



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

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Project Start Date: August 2009

Report Period: Aug 2010 to July 2011

Summary: The project has achieved its milestones set for the second 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 URL for the project website is: www.oss-research.com

Results Dissemination Activities

- Presentation of results at Tennessee Library Association, 2011
- Submitted a research paper to the “Library and Information Science Research” journal, based on the results from Survey 1 and 2.
- Submitted a research paper to the “Library and Information Science Research” journal, based on the results from results of research activities of year 2 mentioned in the narrative below.
- 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.

Proposed Project Timeline and Activities Completed Comparison

YEAR 1 (2009-2010)												
	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL
YEAR 2 (2010-2011)												
Work Area 2.1- Data Collection for tech support	Completed											
Work Area 2.2 – Develop criteria for comparison						Completed						
Work Area 2.3 – Compare and Report								Completed				
Work Area 3.1 - Interviews										Completed		
Work Area 4.1 Website development and maintenance		Ongoing Activity										

Narrative

Work Area 2.1- Data Collection from open source and proprietary tech support websites

Data Collection for open source technical support and proprietary support was done from August 2010 to November 2010.

Technical support data for proprietary ILS was collected in **September and October of 2010**, however, collected data was from May-mid October 2010. Six ILS were focused on: Alto from Talis, Millennium from III, Symphony and Unicorn from SirsiDynix and Aleph 500 and Voyager from Ex Libris. Eight different forums and mailing lists were used to collect the data. Three were company sponsored sites: Talis forums, SirsiDynix Client Care, and Ex Libris eService. The other five were user group mailing lists. Data on Millennium was collected from the archives of the Innovative Users Group and Southeastern Innovative User Group (SIUG). The most data was collected from two Ex Libris Users of North America (ELUNA) mailing lists for Aleph 500 and Voyager respectively. Additional data for Ex Libris ILS came from Northeast ExLibris User Group (NEUG) and Northwest ExLibris Group (NWEG). All except for Talis Forums, Innovative User Group, and NEUG required log in information. To access ELUNA, the

subscriber must be a customer of Ex Libris. Access was gained to Ex Libris eService and ELUNA because the University of Tennessee uses Aleph. SirsiDynix granted us access to their Client Care center even though we were not customers.

In the Talis Forums, Talis Alto was selected because it was specific to the ILS. Eight threads were collected. For the Innovative Users Group, the search option was chosen, then used "millennium" as keyword and 2010 as the archive year. Six threads were returned that fell within the time frame. One additional Millennium thread was collected from SIUG. Twenty threads were collected from the SirsiDynix site. Each forum relating to Symphon/Unicorn and Horizon/Dynix were searched. Horizon has been abandoned by SirsiDynix so the two threads collected there were outside of the time frame. Out of the 13 forums, data was collected from seven (see Table 1). Two threads each were collected each from NEUG and NWEUG although both of NEUG's threads were outside of the time frame. Two mailing lists from ELUNA were collected from: fifty threads from Aleph 500 and seventy one from Voyager. The Voyager mailing list archive only had threads from October, September and August 2010. Since almost all were help seeking, search the archives using "voyager" as keyword and then collected all results. Additional Aleph 500 threads were collected from Ex Libris eService for the University of Tennessee which had six threads within the time frame.

OSS technical support data was collected August-September of 2010. The data was from May to July 2010. Koha and Evergreen were the focus. There was some attempt to collect data for Emilda, New Gen Lib and Obiblio, but the data collected was insufficient and were dropped from analysis. Data collected come from the main discussion mailing lists for Koha and Evergreen.

The task of data collection was given to two graduate research assistants: one collected the proprietary data and the other collected the open source data. First the primary researcher and the two graduate assistants decided on what data they wanted to collect from each thread. An OpenOffice database was created. The database had two levels of data collection: thread level and message level. At the thread level information was collected about subject, category, format, ILS, start date, end date, number of responders, resolved or not, resolution type, apparently knowledge level of responders/askers, while at the message level data collected included username, email, tone, role, affiliation, category, URLs and the message themselves. (The message, username and emails were also visible at the thread level.

Data collection differed slightly between proprietary and open source. The proprietary data was all manually collected into the database, by copy and pasting the messages and then manually filling out the fields. The open source messages were collected via a script, and then the fields were filled out manually. Only support threads were wanted for this study. So in the proprietary collection any thread that included words like announcement, job, and conference in the subject were ignored. However, in the open source data, the script sometimes collected these types of thread, which were later removed from the dataset.

Some of the fields were straightforward: email, username, start and end dates, format, affiliation, and number of responders. Others were more subjective: knowledge level of responders/askers, subject, and tone. For these fields there was a multi-step process. Since two people were collecting the data, there was a lot of discussion by the researcher and graduate assistants in order to make sure that their terms of description were equivalent. First each thread was read and terms assigned. A list of descriptors was made, which were then combined into categories.

Table 1 – Data Collection for Proprietary Software				
Forum	# of Threads	# of Messages	# of People	Notes
Talis Alto	8	23	12	
Innopac	6	19	16	
SirsiDynix	20	62	32	The + indicates people who have already been counted in one of the other subforums.
• Horizon/Dynix	2	2	2	
• System Administration	6	18	13	
• SirsiDynix Sym/Uni & Cons.	1	1	1	
• Acquisitions	2	9	3 (+1)	
• Cataloging	2	9	2 (+1)	
• Circulation	5	16	9 (+1)	
• Reporting	2	7	2 (+2)	
NEUG	2	4	3	
NWEG	2	4	3	
ELUNA – Alpeh	50	165	81	
ELUNA – Voyager	71	307	141	
SIUG	1	2	2	
Ex Libris UT eService	6	56	5	
Totals	166	642	294	1 less person total then if added together because one person posted in two forums

Table 2: Data Collection from Open Source Technical Support Forums				
Forum	# of Threads	# of Messages	# of People	Notes
Koha	254	748	201	
OPEN-ILS-GENERAL	100	267	89	
Total	354	1015	187	

Work Area 2.2 – Develop criteria for comparison

The development of criteria was done from January 2011 to February 2011

A set of criteria was created based on the surveys from Phase 1 of the study. The criteria are:

- Availability
- Approachability
- Efficiency
- Effectiveness
- Quality
- Reliability
- Effort by librarians
- Usability of interfaces
- Cost
- Technicality
- Topic of Question
- Users
- User institutions
- Help Givers (official technical support vs. other users)

The following section describes the exact questions that were used to answer each criterion

Availability of technical support

- What are the options for technical support? What type of support exists?
- How many channels?
- What is the quality of these different channels? (automated message or an agent, one on one time, mailing lists the big user population)
- How often tech support personal answer questions
- Whether they are first to respond or late

Approachability

- Do the librarians/users feel comfortable in approaching the avilabel tech support?
- Do they feel that they need specific jargon to be able to get an answer?
- Do the interactions encourage them to ask questions / seek for responses or does it intimidate them. maybe look at their tone also (friendly is more approachable than detached)
- Are the users able to establish personal rapport with personnel? I know there are some cases in the OSS data where OP asks for help by name to others

Efficiency

- Time to response
- Time to solve
- Solve or not solve

Effectiveness, (differentiate in solved by the tech support rep vs community) –

- For those threads where official tech support answers, do they answer the question? (check the resolved rate, and what happens after they respond)
- Is the solution provided by the tech support person is that the right solution and
- Do people accept it as a correct and
- Does it solve their problem?

Quality

- How many threads/responders direct the OP/HS to official documentation, websites,
- How many times the information from the tech support is conveyed by customers?
- They repeat what tech support personal have told them
- The resolved rate is probably a factor in quality also

Reliability of tech support

- Maybe perception of reliability - how reliable is (whichever channel you want to ask about here)?
- Might even ask about all of them, which might be interesting.
- When using tech support, what percentage of the time do you get answers?

Effort by librarians

- Time spend in getting a response?
- Learning Curves in using the channels of support
- How easily is it available, searchable and findable : ease of use of the support

Usability of TECH SUPPORT interfaces

- Tech Support: How easily is it available, searchable and findable : ease of use of the support?
- How many threads are questions/problems with interfaces?

Cost for technical support

- The added complication is that in OSS there are multiple types of technical support that all cost different amounts (migration, storage, hosting, and full support)

Technicality of tech support responses

- How frequent is jargon and coding in responses

Technicality of tech support questions

- If the complexity of the question is same or different in both groups

Topic of question –

- There is an assumption in the literature and in the general mindset, that users of open source are more tech savvy. Does are data support that? Look at the beginners knowledge levels
- Interest in learning demonstrated by their desire to learn more than is needed to fix the problem
- The interest being interest in the product in OSS while in proprietary interest being getting work done
- How many people both ask for and give advice.

Help Givers (official technical support vs. other users)

- How many of each are in each dataset
- How often or in how many threads does each type respond

Work Area 2.3 – Compare and Report

The data collected (section 2.1) was evaluated on the basis of the criterion developed (section 2.2) from March 2011 to May 2011. This data analysis involved qualitative as well as qualitative methods. Here are some of the results of this analysis:

Approachability

Four questions appear under approachability asking about the tone and jargon use of help seeker, how encouraging the help givers were, and if there was any personal rapport between help givers and help seekers. For tone of help seeker there were several differences between OSS and Proprietary. In the Proprietary dataset it was more common for OPs to be seeking a better way (24.1% vs. 16.66%) or to be asking help in addition to the vendor (11.45% vs. 1.41%). They were also more likely to be newbies (7.23% vs. 3.10%) and to have difficult questions (13.86% vs. 3.65%). OSS OPs were more likely to have difficulties expressing the problem (10.73% vs. 6.73%) and be coded as other (24.29% vs. 0%). Both were similar for Good explanation (38.14% OSS vs. 36.75% Proprietary). Surprisingly the percentages for Jargon of Help Seeker were almost identical. For encouraging help givers, Proprietary was higher for Yes (13.25% vs. 8.47%) and Inconclusive (39.76% vs. 25.71%), while OSS was slightly higher for No (28.51% vs. 25.3%) and noticeably higher for N/A (37.29% vs. 21.69%). Lastly for Personal Rapport, Proprietary had higher percentages for Yes (4.21% vs. 0.56%),

Inconclusive (16.87% vs. 3.67%) and No (47.59% vs. 35.76%), but OSS scored higher on the use of First Names (22.6% vs. 9.64%) and N/A (37.29% vs. 21.69).

Effectiveness

Effectiveness also had four questions dealing with official technical support response, quality of response, help seeker reaction and solved/unsolved. OSS had almost 13% more official TSR threads than proprietary, many (14) of which had multiple technical support responders. Of the 28 threads with Official TSR in the Proprietary dataset, 25 of them were Ex Libris based. Of the 18 tech support companies who responded in the OSS data, the most common were the Koha Documentation Manager (27), Equinox (25), Catalyst (16) and Anantcorp (12). For Quality of Response the percentages are similar for all codes except “Good, but only one type” in which Proprietary is 9% higher and N/A in which OSS is 12% higher. For Help Seeker Reaction, OSS is 16% higher for N/A, which Proprietary makes up by being 8% higher in Doesn’t respond, 2% higher in Responder, resolved, and 6% higher in Responds, unclear. OSS is about 2% higher for Responds, not resolved. For Solved/Unsolved, the percentage of solved is about the same (12.15% OSS, 13.25% Proprietary). However, OSS is higher for No (41.53% vs. 28.31%), and Proprietary is higher for Inconclusive (58.43% vs. 46.33%).

Quality

Quality has three questions: additional resources, TSR Repeated and Solved/Unsolved. Solved/Unsolved has already been discussed above under Effectiveness. The biggest difference in Additional Resources is for documentation from official websites (13.84% OSS vs. 4.21% Proprietary). Proprietary is a little over 7% higher for No. The rest are smaller differences, with OSS being higher for Other discussions/groups, Exmples, Documentation to authoritative websites, and Other. Proprietary is higher for Commercial websites, Institutional links, and Non web. Proprietary was significantly more like to have TSR Repeated (16.83% vs. 1.03%). Within the proprietary data, documentation was the most commonly repeated type of TSR (9%).

Reliability

Reliability consisted of two questions: whether anyone responded and if there was any discussion about reliability. While the majority of threads in both datasets had at least one responder, the percentage was higher for Proprietary (77.71% vs. 62.15%). Only one thread in OSS and two in Proprietary had any discussion about reliability.

Usability

There was only one question under Usability. There was more discussion about usability in Proprietary than in OSS (18.07% or 30 threads vs. 1.41% or 5 threads). The most common topic of usability discussions were about interfaces/displays.

Technicality of Responses

Technicality of Responses includes three questions: Jargon (Responders), Types of Questions and Subject of Question. OSS was about 4% higher for No and Proprietary was 3% higher for Yes on the question of Jargon (Responders). For Types of Question, Proprietary help

seekers were more likely to ask for Experience/Advice and to ask “Is it possible” and “how to”. OSS help seekers asked more “what is the problem/how to fix” and specific questions. The most common topics for Proprietary were Catalog, Circulation, and Specific Programs. OSS asked questions primarily about Catalog, Migration/Upgrade, and Circulation. For both Catalog and Circulation, Proprietary had higher percentages.

Time

Time includes three questions: time to first response, time to end thread and time to resolve. For both the majority of threads are answered the same day, although the percentage is higher for Proprietary (60.24% vs. 48.59%). OSS percentages are higher for N/A (36.44% vs. 22.29%) and One day (9.32% vs. 7.83%). Proprietary is slightly higher for two days, three days, and less than one month. In addition Proprietary has 4 threads that are not responded to until over a month has passed. For the Time to End Thread the percentages for N/A are the same. Which dataset has the higher percentage is the same except for Two days and Three days were OSS is now higher. For Proprietary Same day still has the highest percentage (37.35%), but for OSS N/A is highest (36.44%) followed by Same day (27.68%). Time to solve includes only threads that were solved. The highest percentage in the Proprietary dataset is for Less than one month (33.33%) followed by Same day (22.22%). OSS is the opposite with Same day being 30.56% and Less than one month being 22.22%.

Work Area 3.1 – Interviews and Analysis

Twelve triangulating Interviews were conducted and transcribed in June and July 2011. 6 interviews were for survey 1 responses and 6 interviews were for survey 2 responses.

Here are key points from Survey 1 responses

Interview 1 Responses Summary

1. What type of ILS do you use – open source or proprietary?
 - a. OSS – 1 Proprietary - 5
2. Which ILS do you use?
 - a. Koha – 1
 - b. Symphony (SirsiDynix) – 2
 - c. Atrium (BookSystems)– 1
 - d. Millennium (Innovative Interfaces, Inc) – 1
 - e. Voyager (Ex Libris) - 1
3. What type of technical support do you use – paid or unpaid?
 - a. All have paid through the vendor and the library who uses Koha pays PTFS – LibLime

- b. Three libraries have major in house tech support – “Calling vendor is what you do when you don’t know what else to do, it’s not what you do when something is broken”
- 4. What type of technical support do you use – in person or online?
 - a. Everyone said online or phone
 - b. Several said that email/client care systems is the main way: one reason to use this is because it ensures that there an email trail
 - c. The Voyager library uses the client care system because that is what Ex Libris mandates
 - d. Often phone is used for more urgent problems
- 5. Here is a list of expectations of librarians from their ILS technical support, do you agree with this list?
 - i. Response time –within the same working day
 - i. Two completely agreed
 - ii. Two would prefer a couple of hours (although one said that same working day was fine)
 - iii. Two said that it depends on the problem; if urgent then definitely but for more minor problems doesn’t have to be that fast
 - ii. Resolution time within next working day
 - i. Most said that it depends on the problem – if major problem (like the system being down or any other type of denial of service) then definitely needs to be resolved quickly;
 - ii. several said that this wasn’t reasonable for many questions
 - iii. Type of follow up – In case of a solved problem; among the users of OSS ILS less than half (45%) expect an email follow up while in proprietary more than half (63%) expect an email follow up.
 - i. Two yes
 - ii. Three no (said either that they didn’t want it or that they expected the library to follow up if needed)
 - iii. One said that it depended on how the last communication with the vendor had ended
 - iv. Type of follow up for repeat failure - On site visit – more than half of proprietary ILS users expected an on-site visit in case of repeat problems
 - i. No one wanted a site visit
 - ii. Mostly keep working with vendor
 - iii. One said that if minor problem would give up, and a couple said that often it means that it is a developmental problem that would not be able to be fix immediately

- iv. Several said that in this case they would want the problem escalated to the next level
- v. Interactivity
 - i. Five very important; One not very important
- vi. Jargon Free
 - i. A couple of people in this group are system librarians and they have a different perspective on jargon than other librarians
 - ii. There was a few (mostly system librarians) who think that it is important that librarians understand the jargon; this group also believes that the jargon is important in having a precise discussion about the problem
 - iii. Everyone agrees that it isn't the use of jargon that is a problem; it is ok if they use jargon as long as they can explain it if the librarian doesn't know the jargon
- vii. Advertising Free
 - i. Advertising seems to be in two groups: those who don't like it and those who see it as part of the game (or to be expected)
 - ii. No one seemed really bothered by it
- viii. Knowledgeable first person
 - i. It isn't necessary to have a knowledgeable first person, it's important that the first person knows enough to connect them with the right person who can solve the problem
 - ii. Acknowledge that many vendors use triaging and that's ok with them
- ix. Remote access to computer
 - i. Everyone loves this
 - ii. One talked about how in the past they didn't have the ability and it caused problems
 - iii. However a couple talked about the problems with it; the vendor were doing things in the system which caused problems; another said that it's important to know when they are using their remote access
- x. Documentation of the project
 - i. Very important to everyone
 - ii. Several talked about how the knowledge bases are so difficult to use that they don't even bother to try
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- 6. Can you add anything else to this list?
 - a. "Vendors should own their products"
 - b. Data integrity
 - c. Expect that the vendor act like they want to keep the library as a customer
 - d. Building the relationship with the vendor (which could be part of interactivity)

- e. Is the tech support received is a solid return on the maintenance costs
- f. Growing expectation of multimedia solutions (like online video tutorials)
- 7. Would you like to share your best/worst technical support experience with us?
 - a. Best
 - i. Two vendors involved; librarian was go between but solved in less than a day
 - ii. When system is down or other really serious problem, then they fix it really, really fast
 - iii. Implimentation – the project manager worked to make the library’s timeline
 - b. Worst
 - i. Vendor and Librarian talking, but vendor explained the solution wrong and she stumbled upon the answer by herself after weeks of looking in the wrong place
 - ii. Weeks going by without getting even a first response
 - iii. Vendor going through a period of high turnover and not keeping up with help requests (although by end earned respect for the way they worked to make it better)
 - iv. When asking “how to do this/how can we make it do this” then very unhelpful (no one knows the answer); several said that the implication type of questions are usually not handled well
 - v. Took two years to find the programmer in order to find out what the cause of the problem was
- 8. How satisfied are you with your ILS technical support in general?
 - a. Too new to system to tell – 1
 - b. Satisfied
 - c. Not very satisfied (about to switch ILS)
 - d. Very Satisfied
 - e. Underwhelmed, but meeting lowest expectations
 - f. 8 out of 10; Pretty satisfied, but not using for much; think that would be less satisfied if relied on them more

Interview 2 Responses Summary

- 1. What type of ILS do you use – open source or proprietary?
 - a. Proprietary – 4OSS - 1
- 2. Which ILS do you use?
 - a. WebScale Management – 1
 - b. Millennium – 2

- c. Follett – 1
- d. Evergreen – 1
- e. Koha - 1
- 3. What type of technical support do you use – paid or unpaid?
 - a. All proprietary maintenance contracts through vendor
 - b. OSS: Evergreen (Equinox) and Koha (LibLime)
- 4. What type of technical support do you use – in person or online?
 - a. Phone - 1
 - b. Email/Phone - 2
 - c. Log in systems (incident management system) - 1
 - d. Twitter – “emails get lost” - 1
 - e. One respondent talked about having initial onsite training and was planning to have additional on site training this summer; but most of their use the online submission system
 - f. One of the email/phone respondents said that which one was used depended on severity of problem and/or who was contacting the vendor
- 5. Here is some experiences of librarians with their tech support, do you agree with these responses?
 -
 - i. Response time within 24 hrs 90% for OSS 73% for prop
 - a. Yes – 3
 - i. One of these was an OSS respondent and said that if paying for proprietary they would want the first response within a couple of hours
 - b. Absolutely
 - c. Depends on severity of problem
 - d. Definitely, but thinks the 24 hours is really too long, one hour is better (this is the one who uses Twitter)
 - ii. Resolution time –24 hrs 75% for OSS 50% for Prop
 - a. Most have some version of ‘it depends on the severity of the problem’
 - b. Several said that a resolution within 24 hours would be nice but that it isn’t reasonable
 - iii. Type of follow up – phone or email 77%OSS 84% prop
 - a. Two expect it
 - b. Two don’t care about it
 - c. One would like it but doesn’t get it
 - d. One has different expectations for OSS vs Proprietary, would expect it from Proprietary but not from OSS
 - iv. Type of follow up for failure in person 30%OSS 40%
 - a. There were two who said they had never had this situation

- b. The rest said that it depended on the question, but for the most part they responded that they keep working with the vendor
 - c. No one said that they expected an on site visit
- v. Interactivity 67% OSS 17% of prop
 - a. Important - 2
 - b. Very Important - 2
 - c. Incredibly important
 - d. Critical
- vi. Jargon Free 17% OSS 8% prop
 - a. Not a problem - 3
 - b. Likes jargon – 3
 - c. At least two of the like jargon people are system librarians
 - d. Most said that it isn't a problem because if they don't know what the tech support person means then they ask
- vii. Advertising Free 77% OSS 51% in prop
 - a. Three hadn't had this happen
 - b. One says that it's more amusing because it's usually something that fixes the problem and all he can think is that they should have done it right the first time
 - c. One said "don't want anything to do with this"
- viii. Knowledgeable first person 90% OSS 74% in prop
 - a. Would be good; level one is usually train wreck but in current system knows who to contact so don't have to go through level one
 - b. First person needs to know who to send to; Depends on the immediacy of the issue
 - c. "don't want a receptionist"; if the first person doesn't know then needs to pass the call on right then and there
 - d. wants the first person to know more than she does
 - e. yes
 - f. triage is fine
- ix. Remote access to computer 70% OSS 58% prop
 - a. Everyone finds it important and/or necessary
- x. Better search for knowledgebase 40% 45%
 - a. Most agreed
 - b. Three used the term 'suck' to describe the knowledgebase that they're using
 - c. A couple talked about how it was a great idea but never seems to be effective
 - d. There were also a couple of comments about how they never use it because they can't find what they need in it

6. Would you like to add anything about your experiences to this list
 - a. Vendors too focused on “big picture” to deal with the little problems that all add up
 - b. Libraries too passive and too accepting of bad software
 - c. One of the OSS respondents talked about the difficulty in having reasonable expectations for OSS vendors compared to proprietary vendors given the cost difference
 - d. Creating incentives for both customers and tech support to get the job done
 - e. Hates extra steps to get to support (all the forms and log ins)
 - f. Having social media and dedicated social media people
 - g. Transparency
 - h. “We are the customer” – they need to treat us that way
 - i. Mobile aps
7. How satisfied are you with your ILS technical support in general?
 - a. Very satisfied
 - b. Satisfied; not happy with the development side, but the tech support service is fine and sometimes excellent
 - c. Satisfied (except for manual)
 - d. Really likes the tech support; very supportive
 - e. Ok, recently moved from a D to B because of a personal change from incompetent to competent person
 - f. Overall experience with vendors over 30 years has been fairly negative; two answers: the people working with are trying really hard, but the system is so poorly designed that there is little that can be done; so it’s not a people issue it’s a system and money issue; the vendor works really hard to respond but can’t solve many things, so meeting low expectations

Work Area 4.1 Website development and maintenance

The website is being consistently updated and maintained. This coming year, the activity on the website is expected to increase by a large percentage because this year we will be re-organizing the site to make it a central resource for people interested in open source integrated library systems. We will have resources and communities formed within the site.

APPENDIX A

Research Objectives from the Research Proposal

Objectives (RQ: 1&2)

1. Identify the expectations of the librarians about technical support for ILS (both open source software and proprietary software)
2. Assess the effectiveness of the current channels and processes for technical support in satisfying the expectations of the librarians

Objectives (RQ: 3)

3. Identify the existing channels and processes of technical support for open source software and proprietary software
4. Develop a matrix for comparing and contrasting the open source ILS with proprietary ILS
5. Compare the technical support on the developed criteria

Objectives (RQ: 4)

6. Develop a model for evaluation, adoption, implementation and maintenance of OSS ILS.
7. Develop a website for information dissemination about the existing technical support for open source ILS

APPENDIX – E

Map of Participating Libraries

oss-research.com http://oss-research.com



HOME ABSTRACT PARTICIPATE RESOURCES COLLATERAL RESEARCHERS INTERNAL

 Find us on Facebook

RECENT BLOG POSTS

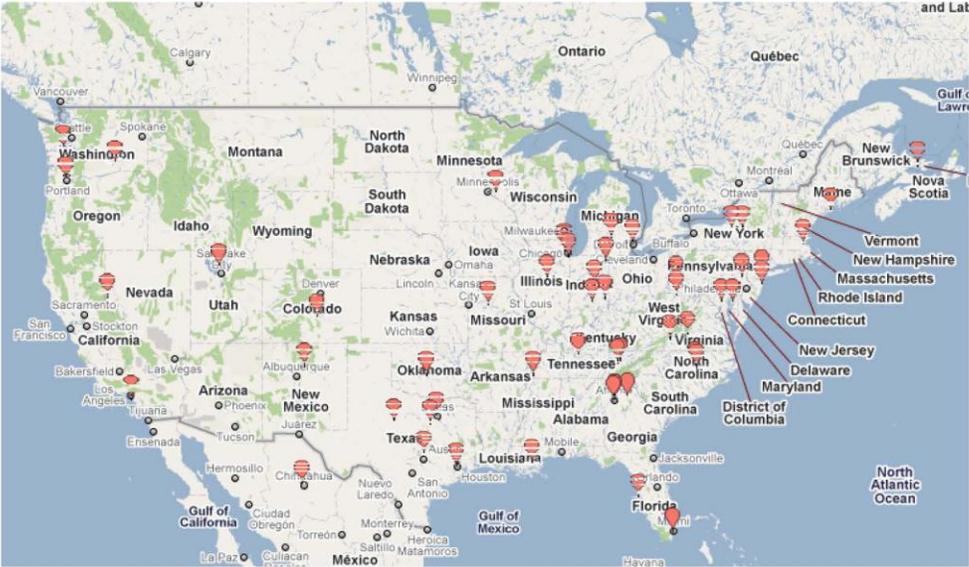
- OSS Lib. Tech @ SLA 2010
- Call for Participation!
- Phase 1 Data Collection Completed

[more](#)

VANDANA

- Participating Libraries
- My account
- Manage Participating Libraries
- ▶ Create content
- ▶ Administer
- Log out
- Build a GMap macro
- ▶ Feed aggregator

THEME



1 of 1 8/31/2010 3:07 PM