

Initial Implementation
To be included in the initial programmatic implementation, an OskiCat record must meet the following criteria:
- Be a serial record (bibliographic level [MARC Leader/07] is “s”)
- Have at least one full-text MARC 856 field
- Have an ISSN recorded in the MARC 022 $a or $l subfield
- Have that ISSN match an activated record in our SFX instance
- Not be part of a batch load (with the exception of SCP records) because any changes would be overwritten by batch load updates
For each record meeting the criteria, the program would move all existing 856 fields to a local 9xx field (to be determined) in order to retain this information, then create a new single 856 field containing an SFX OpenURL based on ISSN. (See Appendix 3 for a mock-up of the public display). Further details would need to be worked out during implementation planning.

Based on our QA analysis, this initial programmatic implementation would have the following impacts:

- Approximately 47% of our e-journal records would be updated with the SFX OpenURL link
  - ~95% of these would be updated successfully
  - ~5% would lose access to some content due to missing links in our SFX instance
- Approximately 53% of our e-journal records would be excluded from the SFX OpenURL implementation for various reasons:
  - The vast majority (87% of the excluded records) cannot be changed because their OskiCat records do not contain ISSNs
  - ~13% of them have ISSNs in their OskiCat records but do not have an ISSN match in our SFX instance
  - <1% have an ISSN with a match in our SFX instance but are non-SCP batch loads (~8% total are non-SCP batch loads)
- Approximately 64% of licensed materials (loosely defined as Groups 1-3) would be successfully updated with the SFX OpenURL, while 3% would be updated but lose access to some content and 33% would not have their links changed.

It is important to note that the highest priority and most mainstream material would be the most likely to have their links changed to an SFX OpenURL successfully. Conversely, more than half of the excluded records are for freely-available resources, and our QA shows a high percentage of these links are broken. Systems is currently running link checking on the full set of freely-available URLs pulled from OskiCat after which the next steps on how to handle these can be determined.

In advance of the programmatic implementation, the task force also recommends that Library Systems update the ISSN (022) from OCLC for serial records that contain an OCLC number and no ISSN (022). Over 3,000 records would be updated with ISSNs in this way, somewhat increasing the percentage of records changed successfully.

Excluded Records and Error Reporting
Due to the workload involved, the task force does not recommend manually converting to SFX OpenURL all of the records excluded from the initial programmatic implementation.

The task force does recommend that selectors be able to request manual updates and report errors in the following cases:
• If a high priority e-journal failed to convert to SFX OpenURL, and its record continues to cause confusion, selectors may request that it be converted manually by contacting e-problem@library.berkeley.edu.

• If our SFX window for an e-journal lacks one or more links from OskiCat, and therefore the conversion to SFX OpenURL resulted in a loss of access to content, selectors may request that those missing URLs be activated in SFX by contacting e-problem@library.berkeley.edu.

In these cases, the Electronic Resources Unit and/or Catalog Department will make the appropriate changes if possible. This assumes that these units continue to be sufficiently staffed for this manual work.

If it was decided to pursue a manual process to update as many excluded records as possible, in order to have a more complete conversion to SFX OpenURL, this would need to be a special project funded with significant one-time money.

Ongoing Maintenance
The task force recommends that one year after the initial programmatic implementation is executed, another pass be made through the Millennium bibliographic database using the same criteria, and that the results of this pass be analyzed to assess whether periodic execution is warranted, and if so, how often.

Furthermore, irrespective of the results of this analysis, the task force recommends managing changes to online access on an ongoing basis as follows:

• Programmatic: All new and changed Tier 1/2 access will be handled by amending the SCP pre-processing routine to change incoming links to a single SFX OpenURL if the record meets the same criteria as used in the initial implementation.

• Manual: All new, changed, or canceled Tier 3 access will be handled by making minor procedural adjustments to the current e-resource workflow between the Electronic Resources Unit and the Serials Cataloging Unit. Minor adjustments to procedures for handling canceled Tier 1 access (SCP deletes) also are needed.

In all cases the results of this maintenance will appear to users exactly the same as the records processed in the initial programmatic implementation.

If the project is assigned a high priority, we estimate that it would take approximately 6 months to develop, test, and implement the programming and procedures for initial implementation and ongoing maintenance.

ERMS or Other Options
The task force also strongly recommends that the library continue to investigate longer-term solutions. These might include revisiting the ERMS implementation or investigating and advocating for consortial solutions.

Whatever is decided, the task force feels strongly that action must be taken. It is not acceptable to do nothing to resolve the issue. If the
ERMS would be a better solution and can be implemented in a timely manner, it might be best to put our resources into that solution instead. If not, we feel the SFX OpenURL implementation will quickly resolve the problem for a large number of high-use records, buying us the time to develop longer-term solutions.