Final Report and Recommendation, Shared Bibliographic Database Task Force

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Executive Summary

The primary advantages of a shared bibliographic database lie in the adoption of a shared integrated library system (ILS). A shared bibliographic database without a shared ILS is not worth pursuing.

The task force identified two potential implementation scenarios should Council decide to pursue the vision of a shared ILS. A third potential implementation scenario is a transition to the new OCLC web-scale management system currently under development.

- **Scenario 1: Use of WorldCat Navigator** is where we are now and is not enough.
- **Scenario 2: Shared Bibliographic Database Only** doesn't stand on its own.
- **Scenario 3: One Shared ILS for the Entire Alliance** is the vision for the future but might be a bridge too far.
- **Scenario 4: Multiple Shared ILSs** is a potential implementation path to scenario 3.
- **Scenario 5: Partially Shared ILS** is a potential implementation path to scenario 3.

The Task Force feels that it is important to remember that software products are just tools, they should not be goals in and of themselves. It remains unclear what job we expect this tool to do. Depending on the ultimate goals of the Alliance, it should be possible to decide if the benefits of a shared ILS are compelling enough to pursue. If yes, then decide which of the implementation scenarios is the most appropriate and feasible path to a shared ILS. The Alliance is rethinking the work of technical services and collection development, evaluating our work flows and fostering a spirit of collaboration in order to support the work of our students, faculty, staff, and researchers. The tools we select should support our new work flows and collaborations, not define them.

Recommendations

1. Consider the recommendations of the other task forces (e.g., Collaborative Technical Services and Network Library System task forces) and determine whether a shared ILS would further those goals. In particular, the OCLC web scale management system development partnership might have significant impact on the decision to move toward a shared ILS (see discussion in Scenario 1 below).

2. Conduct a thorough, up-to-date needs assessment and identify all functional requirements for a shared ILS. Traditional systems still utilize an architecture grounded in the concept of a single database with external modules. Times have changed - if we are seriously to consider migrating to a shared system, it would be wise to reassess and

reevaluate our ILS needs.

3. Implementing a shared ILS requires significant standardization of practices - the task force recommends that the Alliance pursue some of these standardization activities as first steps toward implementing a shared ILS and also for determining the feasibility of a shared ILS. The Alliance should investigate normalization and standardization of cataloging practices as a first step to determining the feasibility of a shared ILS; this would have benefits even if we do not proceed to sharing an ILS.

4. Make any shared ILS decisions in a timely manner so that Alliance libraries can make informed decisions regarding local system migration and implementation decisions.

5. Identify Alliance institutions that are making local system migration and implementation changes as potential early adopters. (It should be noted that Alliance libraries which make changes can present opportunities as early adopters but might also be moving in unintended directions that result in roadblocks by adopting outlying products and technologies.)

Background

The Shared Bibliographic Database Task Force was charged to "Consider and provide recommendations concerning policies, technical issues, human resources, and other factors that will help Alliance member libraries prepare to share a single bibliographic database." Task force members identified and surveyed peer academic networks/ consortia and Alliance libraries that currently or formerly shared an integrated library system (ILS), as well as those planning to implement a shared ILS. A brainstorming process was used to identify questions and issues for consideration. Members consulted with other Alliance committees and task forces. The task force described the costs and benefits of a shared system in terms of scenarios, which follow.

"Council has identified sharing of a single bibliographic database as a goal." The task force recognizes the appeal of the idea of a single bibliographic database shared by Alliance members. Each of our institutions invests in considerable staff expertise and time in the creation and maintenance of local catalogs, based on the bibliographic module of the local ILS. Would it be possible to forgo the local version of the bibliographic database at the institutional level, and focus our energies on a single, centralized bibliographic database instead?

However, it is not clear how the goal of a shared bibliographic database fits in under the area identified as the "Future of *Integrated Library Systems*." Our Council liaison told us that the Council intentionally made this distinction - a shared bibliographic database is not the same as a shared ILS. Given this, the Task Force has attempted to imagine what a scenario of a shared bibliographic database that is NOT a shared ILS would look like and what it could achieve. From there, we decided to extend our charge to consider the advantages of a shared ILS, which would include a shared bibliographic database. Once the Alliance determines the specific goals to be achieved, then we can choose the best system to enable those goals.

Scenario 1: Use of WorldCat Navigator (where we are now)

The Alliance currently uses WorldCat Navigator for the Summit union catalog. The WorldCat Navigator software, released as a commercial product by OCLC in mid-2009, provides not only a catalog, but also supports consortium lending and borrowing activities. OCLC's WorldCat database is used to support discovery, and the use of

Navigator requires each institution to maintain accurate holdings information in WorldCat. In practical terms, each institution must continue to maintain a local ILS to manage resource sharing and circulation activities.

WorldCat Navigator's functionality depends on both WorldCat bibliographic database holdings and local library systems. Navigator's search system and staff processing software use the location and availability information displayed during catalog searching. Additionally, the local library system supports circulation activities. The local system could be an Innovative Interfaces Millennium system, or any integrated library system software providing robust support for Z39.50 searching and support for the NISO Circulation Interchange Protocol (NCIP).

Advantages:

- Navigator is used by the Alliance to support the existing consortium borrowing program; existing workflows at member libraries can be maintained.
- Navigator supports diverse local library systems (meeting the Z39.50 and NCIP technical requirements).
- A seamless future integration with future OCLC development efforts (specifically, its Web-scale management services program).
- Initial licensing and implementation costs already have been paid by the Alliance and its membership.

Disadvantages:

- Libraries are required to maintain an integrated library system (as a resource sharing and circulation system).
- Navigator is still an early-stage product, with shortcomings in its automated request processing. (Continued improvement of the Navigator Request Engine processing software, which is based upon the VDX interlibrary loan software, is needed.)
- Some materials in the local system will be considered out of scope for the Navigator discovery system. (Some examples include course reserves materials and items on order.)

In the longer term, Navigator could be used in concert with the web-scale management services system currently being developed by OCLC. With this planned web-scale management system, libraries would use its metadata module to manage holdings information in WorldCat, and to upload and maintain records in the WorldCat database. On the circulation side, the management system would interact with Navigator using Z39.50 and NCIP communications. This would be a radical change, because a locally-hosted library system would no longer be required to support cataloging and circulation activities. More information is needed about the OCLC system in development before speculating further on how its availability would impact the use of Navigator by Alliance libraries. Thus, the OCLC web-scale management system might form an alternative implementation scenario, but sufficient information to make this determination is lacking.

Scenario 2: Shared Bibliographic Database Only

A shared bibliographic database that is not an ILS would include only bibliographic records presumably. Libraries would still continue to maintain their own ILSs, where holdings, acquisitions, circulation, and patron data would be stored. Since no ILS currently on the market can function without bibliographic records, copies of bibliographic records would still need to be copied into individual ILSs.

So what would be the role of the shared bibliographic database? It could function as a

kind of Alliance-level bibliographic utility if cataloging (editing of bibliographic records) took place in this database. But presumably OCLC would remain the ultimate source of bibliographic records and libraries would continue to post their holdings there. In any event, libraries would continue to take copies of records either from OCLC or the shared bibliographic database for loading into their local ILSs.

What purpose would be served by creating this extra layer between OCLC and local ILSs? The new database would entail an increase in overall system costs, since the costs for each library for OCLC and its own ILS would not go away, and there would be the additional costs of a new database to maintain. In addition, because Alliance libraries would continue to maintain their own ILSs, it makes no sense to create the extra layer of a shared bibliographic database if libraries are not willing to truly share bibliographic records. We have seen in our survey results that many consortia who actually share full ILSs continue to maintain separate copies of bibliographic records for each library.

Record deduplication benefits both patrons and staff. It makes for less confusing displays in any union catalog, and saves time for resource sharing staff as well. And if libraries are truly willing to share bibliographic records, they would also have the benefit of having to normalize cataloging standards across the Alliance. Cataloging standardization could help libraries transition to a network-level approach in cataloging, and prepare them either for a fuller Alliance-level ILS system (expanding into shared modules beyond bibs), or for cataloging at the network level nationally (OCLC master records). However, even though the shared bibliographic database would make cataloging standardization necessary, this could be undone at the local level, as libraries continue to maintain their own ILSs and maybe their own OPACs. There will be no savings in staff time or workflows if records continue to be modified at the local level. Non-standard local cataloging practices would need to be addressed. Would they be completely eliminated? Could some local practices coexist in shared records in the shared bibliographic database? Our survey showed that most libraries with shared catalogs do not deduplicate their records. There is a definite cost to harmonizing cataloging practices, so there needs to be a compelling reason to do it.

A deduped set of shared bibliographic records could also enable centralized authority control and database maintenance. Right now there is much redundant effort as libraries do authority control processing and bibliographic maintenance in their own ILSs. But at least they have automated tools at the local level to do it. At the same time on the network level, libraries can't do authority control or database maintenance in batch mode directly on OCLC master records. The ability to do batch processing in a shared bibliographic database at the Alliance level represents a clear advantage. We would have more tools (if we get the right kind of software) to do network level cataloging, eliminating redundancy at least at the Alliance level. In fact, availability of such tools must be a requirement for the database in this scenario to make it worthwhile.

Would the shared bibliographic database be the basis of a union catalog? If libraries still have separate ILSs, they could also still maintain individual OPACs. Our survey results show that even with shared ILSs, many libraries prefer to present only their local catalog to their patrons. If most libraries prefer to hide the shared catalog, the value of a shared bibliographic database is decreased. The shared bibliographic database could support a union catalog, or the union catalog could be a separate layer/system in itself. Would the Alliance have a shared bibliographic database and yet continue to run the Navigator union catalog? Or is the shared bibliographic database meant to become the basis of a new union catalog? If so, how will circulation and patron data interact with this database? Once you start sharing data beyond just bibliographic records, you are in fact moving into the territory of a shared ILS. To review:

Advantages:

- It creates the need to standardize cataloging practices (if there is one set of deduped bibs).
- It makes centralized authority control and batch database maintenance possible (if there is one set of deduped bibs).

Disadvantages:

- There are additional costs for the new database, while costs for all existing systems remain.
- There is no ability to support technical services or resource sharing functions that require data beyond bibliographic records.
- Cataloging practices could continue to diverge in local ILSs (or even in the shared bibliographic database if separate bibliographic files are maintained for each library).
- It is not clear if this database would be redundant to existing systems (OCLC as bibliographic utility, whatever union catalog platform we would be using, etc.)

The benefits of this scenario seem mostly related to preparing to transition to something else. Depending on which OPAC libraries present to their users, patrons may not even notice the shared bibliographic database. Unless there is a clear purpose for having just a shared bibliographic database (as opposed to a shared ILS), this seems like a scenario where the costs clearly outweigh the benefits. Whatever advantages this scenario has, could also be had with a shared ILS. If we really want to reduce costs, eliminate redundancy, and support cooperative collection development and collaborative technical services, then what we really need is a shared ILS.

Scenario 3: One Shared ILS for the entire Alliance

There are different interpretations of what constitutes a shared ILS. For our purposes we will consider a shared ILS to be a system having not only a shared bibliographic database, but also its associated modules (acquisitions, cataloging, circulation, serials). If the Alliance members can agree to standard practices in a single system for circulation and bibliographic records, can they accept a single system for acquisitions and serials as well? A single ILS for the consortium might allow member libraries to eliminate duplication of effort, time, and staff expertise in systems management and technical services, not just cataloging. Before the consortium takes any steps towards development or purchase of a new system, we must address the many questions surrounding the purpose and scope of such a system. However, there are some obvious advantages and disadvantages that immediately present themselves.

Advantages:

- Library cooperation is enhanced.
- It enables sharing of computing facilities and equipment through elimination of local server hardware and software hosting.
- ILS systems and bibliographic management expertise are leveraged across institutions.
- The need for Alliance members to manage and upgrade individual systems is eliminated.
- There is improved access to information about collections for staff (e.g. viewing ordering information) and patrons (e.g. enabling de-duplicated records).
- The fiscal and political strength of the Alliance as a collective is increased, from which member libraries will benefit.

Disadvantages:

- One system for everyone means no opting out by definition - it would be mandatory.
- It may be difficult for members to compromise on issues of local control and governance.
- There may be a variety of external legal constraints (members in two states, public vs. private).
- Different libraries serve different clienteles. Can a shared ILS accommodate the different needs?
- Scalability with such a large system will be a challenge.
- Financial and staff costs of implementation and migration will be significant.

One Shared ILS Questions and Concerns

There are some major decisions with which the consortium must grapple prior to making any decisions regarding a shared ILS. Some fall within the scope of the system, some outside the system itself, and some overlap.

As was pointed out in scenario 2, if libraries are willing to share bibliographic records, cataloging standards must be normalized across the Alliance. A de-duped set of shared bibliographic records also would permit centralized authority control and database maintenance. There exists the possibility of streamlined shared workflows. Circulation issues are another consideration. In the spirit of cooperation, can we agree on a single set of shared loan rules or find a system that can accommodate many sets of loan rules? Employing a shared system should enable us to analyze our individual collections as a whole and move forward with the Alliance's mission of cooperative, centralized collection development.

Other considerations include system support for automatic metadata creation through batch import/export tools. Additionally, can it interact, in real time, with other university systems (Banner student information system being an example)? Is it flexible enough to support the needs of small, medium and large academic libraries? We, too, should ask ourselves whether all the functions and/or modules we require must reside in a single system. For example can our acquisitions module be from one vendor while our circulation module resides elsewhere? (This last question potentially leads toward scenario 5, below.) Our existing systems were designed primarily to accommodate MARC. While MARC may not be going away any time soon, other metadata standards have emerged and are heavily used within the library community.

Other questions, such as legal and accounting issues, cannot be answered solely by ILS software and must be addressed with the consortia working in conjunction with the individual institutions and their governing agencies. For example, very different laws govern public institutions in Oregon and Washington. A shared ILS must be able to support both collective and individual purchases as member libraries' collections contain resources that are licensed to their individual institutions, and not the Alliance. It also must function as a transactional database, accommodating billing, communicating with outside systems and leaving a strong audit trail.

In a time of tight budgets and thinly-stretched staff, who is going to run this new system and how much is it going to cost – not only in dollars but in time? Will the governance within the Alliance need to evolve to allow for such a change? Given the size of the Alliance, the diversity of its members, and the radical changes a single shared ILS would entail, the Task Force has concluded that a gradual approach would be wiser and more feasible.

Scenario 4: Multiple Shared ILSs (implementation scenario)

In this scenario, groups of Alliance libraries, organized by geography, size or type, could implement their own shared ILSs. These shared systems would allow for autonomy and customization, while providing a testing ground for more comprehensive integration in the future. This model already exists in various permutations among current Orbis Cascade member libraries sharing systems with non-member libraries, including those at Chemeketa Community College, Willamette University, Evergreen College/St. Martin's College, Oregon Health & Science University, and Eastern Oregon University. Many of these shared systems came about through previously established consortial arrangements, and as a way to share costs, staff, and collections. Each library enjoys a fair amount of autonomy at the local level, and there are usually a number of options available in the design of the union catalog. Members have either merged bibliographic records or maintain separate records for the same title.

Advantages:

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- The system is not mandatory - libraries could opt out
- Individual libraries could keep their current systems and work flows
- Relatively easy to set up (many models exist)
- Low learning curve since the shared system is often based on existing ILS platforms
- Patrons can access holdings of multiple libraries in real time
- Opportunities for staff from libraries to share (collections & processes)
- Fewer governance and legal issues for smaller, more homogenous groups
- Sharing hardware and expertise lowers costs per library

Disadvantages:

- Individual libraries could keep their current idiosyncratic systems and work flows
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- Ease of data corruption since staff from more than one library usually have editing capabilities
- Need staff to administer system
- If different platforms are selected for each shared ILS, there could be integration difficulties

This model would appear to be the easiest to implement since each library would retain its existing ILS or select a shared ILS in collaboration with similar libraries. On the other hand, it might have the least amount of flexibility when one considers scalability - i.e., this model is more nimble when a smaller number of library systems are involved. One of the consortium's priorities is stated in the Strategic Agenda: "... Council has identified sharing of a single bibliographic database as a goal." The model in this scenario broadly fits this definition, depending on what Council members have envisioned as the future of the consortium. Using this model, one possibility for the Orbis Cascade Alliance would be for groups of similar libraries to create shared ILS and then those groups could be part of a larger single system.

Scenario 5: Partially Shared ILS (implementation scenario)

In this scenario, member libraries would share some but not all modules of an integrated library system. It may be possible to gain some of the advantages of a shared ILS while avoiding the worst obstacles to implementing a completely shared system. An "à la carte" approach would allow the Alliance to focus efforts towards expanded sharing where the greatest gains can be made.

Advantages:

- Some savings of systems administration tasks might be realized, depending on how much is shared.
- Sharing software modules could facilitate sharing of expertise, development of best practices, and collaborative technical services in related areas.
- A partially shared system may serve as a transitional state towards a completely or more fully shared ILS. Migrating institutions one module at a time may be more feasible than a complete switchover from local systems to a shared system.
- Leaving some modules unshared may be preferable in some cases to attempting to overcome technical, legal, governance, or cultural issues. In these cases current systems and workflows could remain in place.

Disadvantages:

- It may actually increase systems administration tasks, if effort required to integrate non-shared local systems with the shared system outweighs savings from shared administration of shared modules. The trade-off may be harder to calculate for this scenario than for a fully shared ILS.
- It may not produce savings on software licensing costs that a fully shared system would, depending on which systems need to be continued by local libraries.
- The perception that the system is "incomplete" may lead to proliferation of local "shadow" systems.

Other issues will depend on which modules are shared.

A shared **cataloging** module would not necessarily be required to implement scenario 2, but a shared software tool would likely be the easiest way to maintain a shared database of bibliographic ecords and realize the advantages described in that scenario. Care would need to be taken to accommodate local libraries' needs to maintain holding and location information, and to present patrons with a public catalog that clearly distinguishes between items held locally and those held at other institutions. Any change in OPAC systems would also require educating patrons on the new system and updating documentation such as handouts, BI/LILI materials, and library courses.

Sharing a **circulation** module could simplify interlibrary loan procedures, and facilitate sharing systems that require patron authentication, such as remote access proxies. It might also enable a simpler account interface for patrons, displaying requests and checked out items from their local library and other alliance libraries in the same place. However, there may be policy or legal restriction, such as FERPA, that restrict sharing of patron data. A shared circulation system would need to allow for security of patron information. A shared system would need to allow for a wide variety of loan rules, unless these could be standardized across all participating libraries, and would need to be able to interface with numerous local accounting systems to allow for patron billing and collections.

Shared **acquisitions**, **serials and ERM** modules could facilitate shared collection development and possibly management of electronic resources. A shared system would need to be able to interface with numerous local accounting systems. Again, information security would be an issue, since accounting information should not be routinely shared between institutions. Electronic resources pose an additional complication, as not all resources will be available to patrons of all libraries. Sharing an ERM module across the Alliance is a potential starting point, since it is an area of perceived need for many Alliance member libraries.

Appendix

Survey results and other items can be found at http://www.orbiscascade.org/index/sbdtf-documents.