
Strategic Technology Planning Report
&
Five-Year Review of Integrated Library System
Suburban Library Cooperative

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About the Technology Planning Project

The Suburban Library Cooperative (SLC) and The Library Network (TLN) are engaged in strategic technology planning, for each consortium individually and also in regard to opportunities for enhanced cooperation between the two consortia. SLC and TLN engaged the consulting firm of Joseph Ford and Associates (JF&A) to conduct the strategic technology planning study.

For SLC, the consulting firm is also conducting a review of SLC's integrated library system, SirsiDynix Unicorn, to evaluate its effectiveness and make recommendations as to whether SLC should consider a new ILS or continue using Unicorn. The ILS review supports SLC policy of conducting such review every five years in the life of the ILS. This is the first such review of SLC's Unicorn implementation.

Information gathering for strategic technology planning has included these activities:

- On-site visits in SLC libraries, focus groups with staff of SLC libraries, meetings with SLC library directors and SLC technology staff.
 - Staff and patron surveys, administered online with access from member library websites.
 - Information from suppliers (e.g., SirsiDynix) and potential suppliers (e.g., Michigan Library Consortium).
 - Prioritization of potential planning topics, as provided by SLC leadership representatives.
 - Discussions and feedback regarding the "Recommended Strategic Technology Directions" provided to SLC by the consulting firm on November 30, 2006.
 - On-site meetings with SLC library, staff, and Board representatives on March 6, 7, and 8, to discuss the draft *Strategic Technology Planning Report & 5-Year ILS Review* that was delivered February 6, 2007.
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Planning Principles

In several places in this document, the author refers to Planning Principles, or recommended overarching strategies that the consultants believe will benefit the patrons and staff that rely on SLC systems and services. These Principles are as follows:

1. Make technical and services support for member libraries the first principle for SLC.
2. Implement upgraded support and communications features as an early priority.
3. Develop a Strategic Planning Committee composed of a representative body of member libraries and SLC staff, and delegate to them the work of investigating and recommending new features implementation.
4. Require a high level of uniformity among member libraries and staff in developing screen designs, OPAC features, circulation policies, subscriptions, and any service or policy that might affect multiple libraries or multiple users.
5. Develop a schedule of development and implementation activities, share it with members and staff, and then stick to the schedule.
6. Emphasize use of the Unicorn software and its full set of features to support reduced staff effort and improved patron services. Engage SirsiDynix personnel to conduct training and assist in configuring the Unicorn software to permit the full range of support for staff and patron services.
7. Educate member library staff and SLC staff regarding service opportunities with self-check, RFID, Automated Materials Handling, e-Commerce, and other emerging technologies, and promote the use of these technologies through workshops, vendor demonstrations, and SLC support of uniform procurement of these technologies.

Strategic Technology Planning Topics

The Suburban Library Cooperative prioritized topics for technology planning as follows.

1. ILS Related Topics

2. MiLE or MiLE Replacement

This topic was ranked high by the Committee but deferred, since SLC has decided to participate in the Michigan Electronic Library Catalog or MeLCat, and therefore not to focus on strategic planning for this topic.

3. Delivery of SLC Materials

This topic to be clustered with AMH and RFID as a single planning issue.

4. Federated Searching

5. Wide Area Network Performance

This topic was ranked high by the Committee but deferred, since SLC has experienced much improved WAN performance since the project began.

6. System and Technical Support

7. Digital Content

8. Self-Service and Self-Check

9. Workstation and Pay-to-print systems

10. E-Commerce.

5-Year Review of the Integrated Library System (ILS)

The Suburban Library Cooperative has an admirable policy of conducting a review of its ILS every 5 years, and that review is included as part of SLC's strategic technology planning project.

The planning project has previously identified three possible approaches and/or outcomes related to the ILS 5-year review, as follows:

- Review of Unicorn and potential improvements in the product and/ or its SLC implementation.
- Review of other ILS products in the marketplace.
- Undertake a competitive purchase process and plan for implementing a new ILS.

The SLC Shared Technology Committee chose to actively pursue the first approach: review potential improvements to the current Unicorn implementation. The Committee also wants to pursue the second approach, of taking a look at the rest of the market to learn more about what other products currently offer.

There will be no effort at this time in regard to implementing a new ILS product.

Background

SLC has operated the Unicorn product for about five years, and as a matter of policy, wished to have a five-year review of the product conducted by an independent outside reviewer.

The Unicorn review is a key element in SLC's strategic planning process, and was a primary component of the consultants' efforts during site visits, focus groups, and the preparation of the staff surveys completed by SLC library staff.

Altogether, three sections of the SLC staff survey address issues related to staff use of Unicorn, perceived patron satisfaction, and included related questions addressing staff satisfaction and impressions of the iBistro Unicorn catalog, the WorkFlows Unicorn staff client, and overall Unicorn performance and value. The responses were invaluable in developing this section of the consulting report.

Review of Unicorn and Potential Product Improvements

During the consulting project, JF&A met with SLC staff and member library staff and conducted surveys of staff and patrons using a web-based set of surveys. Among the issues explored was the level of satisfaction with the Unicorn system, in particular the public access features (called iBistro in Unicorn) and the staff support features, called WorkFlows.

Taken with the dozens of suggestions for modifying iBistro and WorkFlows that SLC member library staff supplied in response to survey questions, combined with the tepid support for Unicorn indicated in survey responses, it is clear to the consultant that impressions formed during site visits and focus groups are correct. SLC member library staff have reservations about the functions and value of Unicorn.

The following are the consultant's observations regarding the SirsiDynix Unicorn product and its implementation within the Suburban Library Cooperative and its member libraries:

1. The Unicorn product has been in operation within SLC for five years, and there is a reasonably high level of familiarity with the product. SLC member library staff have used the product, including iBistro and WorkFlows extensively. They are familiar with its features and capabilities, and understand the challenges it places before them.
2. The comments provided by staff in all settings related to this project, including site visits, focus groups, and survey responses, underline the level of merely tolerant staff satisfaction with Unicorn.
3. The staff-recommended changes in Unicorn, both the iBistro and WorkFlows products, are reasonable and professional recommendations for product enhancements, and the consultant endorses the proposed changes.

Making Use of Existing and Available Unicorn Features

From staff comments, the consultant extracted two sets of five items each as high-interest items based on focus groups and survey responses. We made those available to the vendor, SirsiDynix, for comment and advice. We also identified some performance issues. SirsiDynix has provided some responses that are incorporated into this document.

OPAC (iBistro) Features

1. Improved patron experience with better on-screen iBistro controls; for example "Details" button.
2. Federated searching to include all the databases in use by SLC and TLN libraries.
3. Improved limiting and display features for media.
4. Better call number displays for local items, particularly on first screens.
5. Improved holds processes, for example, automatic patron notification when holds become available and timing of notification when holds are available.

WorkFlows Features

1. Improved holds notices, routing slips, and patron binders.
2. Reduce keystrokes and steps required to handle routine tasks.
3. Improved printing from WorkFlows.
4. Improved multi-tasking, such as login to other system features (serials and circulation, for example).
5. Improved system speed; WorkFlows wizards are slow.

System Features

1. Linking the two Unicorn systems to provide cross-platform search, retrieval, and display, as well as patron holds.
2. Response time improvements.

SirsiDynix Responses

SirsiDynix offered an extensive set of screen displays and responses. The substance of the responses is that virtually everything that SLC staff and member library staff identified as an irritant, or an item in need of change to improve the feature or its performance, is a potential opportunity for SirsiDynix to improve.

Some examples include the following:

- OPAC displays, whether in iBistro or EPS portal, are all coded in HTML and could be modified either by local staff or by SirsiDynix staff under contract. Location of call numbers, text of screen controls, fonts, colors and locations of displayed data, all are available for modification and configuration by staff. If needed, SirsiDynix is prepared to undertake, for compensation, special configuration or coding services to customize the displays.
- Federated Searching is available as a product set from SirsiDynix, and the consultant recommends its use to help unite the catalogs of the two consortia, as well as bringing both consortia into MeLCat, and making the electronic databases subscribed by both consortia more readily accessible for patrons. Federated searching is covered in its own section of this report (page 17).
- Holds processing could be handled more expeditiously, with automated features, particularly printing, that are built into the WorkFlows circulation client software, and could be made available for library staff use.
- The arrangement of software client features in WorkFlows is under control of staff, who could improve the capability of the software to handle specific tasks, and could contract with SirsiDynix for those services as well. Staff can create, with SirsiDynix's help, software wizards with specific features.
- Some of the Unicorn performance problems reported to the consultants may be related to software versions that have since been upgraded.

Consultant's Recommendations Regarding Unicorn Improvements

1. The Planning Principles apply most directly here; use them in setting priorities for and developing improvements to the SLC Unicorn implementation.
2. Solicit input from member library staff about product issues related to Unicorn, and assemble and maintain a priority list of desired features and requested changes. Make those details known to SirsiDynix and ask for costs and development plans that would make those features available.
3. Make use of the "Out of the Box Interfaces" (OBI) from SirsiDynix so long as they suit staff and patrons, but do not hesitate to have them modified if the OBI is not meeting staff and patron needs. Contract with SirsiDynix for such modifications if consortium staff is not comfortable with making them.
4. Ensure that the software upgrades from SirsiDynix are kept up to date.
5. Conduct Unicorn upgrade and refresher training at least annually, with on-site training provided by vendor personnel. Encourage library staff to bring problems to the training for discussion and potential resolution.

Review Other ILS Products in the Marketplace

The information received by the consultants from SLC member library staff indicates that the Unicorn product fails to meet many staff and patron needs. During site visits and focus groups, library staff also communicated a belief that changing to a different ILS would be risky, resource-intensive, and lacking in guarantees of a better product. The consultant concurs in these beliefs.

However, SLC has an interest in knowing more about products in the current ILS market. SLC's review of other systems does not constitute intent to purchase a replacement system, but rather an educational and staff development activity, to give member library and SLC central support staff insight into what competitive products have to offer.

Consultant's Recommendations Regarding ILS Market Review

The consultant recommends that SLC undertake a structured process of reviewing ILS products. Such a process would involve side-by-side or "apples-to-apples" comparisons involving scripts or other means of obtaining normalized information. The product reviews and comparisons should be documented in ways that make the information accessible to all interested SLC members, not only to those able to attend demonstrations or review sessions.

SLC could and should undertake a market scan of the available ILS products, using these steps:

1. Develop a list of core features and functions required and desired in an automated system, noting any features not available in Unicorn.

2. Conduct site visits to libraries using other vendors' ILS products and observe the products in use in those libraries. Are the required and desired core features and functions available in those systems? Evaluate the ease-of-use of the products you observe.
3. Conduct interviews with library personnel involved with other vendors' products. Again, are required and desired features available? And how do the libraries' staffs feel about their ILS product's ease-of-use?
4. Ask vendors to conduct scripted demonstrations of competing systems, with the demonstrations conducted at some SLC facility. Several weeks prior to the demonstrations, provide vendors with demonstration scripts that focus on required and desirable features. Give every vendor exactly the same script to ensure "apples-to-apples" comparison. Insist that the vendors follow your script, but give them approximately 30 minutes to demonstrate "what we should have asked to see."
5. Document the results of on-site observations, interviews with users of other ILS products, and the scripted demonstrations, so that the information is available to staff unable to directly participate. Hold discussion roundtables involving direct participants and staff who are interested but were unable to directly participate.
6. If interest still exists in pursuing the market scan, the next step would be a Request for Quotes, to develop cost figures for a full-scale replacement.

Any plan for replacing the ILS would have to include a cost the consultant estimates to be in the range of \$400,000 in one time costs.

Delivery of Cooperative Materials/ Automated Materials Handling/ RFID

Materials delivery is clearly among the most successful, if not the single most popular and successful program conducted within SLC. It is also clearly among the most demanding services in relation to staff time and staff impacts. The following table illustrates the current and potential numbers of materials “transits” or items conveyed between SLC libraries.

Table 1: Actual and Projected Materials Transits, 2003–2009¹

Year(s)	Total Transit Items	Actual or Projected
2003–04	662,384	Actual
2004–05	768,345	Actual
2005–06	893,153	Actual
2006–07	1,037,132	Projected
2007–08	1,204,321	Projected
2008–09	1,398,462	Projected

As is clear, the level of activity related to transits, or loans made between SLC libraries and transported or delivered by SLC couriers, is substantial and growing quickly. For the current year (2006–2007), the total will likely equal nearly 1.0 million items and will likely grow to 1.2 million in the year following if the current growth rate continues.

Staff survey responses indicate that “patrons love” the system of loans and holds among SLC libraries. The patron surveys indicate that, clearly, the patrons **do** love the service.

While the staff rate the patron service aspects of interloans high—a finding consistent with focus group responses, as well—there are workload implications and, of course, the issue of the delivery system used to move all these materials. Staff does rate the workload related to interloans as moderately high, while rating the effectiveness of the current delivery system as quite high.

The interloan service is so popular that when asked, SLC patrons overwhelmingly indicated interest in being able to access even more materials. Such expanded access might be possible under these circumstances now in planning:

- Catalog linking between SLC and The Library Network.
- Expanded access to MeLCat for both TLN and SLC.
- Linked or connected delivery system for both TLN and SLC.

¹ The transits for the years 2003 through 2005–2006 are actual, and projected beyond 2005–2006. The growth rate established in the three “actual” years is approximately 16 percent annually.

The picture that emerges from the numbers is exactly the picture that the consultants formed in site visits and focus groups:

- The delivery system is clearly beginning to overwhelm public services staff in individual SLC libraries.
- Staff report that workloads have increased dramatically as patrons increasingly make use of the web-based iBistro interface and place requests for items held across the region.
- Patron responses indicate very high levels of interest in placing requests for materials and for expanding the number of libraries from which requests can be made.
- The consultants observed very high levels of staff activity related to receiving and marking transits for patron pickup, and high levels of anxiety about the workload.
- Staff employ paper and manual methods for preparing transit slips and patron notices and binders.
- No SLC libraries use patron self-service pick-up of holds, making holds an even greater workload for the staff.
- Ultimately, and fairly soon if the projections are accurate, staff will not be able to deal in a timely manner with transits, and patron dissatisfaction will emerge.
- While some features in Unicorn related to automated printing of patron pickup notices and binders would help reduce staff workloads, the rapidly growing transit workload will still eventually overwhelm staff.

Consultant's Recommendations for Short-Term Action and Early Adoption

1. SLC should immediately implement or configure the Unicorn WorkFlows software to support improved staff processing of holds and transits. If SirsiDynix assistance is needed to support this step, be prepared to fund that assistance. Good candidates for an initial round of work would be:
 - a. System prints a patron identification slip now handwritten by staff for every hold.
 - b. Have SirsiDynix develop a patron privacy wrapper for hold items, to position SLC for self-service holds.
 - c. Configure the software to automatically notify patron availability of holds material.

The consultant believes that staff of SLC libraries would be happy to help develop a few more items for this initial list.

2. Encourage and assist libraries in moving to provide patron self-service holds, including funding SirsiDynix to develop automated printing of patron privacy materials binders.
3. Train library staff in managing holds and transits using the newly configured features and services.
4. Align SLC and TLN delivery routes to have at least one point in SLC where TLN makes deliveries and vice versa, to ensure no delays in movement of materials between the two consortia.
5. Align cooperative membership along geographic lines, so that any libraries that are surrounded by or mostly adjacent to member libraries of the other consortium become members of that consortium. Or, at minimum, align deliveries by geography, regardless of whether the library is a TLN or SLC member library. There is no value in delivery vehicles crossing from one service area to another.
6. Begin collecting and tracking data that may help in planning and implementing Automated Materials Handling:
 - Number of items picked up and dropped off, per location, per delivery. This is a count of items, not totes.
 - If possible track the amount of time it takes items to move from “requested” to “leave originating location” to “arrive destination,” and amount of time on the hold shelf at destination location.
7. Consider establishing a coop-wide standard for the amount of time an item will be held for a patron before being returned to circulation or to its owning library. (Or, preferably, standardize this for both coops, SLC and TLN.)

Consultant's Recommendations for Automated Materials Handling

If transits continue to grow, and all evidence suggests that they will as SLC implements Federated Searching, linking with TLN, and MeLCat, then the time will inevitably come when SLC libraries will benefit from Automated Materials Handling. As transits and holds grow, SLC will want to take steps to plan and prepare for Automated Materials Handling.

Any purchase and implementation of an Automated Materials Handling system will be a complex, expensive, and demanding procurement. The combination of space requirements, logistics, technology, and expense will require careful attention to detail.

1. Identify a workspace that can be configured for a materials sorting facility for the entire TLN cooperative and Suburban Library Cooperative combined. The ideal space would have these characteristics:
 - Have adequate operating space to start, with room for expansion. The space would be vacant, on a single (ground) floor, configured for warehouse-like operations, and without intruding walls or supporting structures. The space would be adjacent to outside entry.
 - Include some space for offices, personnel facilities such as restrooms, lunchroom, and server room.
 - Have truck loading capability such as a raised dock or lift service.
 - Be close to highway(s) for quick access.
 - Have industrial electrical power installed, with 208-220 volt 3-phase power the preferred minimum.
 - Be available for staff operations 24/7.
 - Be secure, heated, properly lighted, waterproof, with covered access.
2. Identify from 7 to 9 pilot libraries, some from each consortium, that would take part in the AMH project, and develop space descriptions of their materials return rooms, sorting space, and related details such as delivery room or location and electrical power service.
3. Be able to provide fully AutoCAD-compatible digital drawing files of the available space for a central facility and the pilot libraries.
4. Develop a Request for Information and Quote (RFIQ) describing the AMH requirements and including the details related to spaces and facilities.
5. Provide that RFIQ to vendors, receive responses, and make a decision on whether the price and performance measures make it reasonable to proceed.

6. If price and performance tradeoffs are attractive, develop a full-scale procurement project with a Request for Proposals, associated legal and features requirements, description of all services requirements, and other matters pertinent to a major capitol project.
7. If an AMH project develops, it will be necessary to standardize the type of transport container across both SLC and TLN: either all totes, all bags, or all some third type of container. The type of transport container may be suggested or required by your successful vendor.
8. Expand the operation following a successful startup, to include all libraries whose facilities can support at least a small local sorting capability and whose volume of activity justifies making the investments.

Some of the smallest or most space-constrained libraries may not be able to justify the cost or the space demands, but the costs for small sorting and return systems has declined significantly in the last 12 months, and the consultant believes those costs will continue to decline.

Costs for Automated Materials Handling

The table below shows costs for a hypothetical project involving a pilot group of libraries, three small, three medium, and three large libraries. We are assuming that the pilot project would be a joint undertaking of SLC and TLN, and would involve libraries from both cooperatives; the costs shown in Table 2 would be shared between the two cooperatives.

In this hypothetical project, the following conditions apply:

- Each small library sorts on-site into three sort bins; one for returned materials going to the shelf, one for holds or other materials leaving the library, and one for everything else.²
- Each medium library sorts on-site into five bins; three for returned materials going to the shelf with the three sorts approximately equal in overall returned materials volume, one sort for holds or other materials leaving the library, and one for everything else.
- Each large library sorts on-site into seven to nine bins; five to seven for returned materials going to the shelf with the sorts approximately equal in overall volume, one sort for holds or other materials leaving the library, and one for everything else.
- All materials leaving any of the libraries are transported to a shared TLN and SLC sorting facility, where they are sorted for delivery to the library of next use.³

² Examples of “everything else” include materials that belong to a non-member library, materials whose identifying symbology (RFID or barcode) doesn’t tally correctly, materials that require special handling, or other exceptions.

³ SLC and TLN could sort their materials centrally without individual libraries operating local sorting systems, but the most efficient and rapid delivery system would include both local and central sorting.

- As the project expands and transits grow, more libraries will acquire the appropriate type and size of equipment.

For the central site, there are no costs shown for leasing or acquiring and outfitting space. The Detroit metropolitan area must have many opportunities for leasing space.

Table 2: Estimated Shared Costs for Automated Materials Handling⁴

Item	Description	Unit Cost	Units	Year One Cost	Recurring Cost
1.	Small sorting system, per sort bin (3 libraries, 3 bins each) ⁵	\$22,000	9	\$198,000	\$30,000
2.	Medium sorting system, per sort bin (3 libraries, 5 bins each)	\$19,500	15	\$292,500	\$45,000
3.	Large sorting system, per sort bin (3 libraries, 9 bins each)	\$15,000	27	\$405,000	\$60,000
4.	Central site sorting system, per sort location	\$12,000	100	\$1,200,000	\$180,000
5.	Installation, setup, configuration, training, per sort bin	\$3,000	150	\$450,000	0
6.	Additional bins, special equipment	TBD		0	0
Totals				\$2,545,500	\$315,000

Radio Frequency Identification—RFID

The explosive growth in SLC interloans inevitably leads this strategic technology planning project to Radio Frequency Identification (RFID), for these reasons:

- Ultimately, almost all libraries will convert to RFID, as costs come down and standards make interoperability more possible.
- Along with AMH and its sorting features, RFID might make a substantial contribution to timely and cost-effective delivery of materials in SLC transit.
- The key issue in making Automated Materials Handling and RFID decisions is to ensure full interoperability with all SLC libraries, and potentially TLN libraries as well.
- Use of RFID, knowledge of RFID, and planning for RFID are in relatively early stages within SLC libraries at this time. This means that SLC currently has the opportunity to educate its member libraries regarding RFID.

⁴ Costs shared between SLC and TLN.

⁵ Typically sorting systems involve the purchase of a combination of hardware, software, and services. The unit cost for a sorting system is an indicator of the estimated costs. For sorting systems with fewer than about 10 sort locations or bins, a cost of \$25,000 per location or bin is a rough estimate. As the number of sort locations increases, the unit cost per location or bin decreases.

Consultant's Recommendations Regarding RFID

SLC and The Library Network made an initial good strategic decision in undertaking overlapping and joint strategic technology planning, and specifying that the planning project should look for opportunities for strategic partnerships between the two cooperatives. The area of materials handling and delivery is one area where the consultant's recommendations are primarily recommendations for partnership activities between SLC and TLN.

The following recommendations are included here, because these are my recommendations for SLC; these same recommendations will appear in the consulting plan for *TLN-SLC Strategic Technology Partnerships Planning Report* and in the *TLN Strategic Technology Planning Report*.

The consultant recommends the following strategic undertaking in cooperation with TLN:

1. Delegate the tasks of planning any developments in RFID or AMH to the Strategic Planning Committee (see Planning Principles).
2. Educate staff at all levels within SLC and the member libraries regarding the implications, features, benefits, and challenges of RFID and AMH.
3. Develop strategic goals for a shared sorting and delivery system.
4. Develop functional and operational goals with a strong emphasis on numeric values:
 - a. Number of libraries being sorted for.
 - b. Most effective routing for shared or interfaced routes with SLC and TLN.
 - c. Potential total daily, weekly, and annual sorting requirements by the end of a five-year usage period (e.g., if a sorting system were installed in 2008, what would be the sorting requirement be in 2013).
5. Issue a Request for Information and Quote for a sorting system, with an emphasis on sorting technologies required or supported. For example, could a vendor support barcode sorting, RFID sorting, or both?
6. Make a decision on whether or not to proceed with the sorting system based on vendor responses.

Costs for RFID

Table 3: Estimated Costs for RFID Pilot in Five Libraries

Item	Description	Unit Cost	Units	Year One Cost	Recurring Cost
1.	RFID tags	\$0.50	TBD ⁶		
2.	RFID equipment: conversion stations	\$1,800	10	\$18,000	0
3.	RFID circulation stations	\$2,150	10	\$21,500	0
4.	RFID software interfaces to Unicorn ⁷	TBD		0	0
5.	RFID installation and implementation services	TBD		0	0
6.	RFID implementation	TBD		0	0
Totals				\$39,500	

Planning for Automated Materials Handling and RFID

SLC should undertake RFID and Automated Materials Handling as a combined project, as the greatest price-performance of RFID occurs when it is used to support Automated Materials Handling. The consultant recommends that SLC plan a project to educate staff, define requirements, plan for implementation, identify potential space, and conduct related tasks.

Chart 1: Recommended Planning Schedule for RFID/ AMH

Event	Description	Start Date	End Date	Days to Complete
1.	Begin staff education by hosting vendor presentations	August 1, 2007	No end	
2.	Develop, issue, receive, and analyze responses to RFI/RFQ for AMH products and services	January 18, 2008	March 21, 2008	62
3.	Develop potential space requirements, costs, and locations	March 24, 2008	May 23, 2008	60

⁶ Every item in the collection of every SLC library will require an RFID tag. The estimated cost of \$0.50 is likely to be higher than a group purchase, so that if TLN and SLC were to select a vendor and commit to a purchase of 1,000,000 tags, the costs would likely decline. The consultant estimates costs for very large-scale projects at \$0.40 each.

⁷ These costs are dependent on the RFID supplier that TLN and SLC might select. The consultant believes that costs are beginning to decline as the market matures, but that the current range of costs makes it impossible to provide a meaningful estimate at this time.

Federated Searching

The surveys conducted by the consultants reveal that most patrons do not make use of the electronic databases subscribed by SLC and its member libraries. Increasing awareness and use of the electronic databases is a major service goal for SLC. Another service goal is facilitating a service link between the two Unicorn catalogs, those of SLC and TLN.

Finally, SLC and TLN are moving to link their catalogs to MeLCat, and the Federated Searching features will make those links more seamless and easier for patrons to use.

Thus, a Federated Searching capability would provide four capabilities:

1. Making patron searches operate against and provide results from the SLC Unicorn server, as is currently performed by iBistro;
2. Making patron searches capable of retrieving from electronic databases;
3. Linking searches and retrievals to the TLN Unicorn server;
4. Linking to MeLCat.

Consultant's Recommendations

1. Purchase and implement a Federated Searching capability from SirsiDynix. The EPS 2.2 Portal product, planned for release in April 2007, will provide this capability, with the Federated Searching features provided in a hosted system—that is, the Serials Solutions product quoted by SirsiDynix.
2. Plan for implementation of MeLCat in the group of libraries to be brought up on MeLCat in April 2007.
3. Prior to MeLCat implementation, install EPS 2.2 it with a configuration that permits individual libraries to establish their own profiles, so that individual libraries can manage access if needed.
4. Link the Federated Searching features to the MeLCat server, and cross-link the two Unicorn systems through this mechanism. This requirement will involve interaction with the Michigan Library Consortium and SirsiDynix.

This mechanism will make use of the newly developed NISO Circulation Interchange Protocol (NCIP) features installed by Innovative Interfaces for the MeLCat system, and tested for interoperability by SirsiDynix. No bulk or batch transfer of patron records is required in this implementation, thus eliminating the potential security problem, which concerned some observers.

5. Develop a new set of web OPAC interfaces for SLC and for TLN that more clearly unite the two catalogs and that further set the various “federated search” resources into prominent display locations.

6. Employ the Strategic Planning Committee to develop on-screen nomenclature, display features, local data features such as call numbers and availability, and related policies for the higher levels of lending that will inevitably result.
7. Use the Planning Principles and best practices in usability testing to ensure that the displays, results, on-screen commands, and formats are clear and easy to use.
8. Finally, when SLC's scheduled time for MeLCat implementation approaches, train staff in use of the EPS products and have them installed.
9. Educate staff and users, and roll out the service.

Costs for Federated Searching

Table 4: Estimated Costs for Federated Searching

Item	Description	Unit Cost	Units	Year One Cost	Recurring Cost
1.	iBistro upgrade to EPS	\$5,000	1	\$5,000	0
2.	EPS license	\$5,000	1	\$5,000	0
3.	EPS 2.2 portal software with Rooms	\$44,500	1	\$44,550	\$10,045
4.	Sun T2000 server to operate EPS 2.2	\$12,425	1	\$12,425	0
5.	Sun Silver level server support ⁸	\$4,824	1	\$4,824	0
6.	Setup and project management for test EPS ⁹	\$3,000	1	\$3,000	\$3,000
7.	Federated Search services	\$2,600	20	\$52,000	\$40,000
8.	Installation and implementation services ¹⁰	\$0	1	0	0
9.	Specialized training and configuration services	\$1,800	3	\$5,400	0
Totals				\$132,199	\$53,045

Wide Area Network Performance

Subsequent to the Strategic Technology Planning project getting underway, the network performance issues that were troubling SLC have diminished in importance. As a consequence, Wide Area Network Performance is no longer covered in this Plan.

⁸ Three-year silver level support; M-F, 8:00 AM to 5:00 PM, 4-hour response. This cost covers three years, after which the annual cost would be approximately \$1,600 per year.

⁹ SirsiDynix recommends using the existing iBistro server as the EPS test server.

¹⁰ These costs are included in the software license purchase as Item 1 in this table.

System and Technical Support

System/ technical support is one of the primary reasons SLC exists. The organization shares the technical skills and experience its staff has developed to ensure that staff and patrons in the SLC libraries have the highest possible utility from the ILS and other technologies in use in SLC.

The news from SLC is fairly good. Three quarters of survey respondents who rated the effectiveness of SLC technical support gave one of the two highest possible ranking responses. Open-ended survey responses largely supported this ranking, as did the comments we heard in site visits and focus groups.

Responses to the open-ended questions in the staff survey indicate some areas where improvements could be made.

Here are some thematic or reoccurring responses:

- Need more staff
- Need more hours of coverage
- Better communications with member libraries, including some electronic or automated methods for reporting problems.
- More or better communications with vendors to help resolve problems.

These responses are repeated often enough that they must be taken as serious issues requiring some attention.

Consultant's Recommendations

SLC should enhance its service organization in these ways:

1. Provide more hours of coverage, including more nights, weekends, and holidays. The member libraries are often at their busiest when SLC is essentially closed.
2. Develop or purchase, and then implement, several automated and electronic communications products with these features:
 - Automated trouble ticket reporting for member libraries, with resolution or response features.
 - Automated communication system to alert staff of down time, system performance problems, or other matters of interest for member library staff.

Some potential products for SLC (and for The Library Network as well, since the consultant recommends that both consortia select the same products) are as follows:

- Trouble ticket reporting; products such as ServiceDeskPlus, Track-IT, or Parature.
- Automated communication products: RSS feed generators such as RSSBus, FeedforAll, or other such software. These products should be purchased with the expectation that they will interface to the trouble ticket software and other products and generate automatic RSS alerts to SLC membership.

Both these products would require a server, perhaps one sufficing for both products, and configuration and implementation.

3. Conduct periodic focus groups and member library surveys to ascertain how well the support and service program is performing.
4. Make its service and support operations as nearly like TLN's as possible to help ensure compatibility and to foster cooperation between the two consortia.

Costs for New Support Technology

Table 5: Estimated Costs for New Support Technology

Item	Description	Unit Cost	Units	Year One Cost	Recurring Cost
1.	Automated trouble -ticket system, with server	\$7,500	1	\$7,500	\$1,500
2.	Automated member communication system, with server	\$7,500	1	\$7,500	\$1,500
3.	Additional SLC support staff training in vendor products	\$5,000	1	\$5,000	\$5,000
4.	Develop and maintain ongoing services assessments	\$1,500	1	\$1,500	\$1,500
Totals				\$21,500	\$9,500

Digital Content

Digital content refers to downloadable digital materials such as music, videos, books, or other materials that can be retrieved from a SLC server or via a SLC subscription, and downloaded to a patron device for listening, viewing, or reading. Digital media and downloading are rapidly growing service opportunities for public libraries, and a number of very large-scale services providers such as Amazon, Apple, and Microsoft are moving to make digital downloading easy and affordable.

At this time, digital content is a minefield of varying standards, variable subscription plans, compatibility issues, and uneven coverage in materials by age and material type. This is to say, it is the perfect time for SLC to help the approximately 63 percent of its libraries that do not yet have digital content, by providing the support that approximately 89 percent of its library respondents will ultimately require. (See responses to question #20, SLC staff survey.)

Consultant's Recommendations

To help ensure compatibility across the SLC library environment, the consultants suggest several strategies, as follows.

1. Consult individual libraries about their existing digital content subscriptions. There is no need to purchase additional subscriptions, but it may be useful to consider combining them for any financial and operational benefits.
2. Conduct a survey of member libraries to identify preferred digital content types, sources, and materials, and develop a profile of vendors, standards, download requirements, and compatibility issues.
3. Validate that the profile meets individual member libraries' needs, and contact vendors to arrange for services on behalf of all SLC libraries.
4. Create one or more uniform user license and usage agreements with vendors, with appropriate download features, and implement those in a pilot project. Ensure that all documentation, OPAC features, download station software, user devices, and catalog data element components are worked out during the project.
5. From among a group of applicant libraries, select five libraries to participate in a pilot project.
6. Create an incentive to use digital content by providing a subsidy for the five new user libraries for the first year. After the first year, have all libraries pay their own costs, but make it attractive for libraries to participate by offering an initial subsidized year for all participating libraries.
7. Acquire or specify the download station features and consider acquiring the download stations in a single batch, to ensure as near absolute uniformity of download equipment as possible.

8. Train library and SLC staff to operate the digital content systems, to catalog digital materials, and to answer patron questions.
9. When all is ready, roll out the system for all users, with a cost recovery method that meets SLC financial requirements.

Costs, Planning, and Scheduling for Digital Content

Table 6: Estimated Costs for Digital Content for 5-Library Pilot Project

Item	Description	Unit Cost	Units	Year One Cost	Recurring Cost
1.	Estimated cost for a model download station	\$1,700	5	\$8,500	0
2.	Incentive package of digital content	\$10,000	5	\$50,000	0
Totals				\$58,500	

Digital content will be conducted as a pilot project. While there is no real need to coordinate a digital content project with TLN, the potential to share effort and process would likely benefit all parties.

Chart 2: Proposed Schedule for Digital Content

Event	Description	Start Date	End Date	Days to Complete
1.	Develop incentive package in conjunction with libraries and vendors	February 4, 2008	February 29, 2008	25
2.	Select the five pilot libraries	February 18, 2008	February 22, 2008	5
3.	Develop specifications for download stations	March 3, 2008	March 14, 2008	10
4.	Acquire download stations and install them in pilot libraries	March 17, 2008	March 28, 2008	10
5.	Train staff in use of digital content	March 31, 2008	April 11, 2008	10
6.	Roll out the program	April 14, 2008		

Self-Service and Self-Check

The consultant believes that a trend in public library service is clearly emerging in parallel with retail sales operations. That is, just as retailers are providing self-service kiosks for customers to purchase items, so libraries are moving toward a more fully self-service operation.

The financial, staffing, and technology-related implications are large for public libraries, and for the consortia such as SLC that operate central equipment, software, and services. Ultimately, for example, self-service equipment could vend library materials (that is, deliver them to patrons) via machine at any hour or day, and patrons could check materials out to themselves without any staff intervention in either borrowing or returning materials.

Self-service is a paradigm that patrons now encounter everywhere in the retail world. A significant number of retail customers prefer this paradigm, and it should be available to library patrons, including the patrons of SLC libraries. Even in a self-check environment, staffed circulation services will continue to be available for those patrons who choose this type of service. The point is to offer patrons the choice.

While we were on-site in SLC service territory in August, we heard some statements that “our patrons don’t want self-service.” The consultant believes that every library has patrons who **do** want self-service, including self-service holds pick-up, and that self-services should be offered to them as soon as finances and space considerations permit. The information collected for this planning project supports that approach.

Responses to the SLC staff survey indicate that library staff believe there would be a high level of usage of patron self-services, including a belief that three-quarters of patrons would use self-checkout. Further, the explosive growth in holds, requests, and interloans since patrons have been able to manage this process themselves in iBistro illustrates patrons’ interest in taking care of their own services when the system permits.

Consultant’s Recommendations

As noted, the strategic importance of these issues is great. SLC should position itself to help ensure these critically important components become integrated in the SLC community as soon as possible, with these factors paramount in planning:

- Each of these technologies has an affiliation (interoperation) with the SLC Unicorn servers and databases, and thus each will almost certainly require a separate interface and vendor support agreement.

- Products from different vendors will very likely not interoperate; that is, an RFID or self-check product from one vendor will almost certainly not work with another vendor's products, so that self-service holds, patron pick-ups, and self-check may not function.
- The costs and support overheads for multiple products would drive up expenses for libraries and for SLC, and would require separate SLC support personnel, procedures, training, and all the related requirements for library information technology.

For these reasons, and to ensure a more successful long-range strategy for SLC (and ultimately TLN) libraries that will want to operate compatible patron self-service and materials handling systems, do the following:

1. Develop a product selection process that will ensure compatibility and interoperation across the entire range of SLC libraries.
2. Select products with the highest possible degree of standards compliance, since that is likely to ensure long-term compatibility with new and emerging technologies in libraries.
3. Conduct two group processes in SLC:
 - a. A staff education process that brings vendors and their wares into SLC territory and has them displayed and demonstrated for all staff. A major focus should be on library decision makers including library directors and library boards.
 - b. Develop a model procurement process or processes. Using an objective selection process involving member library representation, determine a single vendor of each product that SLC will support for products that interoperate with the Unicorn ILS. Establish a master contract to make it easier and less expensive for libraries to contract with the vendors for these products.
4. Be aware that the self-check capability recommended in this Plan includes a "patron pay" function, requiring e-commerce capability.

Costs, Planning, and Scheduling Self-Service/ Self Check

Table 7: Estimated Costs for Self-service/ Self-check for 5-Library Pilot Project

Item	Description	Unit Cost	Units	Year One Cost	Recurring Cost
1.	Full-scale self-check stations ¹¹	\$29,908	5	\$149,540	\$21,697
2.	Desk-top self-check package ¹²	\$7,995	15	\$119,925	\$17,625
3.	Installation and setup ¹³	\$975	15	\$14,625	0
Total				\$284,090	\$39,322

The consultant recommends an early implementation of self-service and self-check, in 2008.

Chart 3: Proposed Schedule for Piloting Self-Service/ Self-Check

Event	Description	Start Date	End Date	Days to Complete
1.	Assist 5 libraries in acquiring and installing self-service/ self-check equipment	May 5, 2008	June 6, 2008	30
2.	SLC acquires a patron-pay account	May 19, 2008	June 6, 2008	15
3.	Libraries “go-live” with self-service and self-check	June 9, 2008	June 9, 2008	1

¹¹ The self-check kiosks shown are complete with barcode scanner, receipt printer, self-check software, freight, coin receptor, bill validator, credit card reader, and the full range of software features. Installation and setup are included.

¹² Includes all self-check software, PC, 15-inch touch screen with magnetic swipe, barcode scanner, receipt printer.

¹³ These costs might be reduced for large-scale installations.

Workstation and Pay-to-Print Systems

The Suburban Library Cooperative conducted a procurement on behalf of its membership and selected the EnvisionWare products to handle PC reservation and print control functions. These functions have become areas of major effort and expense for public libraries, and a market opportunity for software developers such as EnvisionWare.

By all accounts, the project and products have been reasonably successful for SLC. The comments made during site visits and focus groups were generally positive, the results from the staff survey were positive, and the responses to the open-ended questions show fairly positive support for the EnvisionWare products and for SLC's support of those products.

There are some themes in the responses to the open-ended questions.

- Need for more staff control of reservations, to permit them to be moved between PC workstations.
- More flexibility regarding session lengths and time-outs, to allow short session uses when PCs are available.
- Better control of "chained" or multi-card reservations when patrons use cards from family members.

In general, however, the products appear to be meeting staff and patron needs. In particular, several staff responses noted that the savings in personnel time was significant, and that the EnvisionWare products had reduced unwanted print jobs and made allocation of PC workstations more equitable and easier to manage.

Consultant's Recommendations

The primary concerns that staff identified relate to the features and configuration of the PC reservation and print control software. The consultant believes that some of the features that staff find lacking can be configured with the appropriate level of skill. To gain that level of skill, and to enhance the value of technical support for EnvisionWare products provided by SLC, the consultant has these recommendations.

1. Host a series of one-day workshop and training session involving EnvisionWare personnel, in the same spirit of ongoing staff and member library awareness and skill development training that are associated with the vendor products that SLC provides and supports.
2. Encourage member libraries to bring their concerns and configuration issues to the session, to have real-world responses to those issues.

E-Commerce

The term *e-commerce* refers to the use of electronic payment methods for conducting library operations. The primary focus is on public services, particularly patrons being able to pay fines or fees with the use of a credit or debit card.

Other e-commerce features can include staff paying for materials purchases by vouching online orders with a library credit card. Both operations are going to become more used and more popular in the next few years as a combination of these factors develops:

- Client software for Integrated Library Systems is developed that interfaces online payment processes with patron files, permitting payments certified through a online payment engine to be credited to a patron's fines or fees balance in the ILS.
- Payment engines and Internet merchant accounts become more common, better integrated into web-based computing, and more familiar to public agencies such as municipalities and other governmental entities.
- Costs for electronic funds transfer services decline, making them more feasible for low-value fund payments such as library fines.

By staff estimate, patrons would favor payment of fines, fees, and other library costs by credit or debit card as a popular self-service capability.

And by report, virtually no library in SLC currently offers such a service, although anecdotal information from focus groups makes it plain that patrons have asked libraries to provide such payment methods.

E-commerce is a classic opportunity for SLC and any library consortium to facilitate its members financial, technological, and services burdens by taking on the role of implementor and manager of an e-commerce feature.

Consultant's Recommendations

1. Let SirsiDynix guide SLC in the selection of payment engine, server equipment, and Internet merchant account features needed to make OneStop operational in SLC and for its libraries. The products and services will be a combination of EnvisionWare's Authentication and Accounting module (for local library record-keeping) and PayPal's Payments Plus products, all unified with the OneStop kiosks. There may be a financial benefit to SLC of its existing EnvisionWare contract as regards implementation and licensing expenses; make an inquiry on this issue to EnvisionWare.
2. Coordinate e-commerce planning, installation, and implementation through SLC, to include having the Coop establish a single Internet merchant account in which all SLC libraries could participate.

3. Select a few libraries to be the pilot participants in the SLC e-commerce project.
4. Create all the necessary documentation, principles and procedures, and cost requirements in conjunction with the pilot libraries, which would receive a year's services gratis for their participation.
5. Of critical importance is having SLC staff able and available to train, trouble-shoot, and support the e-commerce program, with that support presence available prior to the program being rolled out.
6. Be aware that the self-check capability recommended in this Plan includes a "patron pay" function, requiring e-commerce capability.
7. When the program is fully tested and operational, open it to other SLC libraries.

Costs, Planning, and Scheduling E-Commerce Services

Table 8: Estimated Costs for E-Commerce

Item	Description	Unit Cost	Units	Year One Cost	Recurring Cost
1.	License for Unicorn payment interface	TBD ¹⁴			
2.	SIP2 interface	\$3,500	1	\$3,500	\$630
3.	e-Commerce local services, EnvisionWare's Authentication and Accounting module including small MySQL server	\$3,995	1	\$3,995	\$720
4.	Payment engine for Internet merchant account ¹⁵	\$6,500	1	\$6,500	\$6,500
5.	Additional SLC support staff training in vendor products	\$1,800	1	\$1,800	0
Total				\$15,795	\$7,850

¹⁴ The e-commerce interface for Unicorn's EPS portal is built into the software, without any additional costs. For OneStop, the license charges are based on EnvisionWare's fees. The costs would be calculated on the number of OneStop stations in use.

¹⁵ Based on an estimated cost for Verisign PayFlow Plus, now PayPal Payments Plus. The costs are variable between 2.2% and 2.9%, plus \$0.30 per transaction, and \$20.00 per month. The estimated cost is for \$100,000 per year in fines and fees.

The consultant believes e-commerce offers a great deal of service for SLC libraries and their patrons.

Chart 4: Proposed Schedule for E-Commerce

Event	Description	Start Date	End Date	Days to Complete
1.	Contract for the full range of e-commerce products identified in this document	January 21, 2008	February 22, 2008	30
2.	Select a pilot group of libraries, approximately 10 total	February 4, 2008	February 8, 2008	5
3.	Install the e-commerce products	February 25, 2008	March 28, 2008	30
4.	Train staff, within SLC and the member libraries, to make use of the e-commerce features	March 31, 2008	April 11, 2008	15
5.	Open the e-commerce to public use	April 14, 2008	None	