Interim Report
Technical Support for Integrated Library Systems – Comparison of Open Source and Proprietary Software

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Project Start Date: August 2009
<mark>**Report Period: Aug 2011 to July 2012**</mark>

Summary: The project has achieved its milestones set for the third year, all the information gathering, data collection, data analysis and some dissemination has been done. The time line given in the project proposal has been adhered to in its entirety. Two graduate research assistants were hired for this project. A Drupal based website is established for the project with a vision of developing an online community of open source software users in library settings. The website is being publicized at various library related listservs. The URL for the portal is www.opensourceils.com. We requested and received a no cost extension for one year to conduct more research and dissemination activities and all the details related to that are shared at the end of this report.

The URL for the project website is: www.oss-research.com

Results Dissemination Activities

- Presentation of results at Tennessee Library Association, 2012
- The PI and a graduate research assistant attended TLA
- The graduate research assistant attended ALA and conducted interviews.
- The website of the project www.oss-research.com is consistently being publicized and improved.
- The information portal www.opensourceils.com was created and is being publicized.

Proposed Project TimeLine and Activities Completed Comparison

YEAR 1 (2009-2010)												
YEAR 3 (2011-2012)												
Work Area 3.1 – Develop Implementation Plan		Completed										
Work Area 4.1 Website development and maintenance		Completed and ongoing										
Work Area 5.1 Project Evaluation										Postponed for next		

Research Objectives

1. Work Area 3.1. (Months 24 - 32)
    Develop a model for evaluation, adoption, implementation, and maintenance of OSS ILS.
    a. Interview the librarians from the libraries that have adopted OSS ILS and are maintaining it.
    b. Develop a set of road-maps / implementation plans for other libraries that might be interested in adopting open source software. These implementation plans will be different for different types of libraries (school, academic, public, special, etc.) and different sizes of libraries (size will be classified based on a composite measure of the number of people employed and the number of people served)

2. Work Area 4.1. (Months 4-34)
    Develop a website for information dissemination about the existing technical support for open source ILS and the different implementation plans.
    a. Website Development
    b. Publicize the website and implementation plans on mailing lists related to librarians and by mailing publicity material to libraries. Submit publicity releases to professional publications such as American Libraries and Library Journal.

Narrative

This last year we accomplished the goals that we had established for us. We conducted interviews with librarians (20) who had been part of a migration to an Open Source ILS and we used this data in combinations with the previous data from surveys and interviews to develop best practices, research papers and future activities.

We developed an insight into the process of migrations and are in the process of sharing those experiences with other librarians. We have written three journal articles based on the data from these interviews and those articles are at different stages in the publication process. We shared these findings at the TLA Conference.

Below is the process of developing best practices for the migrating to an open source ILS:

Data Sources
The objective for data collection was to collect data from a variety of library types and sizes in order to collect a wide range of data. Email invitations for interviews were sent to Koha and Evergreen list-servs and to several other library-related list-servs. The email requested volunteers for a telephone interview to share their experiences with open source integrated library systems. Potential participants identified themselves as being willing to be interviewed for the project via email and were then contacted by researchers to set up times for phone interviews. The list of interview questions was emailed to the participants before the interviews so that they could review the questions and had enough time to reflect on their experiences. The interviews were conducted with librarians working in a variety of libraries, including nine libraries using Evergreen and one in the process of migrating to Evergreen. Seven libraries were using Koha, two were using other OSS ILS, and one was using a proprietary ILS while evaluating OSS. Public libraries were the most numerous with 11 respondents, while there were also 4 special libraries, 3 academic libraries, and 1 school library. Researchers also requested information about the size of the library collection. Seven libraries owned collections of less than 100,000 items, 7 had collections of 100,001-999,999 items, and 4 libraries owned collections of over 1,000,000 items. Geographically, the respondents ranged all over the United States and included 1 library located in Afghanistan (although the ILS was installed in the United States). Table 1 details the description of the data.

Data Collection Method
Interviews were chosen as the primary means of data collection in order to gather rich information that could be analyzed using qualitative methods. Researchers sought to interview professionals from a variety of library types and sizes in order to collect a variety of different experiences regarding the selection, implementation, and ongoing maintenance of OSS ILS.
Interviewing was the chosen methodology for several reasons. First, the goal was to go past the practitioner articles to see what kinds of trends there are in the migration process. This requires getting experiences from multiple librarians. Interviews provide the in-depth "case-study description" (Jizba, 2003) that we were looking for. In addition, the most useful aspect of interviewing is the ability to follow up on an answer that the participant gives (Moghaddam &

Moballeghi, 2008). This ensures that the same type of information is gathered from every interview. This is unlike surveys where sometimes participants do not respond in a way that answers what the researcher really wants to know. In our case, we used telephone interviews due to the geographic dispersion of the participants. It allowed us to talk to librarians from all over the country instead of just within our area. The interview questions are listed in Appendix A.

Data Analysis Methodology

Interviews were transcribed, and identifying information was then removed from each of the transcribed documents. The transcripts were then uploaded into Dedoose, a web-based analysis program supporting qualitative and mixed methods research. Dedoose provides online excerpt selection, coding, and analysis by multiple researchers for multiple documents. The research team used an iterative process of qualitatively analyzing the resulting documents. This method used multiple reviews of the data to initially code large excerpts which were then analyzed twice more to extract common themes and ideas. Researchers began by reviewing each document for quantitative information, including the library type, ILS in use, number of IT staff, and size of the collection. This information was added as metadata descriptors to each document in DeDoose. Upon review of the transcriptions and in discussions about the interview process, researchers began a content analysis of the qualitative data. Codes were created based on this initial analysis to aid in categorizing the data from the interviews. Two coders coded the entire dataset, specifying categories and themes to the excerpts of the interview transcription.

All of the excerpts from each coder were used to create 2 tests. Each coder then took the test of the other's codes by choosing their own codes for each excerpt. Researchers earned scores of .96 and .95 using Cohen's kappa statistic, indicating very high reliability.

Library Size (number of items in collection)	Library Type	ILS Used
Under 100,000	Academic	Koha
100,000-1,000,000	Public	Evergreen
Under 100,000	Special	Proprietary-Considering OSS
Under 100,000	Public	Koha
	School	Koha
100,000-1,000,000	Public	Millennium-In process of migrating to Evergreen
100,000-1,000,000	Public	Evergreen
100,000-1,000,000	Special	Koha
Under 100,000	Public	Koha
	Public	Evergreen
100,000-1,000,000	Academic	Evergreen-Equinox
Under 100,000	Special	Koha
Over 1,000,000	Academic	Kuali OLE
100,000-1,000,000	Public	Evergreen Equinox
Over 1,000,000	Public	Evergreen
100,000-1,000,000	Public	Evergreen
Under 100,000	Public	Koha-Bywater
Over 1,000,000	Public	Evergreen-Equinox
Under 100,000	Public	Evergreen
Over 1,000,000	Special	Collective Access
Table 1: Description of libraries		

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Results

Results from the interview questions were divided into eight categories identified as stages of migration, starting from evaluation of the ILS followed by creating a demonstration site, preparing data for migration, and identifying customization and development needs. Then come migrating the data, ensuring staff is trained and patrons are aware of the changes, followed by going live and long-term maintenance plans. Best practices and challenges for each of the stages are presented below. This section begins with some general considerations during the entire process. Table 2 presents the steps in adoption and action items for each step.

General - Things to Consider through the Process

- Create awareness about open source culture in your library – let them know what to expect.
- Develop IT skills internally even if you use a vendor.
- Assess your staff's abilities before committing. Knowing what your staff can do will help determine whether you need to work with a vendor and to what degree or if you can do it alone. It is also a way to determine who is going to be on your migration team.
- Have a demonstration system; pre-migration, it can be used to test and train, and after migration it can be used to help find solutions to problems. This will also help develop skills internally.
- Communication is key.
  - If working with a vendor either as a single library or as a consortium, have a designated liaison with the vendor so all questions go through one person. In a consortium, ensure that everybody knows what is going on.
- Be prepared to commit a significant amount of staff time for testing, development, and migration, especially if you are not hiring a proprietary vendor for support.

Working with Vendors

- Read contracts carefully. Do not be afraid to ask questions and request changes. Sometimes the other party has a completely different meaning for a word than you do. Make sure you are on the same page.
- Ensure that there is an explicit timeline and procedure for the release of usable source code.
- See that you are guaranteed and entitled to access the source code in case you need to switch developers, bring additional developers on board, or try to fix problems in-house.
- Provide specific examples when reporting problems. Specific example will help the developers determine what the problem is and will help prevent any miscommunication.
- Designate a liaison between library staff and developers. The liaison will have to be someone who understands or can learn enough about what the developers are doing so that he or she can translate any problems or complaints from one group to the other.

- Set up regular meetings for those involved in the migration project. Regular meetings keep everyone focused and on task. They also provide an opportunity for questions, concerns, and problems to be addressed quickly.

Quotes from interviews: *One of the main things that came up is working with Equinox, it was amazing. To start with, they were very, very helpful. And I had made an assumption, and I think the rest of us had, too, that we were working with, that this was developed by librarians, and that the terminology used would be library jargon. But that was not the case. We had some stumbling points over, we would say, okay, we want this, or this is a transaction, or that's a bill, but that's not what they called it. They didn't call it a transaction, or they didn't call it a bill. And so when we wrote the contract, we wrote it so that none of the patrons' current checkout record would migrate, which is a big issue. And we didn't realize that we weren't using the right terminology in order to put that in the contract so that those current checkouts would move over with the migration and not just the record.*

Stage 1 - Evaluation

When making the decision of whether to migrate to open source and which open source ILS is best for your library, the main things to start with are two questions: who makes the decision and on what basis.

In practice, who makes the decision?
- If a single library, one or two people make the decision, usually the library director and whoever is serving as the tech person.
- If in a consortium, a committee makes the decision, often either the library directors or tech people.

Best practice suggestion: Regardless of the size of the library system, even though these are the people making the decisions, you should always try to include as many groups as possible in the decision to move to open source.

Which ILS?

- Make a list of requirements based on your current system and a wish list of requirements for the new system. This is one area where you can involve more than just the system staff. Asking the different departments (cataloging, acquisitions, and circulation) what their needs are ensures that the final decision includes everyone.
- Talk to other libraries that have made the move to open source. They are a great resource for seeing how the system actually works, asking questions about the migration process, and providing information about possible problems. If possible, talk to a library that migrated from your current proprietary system. Some systems are easier to migrate from than others, so this would be an opportunity to find out about any specific problems.

Stage 2 – Set Up a Demonstration Site

- This is the most important guideline in the entire paper. Create a demonstration site before making a final decision.
  - If there is still confusion in your team about which ILS to use, setting up a demo site and installing Koha and Evergreen will be the best way to decide which one works for your situation.
  - Doing at least one test migration will show what kind of data preparation needs to be done, usually by doing data mapping. Data mapping is where you determine where the fields in your current system go when you move into the new system. Another often-used term for data mapping is staging tables.
  - The demo site is also a good way to do staff training when needed.
  - The demo site also provides a way to determine what the best setup rules, policies, and settings are by testing them in advance.
  - It provides an opportunity to learn the processes of the different modules and how they differ from your library's current practices.
  - Most importantly, it serves as a test run for migration, which will make the actual migration go smoothly.

Quotes from interviews: *Do you think that the tests with the data and doing that really helped? Oh yes, we were have had a disaster if we hadn't done three tests and test loads. The PALS office has done conversions multiple times before so they have it done, and we have good tech people. So they knew that the three tests loads would be a good thing.*

we did discover some of the tools that should be used, like for example one of the things that's recommended for Evergreen patron migration is to have a staging table, so you dump all your records into a database that you can then use to create the records in the Evergreen tables. And you know we found out why that was important by running into a couple, a few problems with not being able to line up the data in the multiple fields. But you know that's the sort of thing we expect. That's pretty, I classify it as pretty typical migration learning, is finding out what works one way, what doesn't the other. But you know that was a good thing because all the documents were saying, "You should use a staging table." And we had to figure out ourselves why that was such a good idea.

You should use a staging table for migration, i.e. move records into a database that is then used to create records in Evergreen. It helps because some data doesn't line up in the same fields.

It's a good idea to set up tables and rules far in advance in order to test before migration.

It's very important to do data mapping very carefully because if you lose anything during migration it's difficult to get it back. Check it to make sure that all the fields will be transported correctly, and run tests while the old system is still up to make sure everything is there.

Stage 3 – Data Preparation

- Clean up the data in advance. The better the data is, the easier it will transfer. This is also an opportunity to start fresh in a new system, so if there were inconsistencies or irritations in the old system this is a good time to fix it.

- Weeding – If you have records (either materials or patrons) that are out of date, get rid of them. The fewer the records, the easier migration will be. In addition, vendors often charge by record, so why pay for records you do not need?
- Consistency in data is key. If multiple people are working on the data, make sure they are working based on the same standards.
- Do a fine amnesty when migrating to new system. Depending on the systems (current and new), it is sometimes impossible or very difficult to transfer fine data into the new ILS, so doing a fine amnesty will make the process simpler.
- Spot check data (testing, during, and after migration). Catching problems early means there will be less work trying to fix problems later.

Quotes from interviews: *I would say that if you're considering converting to an ILS software, that you've really got to do the data mapping very carefully with a fine-toothed comb because you don't want to lose data. It's too hard to get it back in.*

The data needs to be normalized so that the numbers of fields are uniform, names are in the correct order, and data is displayed correctly.

The library has had to decide whether it is worthwhile to do things like getting rid of old abbreviations, etc. to make the data more easily understood.

Problems occur with old data if information such as note fields has been entered inconsistently. It's important to have procedures and to make sure everyone is following them. Often things are put in different places, which causes a lot of trouble.

They are doing a lot of cleanup of data, such as reducing the number of unique values in the case of some items that had a huge number of values in a drop down list. Would like to spend more time on data cleanup but need to go ahead and get data migrated.

Stage 4 - Development/Customization

- One benefit of using open source ILS is that any development done by any library comes back to the community, so often if you want something done, someone else might have already created that functionality and you can use it.
- Develop partnerships. Often if you want a specific development, someone else does too. If your staff does not have the expertise, then you could provide more of the funding and the partner could provide the tech skills or vice versa. Partnerships mean the development will cost less than if you did it alone.
- Grant money is also available for open source development and may be another funding option.

Quotes from interviews: *The library does it's own minor customizations and uses Equinox for major jobs. They will lay out and prepare everything then hire Equinox to write and implement new code.*

The library tries not to do things on its own but always looks for partnerships when doing any customizations. That way libraries that have similar needs can share resources.

Stage 5 - Migration Process

- Write workflows and policies/rules beforehand. Writing these when working on the demo site should provide step-by-step instructions on how to do the final migration.
- Having regular meetings during the migration process ensures that everyone stays on the same page and prevents miscommunications that will slow down the process.
- If many libraries are involved, migration in waves makes things easier. This is generally a situation with a statewide consortium. Usually there is a pilot migration of 4-8 libraries, then after that each wave gets a little bigger as the system becomes more practiced. This can also be a useful model if the libraries involved in the consortium are accepting the migration at different rates.
- For a consortium that is coming from multiple ILS, having a vendor will make it easier. This is not to say that it could not be done without a vendor, but migrating from System A is going to be different than migrating from System B. This increases the complexity, which can make working with a vendor more cost effective.

Stage 6 - Staff Training and User Testing

- Who does the training? There are two main ways: by a vendor or internally.
  - If trained by a vendor, there are two options:
    - The vendor sends someone to the library to conduct training.
    - Train the trainer: The library sends someone to the vendor for training and then he or she comes back and trains the rest of the staff.
  - If trained internally, there are a lot of training materials available. There are several libraries that have created their own materials and then made them available online. This is another time where having contacts with other libraries can help in using common resources.
- Documentation is important for training. The best way is to find what documentation is already available and then customize it for your system.
- Do training fairly close to the "Go Live" date.
- Use a day or two for training. If a consortium is spread out geographically, use webinars and wikis.
- When doing training, have specific tasks to do. This can be done a few of different ways.
  - Do the specific tasks at the training.
  - Demonstrate the tasks at training and then give "homework" where the staff does the specific tasks independently. To implement this option, staff has to have access to a demo system.
  - Have staff try the tests on their own and use the training session for questions or problems they had.

Quotes from interviews: *Well we had, we hired Equinox to come and do 2 days of training with us. So they're here and did hands-on training with us. And then we also, they provided some*

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packets of exercises that people could do on their own. And we had the system up and running in the background so that they could play with it about a week before we actually went live to the public so that they could get used to it, figure out how things worked, and work with it a little bit so they could answer questions before the public came and said, hey, how do I find my record, and I can't get into this anymore. And the training was really good, but the hands-on was the best. And it's not a difficult system to work, but you just need a little experience with it before it makes sense.

Evergreen runs a test server that anybody can download the staff client for that and work in their test server and just examine all of the records and how the system works, to figure out our workflows.

We looked up documentation online—Evergreen, Indiana, Pines, various places—copied the documentation they so graciously hosted online for everybody to use, went through it, found what worked for us. Those couple staff members worked with other staff. We printed out kind of our little how-to guides for other people, depending on which worked, and told them they're going to sit down, we've got terminals set up here, sit down and learn it.

The admin person, she went through some quite detailed training. She went to Atlanta and had training from Equinox on a lot of aspects of Evergreen. And then we also, she came back, and then she did training for all the libraries in the consortium, kind of an intensive day-long or half-day-long thing that she offered in several different central geographic locations so that all the libraries would have a chance to go and attend without having to drive too far. And we also did webinars, we got a couple webinars for the real outlying libraries. And we also have ongoing weekly webinars. And we have a wiki set up where we put all the information in the online manual and stuff like that.

All the training sessions were recorded, and so we had them on CD for new people coming on board.

Marketing for Patrons

- Most libraries have not done anything elaborate, generally just announcements through posters, local paper, flyers, and on website.
- If the migration is greatly changing the situation for patrons, then more marketing is needed.
- Set up a demo computer for patrons to try or hold classes once the system is up.

Training for Patrons

- Most libraries did not find this necessary. Either the system is easy to use or it is set up to look like the old system.
- If training patrons, create online tutorials.

Stage 7 – "Go Live" and After

- If possible, have your old system running for a month or two until you are sure that all the data got migrated over properly.

Quotes from interviews: *Check it to make sure that all the fields will be transported correctly, and run tests while the old system is still up to make sure everything is there.*

Maintenance – Library Staff (This assumes a migration being done in-house with little to no vendor support.)
- Staff has to have the technical knowledge (Linux, SQL, and coding).
- Often the money saved from moving to OSS is used to pay for additional staff.
- Most time is not spent on maintenance but on customization, updates, or problem-solving.

Maintenance – Vendor
- Often start with higher vendor support, which lessens as the staff learns and develops expertise.

Interviews with twenty librarians from different settings provided insight into the process of the adoption of open source ILS and were used to develop the guidelines presented in this paper. These guidelines are not intended to serve as a complete guide to the process of adoption but are meant to give interested librarians an overview of the process. These guidelines can help libraries prepare themselves for the research and adoption far before they delve into the process. Since these guidelines are all based in the real-life adoption experiences of libraries, they provide insight into the challenges as well as the opportunities in the process. These guidelines can be used to develop an adoption plan and requirements for the adoption process. In future research, we are working to create adoption blueprints and total cost of ownership assessments (with and without vendors) for libraries of different sizes and types. Also, as part of this research we have developed an information portal that contains resources that will help librarians in each phase of the process of open source ILS adoption. The information portal along with these guidelines will fill a very important gap in the resources available for opens source ILS adoption. The URL for the portal is not being provided in this paper to ensure anonymous review.

Plans for the next year

We requested an extension so that we can conduct more research as well as better disseminate the information we have gathered in the last three years. We need to conduct more research to develop the blue prints proposed in the original proposal. Currently, we have data from interviews and surveys about the process of migration to an open source ILS. In this next phase we would like to add to conduct a case study through an actual migration process life-cycle. We believe that this case study will help us strengthen our existing data and will help us in developing really strong and in-depth blue prints of the migration process. The case study that we plan on doing in the next year is based on HAL consortium in Virginia Based on the current data, we have created an online portal to share this information, but we still need to perform user testing to evaluate the website and its content before we launch it. We also need to publicize the

website and the services it offers. We plan to market the website and disseminate its information at ALA, TLA, ASIST, and other relevant conferences. We will also seek to get endorsement from influential people and websites throughout this process.

It is a very exciting time for this project because we are starting to make real impact on the librarians in the region in these tough economic times. Since creating the portal, we have been contacted by the HAL consortium in Virginia and asked to help them in the process of implementing an open source ILS. Our project was the only portal of consolidated resources that they found to be of help. We are committed to helping them in the entire process, which will ultimately pave the way for 175 libraries in Virginia to implement an open source ILS.

In the next year, we will be working on the community portal as well as the case study simultaneously throughout the year.

The following activities will be conducted for the online portal:

- Completion on content creation for the portal
- User testing of the portal with students in SIS as well as representatives from libraries
- Revising the portal content based on user testing
- Publicizing the portal at the following conferences:
    o ALA Conference
    o Tennessee Library Association Conference
    o ASIST
    o Evergreen Conference
    o LITA group meetings at ALA
- Ensuring librarian engagement on the portal
    o By inviting current users of open source ILS
    o By inviting potential users of open source ILS
    o By inviting librarians who are currently migrating (HAL consortium)
    o We will be engaging with the librarians and proving moderator services to the portal.

The objective is to establish this portal as a well-known and widely used resource for open source ILS. This is part of the objectives outlined in the original proposal.

The following activities will be carried out for developing a case study and helping HAL in Evergreen adoption:

- Helping HAL consortium with the different stages of the migration to open source ILS
    o Currently they have established (with our help) which software they want to use (Evergreen)
    o The next step is to help them set up a demonstration site, we are helping them with this set up

- o After the demo site, we will work with them to identify and select representative sample of their entire collection and upload that to the Evergreen demo site
- o During this process, we will help them develop a data preparation guide which they will be able to use for final data migration
- o This demo site will also help them identify if they need any additional functionalities or customization of the software.
- o Once the demo site is set up and data is migrated they will begin the task of preparing their entire data set for migration, we will be helping them with this step as well.
- o Data migration will be followed by training for staff; we will help them in that process as well.
- o Once the staff is trained, user testing will be done and then the site will go live

In all these steps we will be helping HAL in multiple ways:

- Based on the research we have done in past 3 years we have developed sets of best practices for each stage and we will be sharing that with HAL
- We will also be serving as intermediaries in communication between HAL and a group of librarians who have successfully implemented Evergreen. We have identified this group from our research.
- We will also be creating new material, in addition to the material on the portal, for them as and when need arises.
- One research assistant will be designated to work as HAL liaison.

We will also use our experience of helping the HAL consortium as a case study to help us develop blueprints for the adoption of open source ILSs by other libraries. This blueprint idea was part of the original proposal, but that was based only on surveys and interviews. Interacting with the HAL consortium will further our research about the lifecycle of the open source adoption process and allow us to complete and create more relevant blueprints based on an actual case study. We have been fortunate to establish this collaborative relationship with HAL and this will help us tremendously in creating implementation plans that other libraries can use in future. Helping the HAL consortium fits as a logical extension of the original scope of the project.

We will also seek to ensure and expand the library community's engagement with the project, which is critical for the success of the portal. This will allow us to help other libraries as they get in touch with us and request our assistance.

Finally, we will disseminate information about the project and open source ILSs by writing four research papers to be published in scholarly journals.

This project has provided resources for libraries in need of information and in many cases jobs for the graduate research assistants working on the project. All this has been possible because of the generous support of IMLS. There are many evaluations and activities that remain to be

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completed for the project to succeed, all of which are part of the original objectives and can be completed within the original budget. I am extremely grateful for your sustained support and look forward to continuing my work in this area.

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Phase 3 Interview Questions

Library Environment (We are seeking answers to categorize each library in a matrix by type and size. Ideally we would like 3-5 respondents in each category).

1. What is your library type (school, academic, public, special, etc.)?
2. What is your library size (how many employees, population served, and number of materials)?

Evaluation (We would like the ILS name and the specific capabilities it offers. Try also to get as much info as possible about why the system was chosen over others including any existing system).

3. What open source ILS are you using and why did you choose it?
4. When choosing an open source ILS, where did you go for information (vendor/ILS pages, community groups, personal contacts, etc)?
5. Who was involved in deciding which ILS to use?

Adoption (We would like to document specific problems or issues that could be used as a roadmap for other libraries to a seamless installation).

6. Were there any problems during migration?
7. What do you know now that you wish you had known before migration?
8. How long did migration take? Were you on schedule?
9. If getting paid support, how did the vendors (previous and current) help with migration?

Implementation (Again, specific examples of the things that worked well or didn't work. How can other libraries learn from this experience)?

10. What kind of (and how much) training did your library staff receive?
11. Did you do any kind of marketing to your patrons?
12. (If haven't gotten to this part yet), what are your plans for implementation?
13. How much time did implementation take and were you on schedule?

Maintenance (This information will be especially important when compared to the library type and size as a reference for other libraries. Try to get answers that are as specific as possible).

14. How large is your systems staff? Is it sufficient to maintain the system?
15. How much time do you spend each week doing system maintenance? How does this compare to your old system?
16. What resources (or channels) do you use to solve your technical support issues? What roles do paid vendors play in maintenance of your system?

Advice for other libraries (These open-ended questions are an opportunity to learn more information that we might not have thought of asking about. Responses could provide a valuable resource to other libraries as they plan their implementation).

17. What is the best thing and worst thing about having an open source ILS?
18. Are there any lessons or advice that you would like to share with other librarians who are thinking about or migrating to an open source ILS?