

The Extended Library Enterprise

Collaborative Technical Services & Shared Staffing

A Discussion Paper prepared for the Orbis Cascade Alliance

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“In the future, the economic viability of libraries is likely to increasingly depend on their ability to forge alliances with the larger community. At the same time, while the potential advantages are numerous, participants acknowledged that there is often a tension between collaboration and self-interest, and that more models for effective collaboration are needed.”

“The research library should be redefined as a multi-institutional entity. The current model of the library as a stand-alone service provider to the university is obsolescent. Exploiting digital networks and emerging digital libraries and research environments, many libraries should deaccession duplicate copies of printed books, form coalitions that minimize costs for collection development, and consider sharing staff on a consortial, federated basis. Collaboration can generate savings that the library can allocate to other activities supporting teaching and research.”

--excerpted from *No Brief Candle: Reconceiving Research Libraries for the 21st Century*.
(Council on Library & Information Resources. *CLIR Pub. 142*, August 2008
<http://www.clir.org/pubs/abstract/pub142abst.html>)

Introduction

The Orbis Cascade Alliance has already formulated a compelling vision for its shared collections. “As an Alliance, we consider the combined collections of member institutions as one collection.” This direct and sensible statement has been buttressed with other collaborative actions:

- The Alliance handles centrally the negotiation, licensing, ordering, and payment for 102 large-scale subscriptions, representing 965 library participants. The Electronic Resources Committee and an Alliance E-Resources Manager provide coordination and expertise for these functions, leveraging collection dollars and staff to the benefit of the Alliance as a whole.
- The shared monograph vendor project, initiated in 2006, provides a set of common vendor tools and transaction history to minimize duplication/multiplication of print copies across the Alliance, and to maximize the acquisition of unique titles. This shared view of selecting and ordering activity has also opened the door to discussions about a consortial approval plan.
- The Distributed Print Repository project for JSTOR and ACS titles enables reliable sharing of last copy responsibility for print, which in turn allows other libraries to withdraw bound volumes of these journals.
- Planning and advocacy for the Regional Library Service Center highlight the Alliance’s goal of shared access to older print titles, with as few copies as possible supporting use across the Alliance.

In addition, resource sharing has always been an integral part of the Alliance. The Summit unified catalog has historically included a robust resource-sharing infrastructure, first through InnReach and now via WorldCat Navigator. This enables efficient direct borrowing, inter-library loan, and document delivery. A further degree of infrastructure sharing will be achieved when WorldCat Local is adopted by some members of the Alliance. Implementation has the potential to reduce cataloging workloads for participating libraries, as WorldCat Local institutions will rely on network-level bibliographic records rather than downloading and maintaining records locally.



These few examples serve to demonstrate the power of a shared approach to collections and service. Their success motivates Alliance libraries to seek the next arena for collaboration, a search lent new urgency by the current economic crisis. Another factor driving renewed collaborative efforts is the space problem faced by many libraries; all too often, low-use print collections occupy space that could be made available to users. The possibilities inherent in a next-generation “networked” library system, under discussion in some quarters, may inspire still more ideas for collaboration, while providing the capabilities necessary to make those ideas a reality.

The timing of this search for greater collaboration appears to be fortuitous as well. Another quote from “No Brief Candle” lays out an imminent organizational challenge for libraries and consortia:

“The new library will be organized to work collectively on common problems; this may include federating collections or staff or coordinating collection management decisions. For example, libraries will routinely make decisions about keeping print and digital resources so that each institution does not have to retain everything.”

While the Alliance has made good progress in this direction, there are certainly more opportunities. In part because of high transaction volume and in part because they are largely backroom functions, technical services operations suggest themselves as one such opportunity. It seems reasonable to ask, in a 36-institution consortium, some of these questions:

- How many times is the same title being cataloged? With what variations?
- How many individual item records, holdings records, check-in records are being adjusted? And again, with what variations?
- How many separate updates of authority files are occurring?
- How many individual PromptCat profiles or shelf-ready specifications are in place?
- How many libraries are binding backruns of the same print journal?
- How often are selectors at individual libraries considering the same title(s) to be added to their respective collections?
- In how many knowledgebases, link resolvers, and proxy server tables are licensed e-resources being maintained?
- How many separate ERMS are being populated and maintained across the Alliance?
- On how many campuses are the same e-resource access problems being tackled?

The underlying question, of course, is whether value sufficient to justify the cost is added by these redundant activities. To reverse these question, and to look at the situation from a different angle: might there be “network effects” possible in managing selection, acquisitions, serials, electronic resources, Government Documents, cataloging, access trouble-shooting and other technical services functions differently? Are there opportunities to benefit more fully from work done in other Alliance libraries? Are there opportunities to release staff time and expertise—either to reduce costs directly, or to pursue other initiatives? And if so, what would be needed to move in that direction? Where are the savings that might be realized? And if additional capacity can be found or created, what should be done with it? This discussion paper explores these and related questions, such as:

- What are some possible models for managing technical services collaboratively?



- How much savings might be realized from various approaches, and where would those savings come from?
- How realistic is it that projected savings could be realized?
- What obstacles (technical, legal, financial, logistical, service, and HR-related) might have to be addressed in order to move in this direction?
- What procedural changes might be needed to maximize savings?
- What opportunities might be presented by adoption of network-level acquisitions systems?
- What policies might need to be created or revisited?
- How might collaborative technical services and a network-level acquisitions system accommodate both large and small institutions? Public and private?
- How might those tactics accommodate the differing legal requirements of Oregon and Washington?

The Technical Services Workflow(s)

We begin by considering the discrete elements of the selection-to-access workflow. Although every library performs these tasks, in our experience there is a surprising amount of variation from institution to institution (and not just within the Alliance). It is also important to distinguish between workflows for print and electronic content. One reason is that e-resources workflows are less evolved and more complex than those for print, with entirely new tasks such as licensing being required. Another critical distinction is that e-resources are effectively invisible; it requires a different orientation to manage a workload and workflow that doesn't show itself. Workflows for print and other tangible items revolve around the artifact itself (cataloging, barcoding, labeling, property stamping, etc., all require the piece in hand.) We'll return to this theme later, as their respective characteristics open up different options for sharing work. For now, let's outline the print and e-resources workflows independently, and consider some possible network effects at each stage.

Print Workflow

In most libraries, the print/tangible workflow includes the following steps. Although collection development activities are not strictly "technical services", they represent the origin of the technical services workflow, and exert enormous influence downstream. No consideration of the process is complete without looking at selection and its relationship to acquisitions.

Resource identification: The process by which the universe of possible resources is brought to the attention of library selectors. This includes everything from writing profiles for approval plans to reading reviews and receiving requests from faculty. Information comes from a wide variety of sources, and in many forms.

***Potential network effect:** Create a comprehensive central "newly available resources" file, available to selectors at all institutions, freeing individual selectors from this task. While GOBI serves this purpose already for new English-language monographs, the concept could be expanded to include European-language content, audio-visual, CJK, and others. A system such as OCLC's WorldCat Selection might be a building block. For electronic resources, publisher or vendor offers could be combined with various "options" reports offered by subscription agents. In addition, vendor contact information could be collected and maintained in a single location, freeing individual selectors and libraries of this task.*



Selection: From that universe of available titles, selectors choose resources most relevant to their own institution. The selection decision must be communicated to acquisitions, typically with a fund code, location and other data added. Pre-order searching to prevent duplication is sometimes done by selectors, as is checking for available funds, but more typically these functions are performed in acquisitions. Electronic selection and export of bibliographic and transaction records from the vendor database are commonly used, but there are still many paper-based processes in place.

***Potential network effect:** Coordinated selection for an Alliance core collection. Selectors already consider the holdings and orders of other Alliance members in selecting for their own libraries. A shared approval plan has been discussed, though not yet implemented. This approach could be expanded to great effect, e.g., by deciding that all new print monographs in English will be selected for the Alliance as a whole, with a consistent distribution pattern for multiple copies. The pattern would vary based on subject and space availability in member libraries. The Alliance core collection would be funded centrally by proportionate contributions from individual materials budgets, and the items in collection would belong to the Alliance rather than to an individual library. (This would probably require that the Alliance be incorporated differently than at present.) Network effect for other resources might be achieved by assigning specialist selectors (such as Latin American Studies or Chinese Studies) to build a collection for the Alliance as a whole—i.e., a single specialist in Latin American Studies would be responsible for all such selection, reducing the need in other libraries. This selector’s workload would not change dramatically; s/he would in effect simply be able to buy a higher proportion of the titles s/he considered.*

Ordering and Order Maintenance: The ordering process begins with a request or notification from a selector. Pre-order searching is performed to control duplication; fund balances are checked (at least at certain times of the year); a bib record is created in the ILS, typically followed by a purchase order, which is sent electronically or in paper form to the vendor. The order encapsulates communication between acquisitions and the vendor, and typically includes fund and location codes, format preference, notes, and some form of match point for a subsequent cataloging record. Orders not filled within a specified time are claimed, and status reports from vendors entered into the ILS.

***Potential network effects:** A centralized ordering operation could be created either physically or virtually. This extends the principle already in place. Orders from many selectors are typically handled by a central acquisitions staff in most libraries. A central ordering operation for the Alliance would consolidate ordering from all 36 campuses. Under this scenario, pre-order searching would focus more on dispersion of a maximum number of copies rather than duplication control. Public libraries when purchasing multiple copies use a technique known as “grid ordering” that could support centralized ordering. A network-level acquisitions module could enable a centralized process without physical centralization—technicians at multiple campuses could see and interact with the same information in real time. Fund management might pose some problems, but these could be mitigated by use of an Alliance-wide “super-fund” for some categories of material, by adopting a more standardized approach to fund structures, or by other techniques.*

Receiving and Payment: For print and other tangible items, receiving involves matching the item received against a packing list, and resolution of the originating purchase order. While paper



invoices and items purchased with credit cards create sizable streams of exceptions, most libraries receive a significant proportion of invoice data in electronic form – either embedded in MARC records or some form of EDI. For items received shelf-ready, additional data such as a barcode number may also be included, to enable automatic generation of item records. Typically, the item itself is forwarded to cataloging, processing, or shelving (depending on its degree of shelf-readiness), and the invoice takes another path toward approval, posting, vouchering, and entry or import into the college or university accounting system.

***Potential network effects:** There are two processes here, and complication is introduced by the difficulty of “sharing” physical items, which can only be in one place at a time. A central receiving operation would offer some economies of scale, but in the absence of a central warehouse every item received would require redistribution. It seems unlikely that enough cost savings could be achieved in a central receiving operation to offset the costs and complications of redistribution. Thus, it appears that no network effect applies. Invoice processing may hold more potential, although highly individuated fund structures and the need to interact with diverse enterprise accounting systems also complicate the issue. Here again, a network-level acquisitions system might offer benefit. If that system were configured to interact with Banner, PeopleSoft, Oracle and other enterprise systems, it would eliminate the delay, re-keying and need for secondary reconciliation that are common.*

Cataloging and Creating Access: For mainstream materials, cataloging records are often provided in batch by vendors or via OCLC PromptCat. For other titles, cataloging records are imported from WorldCat or other sources one at a time. Depending on the level of the initial record, upgrades and enhancements are performed by various levels of catalogers. Item records and holdings records are created at the point the barcode is applied and scanned. After cataloging, spine labels are created and applied, and the item is sent for additional physical processing or to the shelf. Holdings are set in WorldCat for most libraries, and the cataloging record may be uploaded to a union catalog.

***Potential network effects:** More than any other function, cataloging already benefits from a network effect, through WorldCat, union catalogs and other record sharing options. However, that network effect is often mitigated by local variations in cataloging practice. While there are sometimes legitimate reasons for these, all too often local practice precludes full batch processing and requires manual intervention in each record. These practices need to be questioned, and minimized or eliminated wherever possible. WorldCat Local provides a powerful tool for standardization, since the system uses the WorldCat version of the bibliographic record, and the library simply attaches holdings to that record without modifying it. The network effect here is powerful: maintenance of the bibliographic record (including authority control processing) is handled once on behalf of all participating libraries. This should significantly reduce the amount of cataloging work required in each institution.*

Physical processing is another function that could potentially provide economies of scale—especially if a single standard for processed items can be agreed. In this instance, however, it would be necessary to centralize the process physically in one or two facilities in order to realize the benefits of scale. As with receiving, in the absence of a central warehouse, all processed materials would have to be redistributed, offsetting some of the benefit achieved by consolidating the physical processing activity.



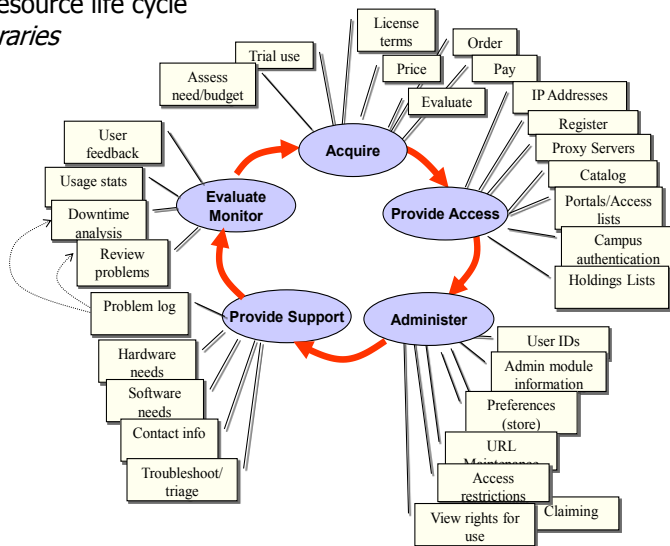
Collection Maintenance and Record Maintenance: Technical services work does not end with the provision of access. This is a surprisingly important point. Technical services needs to be seen as life-cycle management of content, because there are many activities and costs involved even after material is made accessible to users. For print serials, the binding process involves maintenance of check-in records, management of bindery shipments and specifications, creation of item records for bound volumes, searching for missing issues, shifting, storage, etc. Transfers and withdrawals are triggered by movement of titles from reference to stacks, from one branch to another, from the library to remote storage, from circulation to book repair, and any number of other factors. This involves both record maintenance and physical movement, as well as re-labeling. Weeding projects and inventories often uncover errors in the catalog, parts of the collection that were never barcoded, etc. Transfer to offsite storage might require retrospective creation of bib or item records. This whole category of tasks requires staff who understand not only the ILS, but the vagaries of serials and monograph records.

Potential network effects: Create one or more roving project teams of collection/record maintenance specialists. Once again, the tyranny of the tangible complicates the sharing of this type of work. Most aspects of collection and record maintenance work for print require that the item be in hand. It would be all but impossible for staff in one library to perform these tasks on behalf of another library, unless the items were stored or staged at a central facility. But what if the specialists came to the collections instead? This could be scheduled as a semi-annual or annual event for interested libraries, or could be arranged on a project basis. The team would be highly practiced with record maintenance transactions in the common system. The team would add a temporary layer of capacity and would work to deadlines, which would provide the impetus to get things moved on schedule.

E-Resources Workflow

The life-cycle concept mentioned above has already been applied to e-resources workflows, resulting in a compelling picture, created by Oliver Pesch of EBSCO, and based on the work of Ivy Anderson of the California Digital Library.

E-resource life cycle
Libraries



It's clear that the e-resources workflow includes a number of additional steps that are not required in the print workflow. These include the following, which need to be considered separately for "network effect" opportunities. Of particular interest: because there is no tangible component to e-resources, it would be possible to structure shared work without bringing staff physically together. A network-level ERMS and other systems could create a virtual work environment which could be easily managed and shared.

Trial Use and Tracking: In most libraries, trials are arranged either by selectors or an e-resources librarian, and occasionally at the consortial level. Communication regarding trial access and responses to the product are inconsistent in many libraries. Depending on the library, spreadsheets, Access databases, ERMS modules or even e-mail folders are used to track the status of a trial. Some libraries attempt to track results of trials in order to avoid revisiting the same resource unnecessarily.

Potential network effects: As the Alliance has already shown through its coordination of large-scale e-resources, there can be significant benefit to handling trials, as well as negotiation and licensing, centrally. By expanding Alliance-wide trial management, there would be less need for these to be managed separately at each institution. A network-level ERMS, preferably integrated into a network-level acquisitions module, would provide a single, highly visible forum for this task.

Licensing: Negotiating license terms is a specialized activity. The degree of complexity in the process is often imposed by extra-library requirements from the General Counsel or in response to specific jurisdictions. In most libraries, licensing is handled by a single person, which can result in a bottleneck. A fair amount of communication occurs between the requestor and the licensor, the licensor and the content provider, and in many other directions. Licensing needs to be closely coordinated with ordering, payment, and activation. Systems and processes are still evolving in most libraries. The primary difficulty for the requestor and others not directly involved in licensing lies in knowing where the transaction stands at any given time.

Potential network effects: Create an expanded Alliance office for licensing support. This could build on the e-resources work already being handled centrally. In addition to direct negotiation of licenses for Alliance-wide resources, this office could provide expert assistance and support to Alliance members for individual licenses. It would likely be necessary to designate specialists for Oregon and Washington individually, depending on how much their requirements differ from one another. Since licensing is such a specialized activity, it makes sense to create a small group of experts (who are already working within the Alliance), and distribute their expertise over more licenses. A network-level ERMS would enable creation of a central file of scanned licenses, and would allow requestors to know the status of a given contract. It would also enable centralization of expertise without physical centralization of staff.

Activation/Registration: Once an e-resource has been licensed, ordered and paid for, there is often an additional step to activate or register the title. This involves a call or visit to the provider's website to communicate IP address ranges, contact information, and other administrative metadata.

Potential network effects: With a network-level ERMS, this step could also be handled centrally, provided the necessary information was available. Because there is no tangible resource, this



step can also be handled anywhere by anyone with access to the system. Again, there is an opportunity here to have a small group of people handle a larger number of transactions, with accompanying economy of scale. This function might also be expanded into an access verification operation, with regularly scheduled pre-emptive checks to see that e-resources are available to users. Checking each resource once on behalf of many users again amortizes the cost of that verification across a greater number of libraries. This might be coordinated or combined with a wider access trouble-shooting effort, described below.

Creating Access: OPAC and Beyond: This is an area where library practice varies widely. The extent of work to be done derives from policy decisions about how many access paths to support. Within the OPAC itself, some libraries use a single record approach (combining print and electronic versions) while others use a separate record approach. Some libraries elect to forgo the OPAC entirely for e-resources, relying on A-Z lists, subject lists, and links from link resolvers to bring users to this content. Even with A-Z lists, there are variations; it is not uncommon to have separate lists for databases and e-journals. For the most part, each access path must be maintained separately, unless the knowledgebase of a third-party provider such as Serials Solutions is leveraged to produce both A-Z list and MARC records.

***Potential network effects:** Adopt a shared cataloging program and a consolidated knowledgebase for e-resources. The California Digital Library's Shared Cataloging Program (SCP) provides a model for MARC record production. E-Resources are cataloged by one library (UC-San Diego) and distributed to all UC campuses for addition to their OPACs. The policy is to produce separate records for the electronic version to minimize overlay and manual maintenance. Orbis Cascade could benefit from a similar approach, coordinated with the virtually centralized licensing/activation effort.*

A network-level knowledgebase for e-resources could also be configured to update both a consortial A-Z list, and (if wanted) A-Z lists for individual libraries. These would likely need to be standardized in order to allow automatic updates, and this might mean forgoing addition of subject descriptors and other customized enhancements.

Access trouble-shooting: This is perhaps the most frustrating and time-consuming aspect of e-resources management for most librarians. Access can be interrupted for any number of reasons, from slow payment and changed URLs to network issues and provider down-time. Since problems are often reported by thwarted users, there is great urgency in trying to resolve them. Diagnosis can be complex, and the information that must be consulted can be widely dispersed. Most libraries end up relying on one or two experts to resolve these issues, as it is simply too difficult to train a large number of people sufficiently. We have seen creative use of blogs and some interesting distinctions between Level 1 and Level 2 support for troubleshooting. But these tools are really just mechanisms for leveraging scarce expertise.

***Potential network effects:** Trouble-shooting is an area that could benefit enormously from specialized knowledge being applied across a larger number of resources, with results distributed Alliance-wide. Here again, a central communication tool (such as a blog, wiki, or a feature of a network-level ERMS) would minimize the costs and maximize the benefits of specialization. Even better, collecting and analyzing access problems across a larger base would help to identify patterns and suggested more systematic fixes.*



In most libraries, e-resources workloads are under the greatest stress, in part because they are typically understaffed in relation to print and in relation to the share of the materials budget they claim. But they also lend themselves more fully to collaborative efforts, because licensing, transaction management, and access verification can all be managed remotely, presuming the right system configuration is in place. One caution here: by creating new efficiencies in e-resources management, and by creating a specialized group to handle them, staff working with print may feel less need to learn e-resources. They may also feel justified in spending more time on print than is useful to the organization. Library managers will need to reinforce that processes related to print be constantly evaluated for priority and process improvement. Any hours freed in management of e-resources must be leveraged toward high-value tasks – which probably don't include more check-in and binding of print.

Ironically enough, a decision to de-emphasize print leads initially to more print-related work. Much of this is unavoidable; when print subscriptions are cancelled, check-in records have to be closed, holdings and item records adjusted, last-copy responsibility attended to, and perhaps binding and re-labeling done. Withdrawal or storage of low-use titles will absorb significant time in maintenance, correction of legacy errors, etc. This sort of work, which ultimately results in reduced workloads and more space for the library, represent a valuable use of freed hours. Increased attention to missing issues may not.

Prerequisites for Effectively Sharing TS Workflows

This outline of the technical services workflow and the potential network effects of collaboration has given us some glimpses of the kinds of improvements we might expect. But what else is needed to realize a more coherent vision of collaborative technical services? Some elements to consider:

- A common ILS/ERMS infrastructure – shared systems and a shared view of transactions—will allow broad participation across all tasks that don't require the item in hand.
- A more completely shared catalog—in which a single bibliographic record serves the entire Alliance—would save enormous amounts of work. In the WorldCat Local model currently under consideration by some members, the WorldCat record serves as the master record. To the degree that members are willing to accept that record without local modification, cataloging workloads could be reduced. Systems and policies that minimize or eliminate local modifications can dramatically reduce redundant work.
- Shared vendors and agents, at least for mainstream materials, will enable more effective selection decisions and better coordination of status information. This will have the most power if those systems are implemented fully across all members – taking full advantage of electronic selection and record export, electronic invoicing, consolidated claiming, outsourced cataloging, and shelf-ready processing.
- A standardized approach to cataloging and processing new print titles.
- A shared commitment to minimizing duplication of print and toward a mindset of “our collection” rather than “my collection.”
- A more standard approach to fund structures or some way to support a shared budget for Alliance-wide resources.
- Shared objectives (e.g., to use as few staff hours as possible to perform the work; to favor widely-adoptable standard approaches over local practice).
- Longer term: a shared storage facility, which would provide the Alliance with high-density storage space to supplement the Distributed Print Repository approach.



Highest-yield Targets for Collaborative Technical Services?

While some of these were alluded to in considering potential network effects, it may be useful to cluster them with other areas where large-scale shared effort could yield large-scale rewards.

- *Expand centralized management of e-resources.* This might include increasing the number of titles licensed at the Alliance level, but should also extend the range of services handled centrally. This presumes the creation of an Alliance-wide link resolver, a shared e-resources knowledgebase, a shared vendor/provider file, and Alliance-wide ERMS functionality. This should include eBooks as well as other e-resources. Primary yield: staff hours.
- *Centralize management of electronic US Federal Documents.* Like other e-resources, these current e-materials could be managed once and made accessible to the entire consortium. The selection list could be managed by a single selector. Shipping list records could be loaded centrally each week, and overlaid by full MARC records from MARCIVE monthly. This would release staff in all but one or two locations to focus on other tasks. Primary yield: staff hours.
- *Expand the Distributed Print Repository (DPR).* This technique has worked reasonably well for JSTOR and ACS titles, and its expansion, while not saving work in the short-term, will ultimately spread the maintenance work for print archiving over all members. Primary yield: space (short term) and staff (longer term).
- *Adopt the Distributed Print Repository technique for tangible Government Documents:* There huge opportunities for de-duplication and coordination of tangible Federal Documents at the Alliance level, in cooperation with the regional depositories. In other states, we have seen responsibility divided by Agency. Primary yield: space.
- *Adopt Distributed Print Repository technique for print monographs.* In academic libraries, 40-50% of print monographs never circulate. A coordinated decision to reduce low-use titles to one copy each in Oregon or Washington would allow significant reduction of onsite collections with no adverse effect on users. Primary yield: space.

Assumptions

- The incoming flow of new print material will diminish, driven by budget pressure and preference for electronic formats. Print serials are already being cancelled at a prodigious rate. E-Books will increasingly replace print books as more frontlist titles become available. As workloads for newly-acquired print titles grow smaller, they become less efficient—i.e., the cost to handle each title increases. In order to regain efficiency, print workflows need to be re-aggregated at the consortial level. At present, however, there are only partial mechanisms to support this.
- Electronic resources will continue to claim a greater percentage of the materials budget. This is the highest demand material, the fastest-growing, and the most amenable to centralized management.
- On the other hand, maintenance of legacy print titles and records is likely to increase significantly. Print serials cancellations, weeding/storage projects and DPR activities will all drive



vast amounts of record maintenance, and will require local attention, since workers need to be where the content is. This calls for a new solution.

- E-resources make location of workers irrelevant, providing that shared systems are in place. It is possible to create a virtual team of e-resources experts and leverage their experience across the Alliance.
- Print work remains location-specific. Workers need direct access to the physical item. However, centralized staffing (and perhaps a staging location) may make sense on a small scale. One option, especially if the RLSC is unlikely to be built soon, might be to establish a couple of smaller, more warehouse-like centers. These would not be used for long-term storage, but for temporary space to manage large-scale print projects, such as weeding and de-duplication, or large-scaled digitization efforts. A similar center might be established as a consolidated receiving operation for newly acquired titles. Quality control on vendor shelf-ready services could be performed there, as could standardized cataloging and processing for non-mainstream items. It would be much simpler to apply standard procedures in a controlled operation of this sort. On the other hand, all the material would need to be redistributed, which might slow fulfillment. In designing the RLSC, these processes could be incorporated, and the temporary centers ultimately closed.

Models for consideration

While many of the potential network effects suggested earlier could contribute to collaboration, it might be possible to shape their effect more fully by conceiving them at the program level. In the short-term, we suggest consideration of two Alliance-level operations, which are described below. They are not mutually exclusive, and in fact could be kicked off in tandem, as each is intended to take on a different problem. Names are often useful in this context, so we have dubbed each with a temporary moniker.

- **AVERO (Alliance Virtual E-Resources Operation):** AVERO would build on existing ERC initiatives. In addition to managing trials and licensing of Alliance-wide e-resources, AVERO would serve as the operations center for all e-resources licensed or otherwise obtained by members of the consortium. Its infrastructure would include a shared ERMS module, an Alliance-wide link resolver, and centralized files of resource and vendor information. It would be conceived as a virtual organization, drawing together expertise from across the consortium via the systems and phone/video conferencing. Because of differing legal requirements, it may be desirable to have separate “nodes” of specialty in Oregon and Washington. The intent would be to consolidate e-resources expertise and enable the entire group to benefit from its services. These would include administration of trials, expanded licensing work, ordering, payment, activation, ERMS maintenance, knowledgebase maintenance, access trouble-shooting, and all other aspects of e-resources work. It would include management of electronic Government Documents, eBook collections, and potentially free networked resources.

AVERO would enable e-resources to be managed at scale, with a relatively small number of people doing work that would benefit the Alliance as a whole. At its fullest implementation, it would allow e-resources staffing to be proportionate to the number of licenses handled, rather than the number of individual subscriptions. If, as is likely, 40% or more of the combined Alliance materials budgets are dedicated to e-resources, the associated workload would be



contained in AVERO. The virtual nature of the set-up also allows multiple people to participate in each function, reducing the risk of information loss due to vacations, retirements, etc.

- **AMPS (Alliance Mobile Project Services):** AMPS is intended to address capacity issues related to collection and record maintenance for print and other tangible items. AMPS team members would specialize in large-scale holdings and item maintenance, to support weeding, DPR, and cancellation projects. As noted above, there will be enormous demand for these sorts of projects, largely driven by space pressure. Few libraries have the capacity to run a project of the necessary size without assistance. These are activities that are better supported consortially, and economies of scale can be achieved when large numbers of items require substantially similar treatment. Given the expected level of demand, and the size of the Orbis Cascade region, it seems likely that at least two, and possibly four AMPS teams should be formed. Ultimately, at whatever point the RLSC is built, AMPS teams would be housed there, and some of them repurposed for digitization and other projects.

In the longer term, it seems likely that services for electronic resources would remain virtual, and that service for print and other tangible items would begin to cluster around one or more Regional Library Service Centers. Much of the print material now on central campus shelves will have been withdrawn, de-duplicated, and stored offsite. Many user requests would be filled directly from this central facility, with articles delivered electronically, and books sent directly to the user's home library or directly to the user. This will require that the RLSC adopt the role of a distribution or logistics center for the Alliance.

It may help to think in the language of logistics rather than that of libraries, since it will be important to change the mindset of everyone involved. A few nuggets from Wikipedia:

- "Distribution centers are the foundation of a supply network, as they allow a single location to stock a vast number of products."
- "Companies have achieved great efficiencies and cost reductions through supply chain management."
- "Economies of scale are those factors that cause the average cost per unit to fall as throughput increases." The investment (in this case staff time) is spread over an increasing number of units of output/throughput. [This assumes that unused staff are redeployed to other productive activity or dismissed.]
- "Logistics is the management of the flow of goods, information and other resources [including energy and people] between the point of origin and the point of consumption. It involves the integration of information, transportation, inventory, warehousing, material-handling, and packaging."

How might these business-oriented concepts fit the Alliance and libraries generally? At present, we don't tend to think of our collections, people, or processes in these ways, and to do so will be an adjustment. But there is much to be learned from the perspective that every title and every transaction cannot be "special" in a production environment. And while an Alliance logistics definition may need to be refined to include archiving, digitization, re-formatting, and preservation, logistics and production may be just what is needed to handle high-volume, low-use inventory—which is essentially what we



have. In fact, those very factors may suggest a way forward. Low usage may allow libraries a chance to separate the tangible collection (and its related maintenance activities) from its services to users. Conversely, the popularity of intangible electronic content may allow libraries to manage that content through virtual collaboration.

Additional Thoughts

One concern that has emerged in thinking through these options: it's difficult to identify immediate savings. While the network effect and collaboration clearly show promise for substantial long-term savings, many require additional investment (such as a network-level ILS) to get them started. The ideas outlined in this paper are policy, staffing, and infrastructure changes that will pay off in the medium and long term, but will not help much in the FY09 budget cycle.

It is almost impossible to overstate the cultural shift that must occur for any of these ideas to really work. At the most fundamental level, assertions of ownership and the desire to prioritize local users are likely to trump "the good of the Alliance as a whole." It is difficult enough to share collections. But sharing operations and responsibility catapults the discussion into far more difficult territory. Issues of workload equity, relative competence, differing perceptions of urgency, and other factors will challenge the implementation of a single shared catalog, or an Alliance-wide acquisitions system. Costs and benefits may be unevenly dispersed. For instance, have large institutions already achieved economies of scale on their own? If so, they may benefit less, and end up being net providers of expertise. While this extends expertise to many more libraries and users, it may also impose limits on activities important to the large institutions. In any proposal to share services more fully, the benefits must be persuasively demonstrated, and the case repeatedly made.

One possible step in this direction may be to borrow another concept from the private sector, and to appoint a "product manager" or product development team for any new initiative. This would make, for instance, full and broad implementation of GOBI workflows (for electronic selection, batch creation and electronic delivery of purchase orders, electronic invoicing, etc) a priority for someone at the Alliance level. S/he would become the champion for this initiative, and the contact for implementation, training, problem solving, and enhancements. As new ideas arise, a small group could be designated to prove the concept on a small scale, almost like a research & development function. The same small group could grow with the initiative as it is refined and ultimately implemented, serving as Alliance-wide experts and champions.

Shared expertise has additional benefits. By centralizing (virtually or physically) technical services activities, the Alliance essentially creates a much larger TS operation. This provides enough volume of activity to justify specialists – but also to support those specialists with more para-professional hours. Knowledge can be leveraged more fully. It is not necessary for everyone to have a broad-based understanding of technical services – that view can be held at the coordinator/manager level. Although we have highlighted e-resources management and collection development as examples of shared expertise, the principle could apply to other specialties: foreign languages, materials types (such as A-V), project management, manuscripts/archives curation, digitization, and general supervisory/management skills (which are always somewhat rare).

Finally, there is a need to think clearly and realistically about timelines and implementation. Even initiatives that are already underway, such as agreement on a common monographs vendor, have not yet begun to realize their full potential. If that initiative were fully understood and embraced, the hours invested in selection and ordering throughout the Alliance could be substantially reduced. But first it is



necessary to understand what complete implementation entails, and to articulate the benefits it can offer. Given its complexity, it may require a roving implementation team to jump-start the process, and to show the possibilities. This will take longer than anyone wants it to, a factor that will affect many of the ideas proposed.

