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CIC D2D Phase 2 Final Report

Executive Summary

Purpose and Charge

The work of the CIC Discoverto-Delivery Task Force has now spanned two phases, with Phase 1 launched in May 2012 and resulting in the delivery of <u>Fthemework for Discoverto-Fulfillment Systems</u> <u>Planning in the Context of CIC Resource Shareport</u> to the CIC Library Directors in May 2013. In response to this first report, a Phase 2 was requested in February 2014 by the CIC Library Directors. As such, a task force representing public services, interlibrary loan/fulfillment services, and information technology perspectives from across the CIC libraries were charged to:

- 1. Articulatecore design principles oguide the modeling of ideal-state, yet achievable, discoverydelivery processes.
- 2. Analyze and illustrateurrent state discoveryto-delivery processes and environments.
- 3. Propose and illustrate an ideal future statecoveryto-delivery process(es).

Work responding to the Phase 2 charge has been conducted and is summarized in the following report. The overall objectives of this work has been to raise awareness around specific interdependencies as they affect decision-making; to sustain, if not enhance, operational effectiveness and efficiency in the support of these services; and, perhaps most importantly, meet the needs and expectations of end users in their information discovery and access activities.

Recommendations Summary

The report concludes with the following four recommendations (please see the fully-stated recommendations in full Report below, p. 13):

- (VWDEOLVK LPSOHPHQW DQG SUDFWLFH GRFXPHQWHG ³FKD interdependency across the Cl@specially indicated in areas of shared policies, operations, and systems.l(mmediate/low investment-level)
- Marshal the CIC collective expertise and capacities of User Experience (UX) and business/systems analystosfocus on and address common end-user discovertylivery interface 2014/aaf/0996(1)(1006(a))60023(f):47079(a))-2-6

Report and Recommendations

I. Background and Charge to the Task Force

The overall work of the CIC Discovety-Delivery Task Force spans two phases, with Phase 1 launched in May 2012 and, in response to its first report, Phase 2 charged in February 2014 by the CIC Library Directors.

Phase 1±Completed Work

In May 2012, the CIC Library Directors charged a small project team to report on the range of issues and challenges pertaining to providing contemporary resource sharing services in our consortial context (this effort now referred to as Phase 1). The team was asked to pay particular attention to the challenges of creating a more seamless user experience from information ³ G L V F R Y H U \ ´ W R ³ G H O L Ythe tarm previously weed. The dramatice of the challenges of creating protections for the CIC to procure and implement UBorrow, institutional decisions regarding participation in OCLC, and by a variety of other factors such as the availability of the Rapid ILL service, and the introduction of web-scale discovery tools L Q W R R X U O L E U D U L H V ¶ Z H E H Q Y L U R Q P H Q W V 7 K H W H D P V Z F information ecosystem the intersections, dependencies, and practices associated with facilitating discoveryto-delivery services within and across our libraries an attempt to identify themes and practices that could lead to improved integration of this work at either the local or consortial level. This work resulted in delivery of the memory of the context of CIC Resource Sharine port to the CIC Library Directors in May 2013.

Phase 2±

The overall objectives of Phase 2 work has been to raise awareness around specific

- b. Be based on open standards and use open architectures (upon which further interoperability, extensions, and integrations can be built).
- c. Be non-proprietary with respect to business process and data exchange protocols.
- d. Be scalable and able to meet performance benchmarks.
- e. Be browser-agnostic.
- f. Use responsive web interface design.
- g. Use contemporary technologies, acknowledging the rapidly evolving information discovery, indexing, access, and delivery environments and supporting technologies.

<u>Charge #</u>2Analyze and illustrate current state discovetoy-delivery processes and environments This analysis is expected to help develop a common understanding of the overall existing business processes, where interdependencies and decisions points are located (involving both consortial members and vendors), where divergences of practice may exist, and potential opportunities for future streamlining and standardization.

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All CIC libraries support a discovery system or service from either a major vendor or locally-supported open source application be systems and their respective indexes and interfaces, not unexpectedly, bear differing scopes and configurations across the CIC libraries. As HPSKDVL]HGLQWKH7DVN)RUFH¶V3KDVHUHSF continued state of diverse discovery technologies and systems across the CIC libraries and that emphasis is best focused on maximizing interoperability and complementary use of these technologies in the discovery chain.

 an OpenURL link to ILLiad. Google Scholar works well directing a user to library full text or back to the library, but initial setup is required if using library remote access.

In the course of this analysis, the effort uncovered a common fail-point across CIC libraries when ILLiad services were invoked by means of a link resolver connection. An entire enduser discovery and request process could abruptly fail due to inability tothetain OpenURL metadata in state if a user had to newly register for an ILLiad account in the middle of a discovery=>resolver=>ILL request process. Fortunately, a solution to this particular problem was found in ILLiad documentation that eliminates this problem: adding W K H ³ I R U P V W D W H W D J ´ F R COnce the necessary coding is laded for S D J H \ ILLiad pages, the openURL connection works and information is transferred into an ILLiad request form, even though the new user was directed to complete an ILLiad profile.

To smooth this issue even further, some institutions have implemented automated, daily ILLiad account provisioning procedures, so that users are never faced with the need to establish an ILLiad account. In the interest of leveraging federated authentication protocols and making management of this interoperability lightweight all around, discussions with Atlas are currently underway to determine whether methods using Shibboleth (and passing identity and institutional attributes) might be employed that could obviate the need for separate ILLiad accounts at all in order to use the service.

The use case exercises revealed that the disc**torelig**livery flow for books (or (ሰ) 4. ተሪት(i) ችላይ የህዝ/፲ሬብታቄ(ś) 9.0 ሪሻ የልሃ - 5 (i) የፋቢነ \$ 4.0 bbbe 6 የ. 94 (ፍሪ አ) - ይር (ሃ) - b! ይ ር Q የተጽ ሀ ዞ influencing vendor roadmaps. These area deforther below to categories identified in the Principles to Guide CIC Investments in Discovery Delivery Architectures

Considerations f a future state first begins with an overarching statement offered by one of the public service/ILL expert contributors:

Interlibrary Loan now more than ever should be utilizing marketing strategies for promotion of our service that is so important to researchers and students. In doing so, Interlibrary Loan needs to make sure the service is easily usable and meets user expectations. How well are we meeting the needs of students, distance education patrons and those with disabilities? Interlibrary Loan should be investing in streamlined interoperability between library systems and exploring the efficiencies that can be obtained through API web services. It is with these ideas in mind that we should evaluate changes that we should strive for in an ideal future state of Interlibrary Loan.

Priority Elements of an Ideal Future State Design

- 1. Unified User Interface
 - " It is important to create a seamless experience for the user by only displaying one option that supports interlibrary loan or local paging within discovery systems. This could be achieved in part through the use of APIs for behind-the-scenes submission of requests to external systems.
 - "Smart fulfillment. Once a user selects content with a single request button (e.g., via an OpenURL link resolving service option), behind-the-scenes logic, based on predetermined and customizable criteria, would determine which system to use for fulfillment. This might work in a way similar to the functionality of RapidILL within ILLiad, which searches by ISSN and sends article requests to lending libraries or returns the article request with local availability information. OCLC direct request has the feature that can send a loan to a customizable predetermined set of libraries and ILLiad can have routing rules for this, so this is already possible.
 - "7KH XVHU VKRXOG EH SUHVHQWHG WKH VDPH FRQVI V\VWHPV GDWDEDVHV ZHE SDJHV /LPLWDWLRQV vendors; vendors limit local customization)
- 2. Unified User Accounts

- 3. User Notifications, Delivery Estimation, and Tracking
 - " User notifications for requested items of both locallyned and interlibrary loan items should be certalized and consistent, regardless of fulfillment method.
 - " Fulfillment notifications should be expanded and customizable by users. Users would only have to configure the notifications or deut could be developed independently, provided that the account between with each fulfillment system had the same options. Additional notifications that align with user expectations for online shopping should be provided (e.g., order confirmation, estimated delivery, item shipped, etc.). Users should be able to selle to receive and the preferred method (e.g. email, text, both).
 - " Users should be provided with a delivery estimate before submitting the request (based on realime availability from multiple fulfillment options), regardless of what system was **es** to request it. This could be done by scoping a search based on availability and/or by providing the user with an anticipated delivery timeframe

within the same network by using compatible barcodes for circulation and bypassing other systems such as OCLC will strengthen our collaborative efforts, especially towards a shared print collection and cooperative collection development.

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leaders. In reviewing responses, the Task Force found insufficient support from the CIC LITD community for the proposatifing major questions regarding the cost/benefit of the proposed architecture and its overall value proposition. As a result, the Task Force recommendate pursuit of the proposal (See Appendix D for full Task Force recommendation.)

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2. Marshal the CIC collective expertise and capacities of User Experience (UX) and business/systems analysts to focus on and address common end-user discoverydelivery interface fail-points. 2 I W H Q L W L V W K H V P D O O I D L O L Q J V Z L interface that can lead to end-user frustration, incompletion of task, and abandonment of 7KH WDVN IRUFH¶V HQJDJHPHQW ZLWK &,& OL VHUYLFH analysis of several typical end user tasks in existing interfaces revealed (or emphasized) key points of failure previously under-recognized by library staff. This activity, if developed and executed as a shared practice, holds potential for low-cost/high-impact results for end user success. To further this recommendation, it is advised that the CIC libraries draw upon its collective UX Analysis expertise in the form of a task force or user group to construct lightweight, yet effective usability testing protocols that can be applied to a standard set of relevant end user tasks. These protocols can be applied as baseline tests and/or when changes are introduced into end user workflows and interfaces. Open sharing of these findings holds potential for multiplier impact and the identification of exemplars to cultivate model interface designs.

Strategic / Moderate Investment-level

3. Establish a CIC 3-5 year strategic planfor the interlibrary/resource sharing

- " John Butler, AUL for Data & Technology, University of Minnesota
- " Barbara Coopey, Assistant Head of Access Services, Penn State University
- " Lee Konrad, AUL for Technology Strategies and Data Services, University of Wisconsin
- " Gary White, Associate Dean for Public Services, University of Maryland

Sponsors

Representing the CIC Library Directors in sponsorship of this task force are:

- " Wendy Pradt Lougee, University Librarian and McKnight Presidential Professor, University of Minnesota
- " Ed Van Gemert, Vice Provost for Libraries and University Librarian, University of Wisconsin

Timeframe

Appendix B

2 & / & ¶ V 3 U H O L P L Q D Modest \$Recend Wetakes of \$Selfreported CIC Borrowing and Lending ILL Activity







UBorrow traffic is way way up







Appendix C

Task Force Response to the biscovery and Access to Materials in the CIC Shared Print Repository Report as requested by the CIC CLI Director, and excerpted as part of a larger update on related activities, November 2013

8 -Nov -2013

TO: CIC Directors

FR: Discovery to Fulfillment Working Group (John Butler, Barbara Coopey, Lee Konrad, Gary White) RE: Update

<excerpt begins>

7 KH &, & 'LVFRYHU\ 7 DVN) RUFH KDV UHFHQWO\ EHHQ DVNHG WR WR 0 DWHULDOV LQ WKH &, & 6 KDUHG 3ULQW 5 HSRVLWRU\ 'VXEP Discovery and Access Working Group. The report provides an analysis of options and does not make recommendations. Rather, it defers to each institution to make its own decisions in the context of its own discovery needs and preferences related to materials in the SPR. While the Task Force has not yet had RSSRUWXQLW\ IRU IXOO GHOLEHUDWLRQ RI WKH UHSRUW WKH this case, along with other similar cases, provides opportunity to set a CIC standard for discovery and fulfillment services related to CIC consortially--supported resources.

Specifically, given:

- " the near -ubiquity of web-scale discovery systems across CIC libraries, a model that embraces large-scale aggregation of searchable metadata representing works within and beyond our local F R O O H F W L R Q V
- " the scaled and efficient way in which these data can be consolidated for collective access and use FRPSDUHG WR LQVWLWXWLRQ E\ LQVWLWXWLRQ UHFRUG OR
- " the consortial investments that we have committed to making available resources and services such as the SPPR, CRL, the HathiTrust, and others (e.g., arXiv, SSRN);
- " the investments that we have made in services to ensure the access to these resources (i.e., HOHFWURQLFDOO\ RU YLD SK\VLFDO GHOLYHU\ DQG
- " the affirmed goal of creating a coherent and successful experience for our users,

Should the CIC Libraries move towards a standard (and expectation) of making these consortially-- V X S S R U W H G U H V R X U F H V G L V F R Y H U D E O H W K U R X J K F discovery interfaces (i.e., local catalog, discovery layer, or blended)?

<excerpt ends>

Appendix D

Relais D2D Hybrid SOLR Indexing- Z39.50 Architecture Proposal Response and Recommendation by the CIC DiscoveDelivery (D2D) Task Force; October 2014

In support of its work with the CIC ILL Directors group, tbt Discoveryto-Delivery Task Forc Lee Konrad, Wisconsin; Barbara Coopey, Penn State, Gary White, Maryland, and John Butler, Minnesota) requested input from the CIC Library Information Technology Directors (CIC LITD) on a technology development proposal by Relais, working with Index-Data to develop a hybrid SOLR Indexing- Z39.50 architecture in support of CIC Interlibrary Loan services. The proposed architecture featured a SOLR-based index for discovery services that could turn to the Z39.50-based Relais system for holdings and availability information and its request functions (including unmediated). The proposal would have CIC institutions contract with Index-Data to generate and maintain a centralized SOLR/Lucene index comprised of consolidated CIC UBorrow catalogs. The intent of this proposed architecture would be to mitigate some of the problems associated with Z39.50 searching, including retrieval slowness and diverse Z39.50 configurations.

The brief proposal (3 pages) contained a section, "Effort required by participating libraries," which read:

Any library who wishes to use the central index in bit their local Z39.50 server must make a dump of their bibliographic catalog available, in MARC21 format, on a webserver. The harvester will check the file daily for changes, and retrieve-interve databases as often as needed: The library is freetooide how often to update the file. The simplest approach is often to provide a complete dump of the catalog, but if the library prefers to provide incremental updates, this is possible as well.

To prompt input from the CIC LITD on this proposal, fbbowing two questions were posed:

- 1. How supportable would you find making your bibliographic catalog data continually available (and refreshed) for harvesting by the central index?
- 2. Are there other models, perhaps existing, that ought to be conside **the defrancing** as an alternative to creating the proposed aggregation for the sole purpose of unmediated interlibrary fulfillment?

Responses from CIC LITD were received from 9 individuals at 6 different institutions are summarized in the following Plus Delta table.

³ Institutions of responding individuals were Michigan State, Minnesota, Nebraska, Northwestern, Penn State, and Rutgers.

running Z39.50 as the ertd-end solution. " This would likely result in unevenness of ETL (extract