

Information Technology Report



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August 6, 2012

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Information Technology Report -- 2012

This year we were a part of the opening of the Northwest Library, the first new library for the system in more than 30 years. While the system has opened new buildings, this project was different as it required starting from the ground up.

In this report, we will give you an overview of the major projects that have been accomplished during the past year as well as the status of projects still in progress and some that are ongoing from year to year. Again, all of the projects highlighted took a lot of effort on the part of many staff and could not have been completed without the cooperation of other departments throughout the system.

Projects Completed

Northwest Library

The Northwest Library was a major project for IT this year. It started with the award of the contract for the data wiring in January and went through opening day in May. The data circuit was installed by Cox in early March. Due to some delays, the actual wiring project did not start until the last week of March. We were a little worried about the completion of that project as the sorter arrived on April 10th and we needed the network to be up for the sorter install to be able to happen. We got the network up on April 9th and the sorter arrived about noon the next day.

While this sorter is similar to the sorter installed a little over two years ago at the Service Center, its functions are quite different. When customers drop their materials in the book return chute, the sorter checks them in and then sorts them into seven different bins. These bins are divided into general shelving areas in the library (audio/video media, adult non-fiction, adult fiction, and children's) as well as one bin for material being returned to other libraries and material that has an exception and needs to be manually processed. The exceptions include items that don't have an RFID tag, is Interlibrary Loan material, or another customer is waiting on reserve for the title. If, when preparing material for shelving, staff find that the material is damaged or a CD/DVD is missing, they have a function on the computer that will allow them to put the material back on the record of the last customer that checked it out.

After the wiring was installed, we had to have the monitors for the computer sign-up installed as well as 22 security cameras. The camera installation included working with Security to determine where to point the camera as well as setting up the archives for storing the video captured.

Behind the scenes there were also software changes going on. A shelf list was prepared and placed on every shelf that contained a listing of what titles belonged on that shelf. Since all of the Northwest books were in boxes, they could not be used to fill customer reserves nor were they in order. Software changes were made to allow the Northwest Library staff to use the

Service Center sorter to sort Northwest books from 4pm to 10pm in the evening and then be changed back the next morning for system use by the Tech Processing department and by Maintenance. During this process over 90,000 Northwest Library books were put through the sorter in addition to what was done during the day by the Technical Processing and Maintenance staff.

Once we started moving in, we installed 86 computers of which 71 are for public use. In addition to setting up and imaging all of these computers, part of getting ready for the public computers included having grommet holes drilled in every table. We also had electrical outlets installed at all of the public tables for use by customers with laptops. We set up four Express Checkout computers and special cabinets were installed for the CyberMARS computers as they are located in the ranges of shelving rather than on tables.

Another change at the Northwest Library is the implementation of a new service model that has one service desk. It also has more Express Checkout computers installed and customers are encouraged to use Express Checkout. This was a big change from the rest of our libraries and we wondered how customers would accept it. For the most part, customers seem to like the new setup.

Three days before the library opened, books were changed from the "Processing" status to "In" so they could be used to fill reserves and the Northwest staff printed their first batch of System Reserve labels. This change was made to 121,780 items. Their first batch of labels had over 1900 to be picked from the shelves! This compares to an average of 400 on a typical day at Edmond.

iWeed

Last year we reported that Jim Welch had received Apple Enterprise Developer certification. Once receiving this, he began developing applications (apps) that would assist library staff in their work. The first app to be implemented was iWeed. This app revolutionized the way staff perform collection management.

Prior to this development, a schedule was made out by Materials Selection and IT staff ran and printed lists for libraries each month. These lists contained titles of books in the sections set up by the schedule. Once staff received their lists, they took the list to the shelves, looked for the items, pulled the ones that needed to be "weeded," and then took them back to a computer to withdraw them.

Now staff can generate their own lists on the iPad. The app allows them to select which items they need to weed and they are automatically withdrawn. It also allows them to mark items missing and if items need replaced, they can select that choice and it will automatically put the title in the replacement file.

iFind

The iFind app is another iPad app that replaced a printed list. The list replaced is the Tracer list. Each library receives a Tracer list to work every week. It has items that have been paid for, items that have a “tracer” on them, and items that have been in transit between two libraries for more than eight days. Staff mark items on this list as “found” or “not found.” If it’s an item that had been paid for by a customer, the app changes the item to Lost/Paid/Found status so that the customer will receive their refund.

iBrowse, SRConfirm, mlsFFME

Three other apps have also been developed for the iPad. The iBrowse app puts the library’s Subject Guide into electronic format. It allows a staff person to look for a subject and see what Dewey area materials on that subject are located or if there are alternate areas for the subject.

When staff pull reserves each morning, they confirm that they found the items by scanning the barcode on the label and the barcode on the material. SRConfirm uses the iPad and a wireless barcode scanner to allow staff to go ahead and confirm reserves as they are pulling them rather than putting them on the cart and taking them back to a computer to confirm.

Each year the Business Office staff go to each library and take inventory to make sure all items on the inventory are still at the library. For the past several years, they used a TopGun scanner that had a dock connected to a laptop. After scanning all of the barcodes, the scanner was placed in the dock and the information was uploaded and matched against the system inventory. If anything was missing, a missing list was printed and staff then needed to look more for those items.

The new app makes use of an iPod equipped with a barcode device. The iPod connects to the network through a wireless connection and matches the items scanned against the inventory without having to connect it to a computer.

E-Readers, iPad Setup

This past year Kindle and Nook e-readers were purchased for the libraries so they could gain experience in using them as well as better assist customers when they had questions about a particular device. IT was responsible for purchase and setup of these devices as well as all of the iPads that are used with the applications described above.

Downtown Surveillance Upgrade

Another project this year was the upgrade of the Downtown surveillance equipment. The previous system was continually having servers fail and you had to send them away for repair. We found that once they were sent back, they were no longer compatible as the company installed a newer version of the software than we had and refused to downgrade it. We purchased the same VSMS servers that are being used at Ralph Ellison, Northwest, and the Service Center. Since the cameras at Downtown are analog cameras, we also had to purchase equipment to convert the analog to a digital signal.

The cameras are all viewable and recording correctly now but we are still working on some issues with integrating the door alarms with the system so that the camera viewing will switch to the area where the alarm is sounding. We hope to have all of these issues resolved within the next 60-90 days as additional work by the alarm vendor is going to be required before the integration will be fully compatible.

Ironport Appliance Installed

Everyone who uses e-mail probably knows that you receive lots of “spam” e-mail even if it does go into a spam folder instead of your inbox. You also probably wish there were ways to make your e-mail more secure at times and maybe wonder if there are things going out of your corporate e-mail that you would rather not send outside your system.

These were all issues we were facing. We looked at several independent options but settled on the Ironport appliance. This appliance blocks spam messages, notifies you if the e-mail is suspected spam, checks messages for virus outbreaks, allows encryption of e-mail, and checks message content for data loss prevention. We have experienced no incidents of computers getting viruses from staff opening an e-mail that contained a virus since the Ironport has been installed. We also made the library’s benefits staff and our third party administrators happy as they can now communicate easily through RSA encrypted messages without worrying about data being hijacked.

Filter Servers Replaced

The library has had internet filtering since right after we started offering public computers with Internet access. Our last filter servers were installed in 2005 and were becoming very out of date. We looked at replacing the servers so the filtering software could be upgraded or installing a filtering appliance to replace the two servers. We chose to go with the filtering appliance option. This was implemented in early June and has been performing as expected.

Del City and Warr Acres Carpet & Bethany Ductwork Replacement, Harrah, Capitol Hill Circ Desk

Harrah closed for six days in September to have their carpet replaced. However, before the carpet could be replaced, concrete work had to be done to level the floor properly. To do this, all books, shelving, and computers had to be taken out of the library. IT removed and stored the computers for that week as well as scheduled one of our wiring vendors to come in and remove cabling that ran through the shelving and then come back the next week and put it back.

Del City Library closed the second week of April and Warr Acres closed the third week for new carpet installation. At both libraries we moved computers out of the way for the carpet installers and took advantage of them being closed to replace computers so that we would minimize the disruption to customers and staff.

The Bethany Library closed in May for ductwork replacement. The workers were very good about covering up the computers so that dust and debris did not get in them but they failed to shut them off before they covered them. On a trip out there to work on another issue, a tech

came in the building to very loud sounds coming from the computers. He quickly realized the problem and turned the computers off.

We also assisted with a replacement of the countertop on the Capitol Hill Circulation desk. This work was completed on a Sunday. IT staff went in on Saturday evening after the library closed and moved all of the computer equipment and pulled all of the wiring out of the desk. The contractor came in on Sunday and replaced the top and let the tech know when he was finished. The tech came back in and reinstalled all equipment so that it would be in working order for Monday morning.

E-Rate

Each year we include e-rate as a part of this report. E-rate is a federally mandated program. Every phone customer is charged a fee on their phone bill called the Universal Service Fund. That money is managed by the Schools & Libraries Corporation, a division of the FCC, and given back to K-12 schools and public libraries in the form of a grant to pay for data and telecommunication costs. To continue receiving e-rate funds, an application has to be filed every year. For Funding Year 2011 (FY12), we received a funding commitment of \$252,417.80. Our discount eligibility is based on the percentage of students eligible for free and reduced lunches in the school districts where our libraries are located. This percentage changes from year to year and our discount percentage for FY13 is 79% which remains the same as last year. We just received notice of a funding commitment for \$258,105.80 for Funding Year 2012(FY13). This amount is up from last year as we added the Northwest Library during this FY.

Tax Form Printing

For public printing, we use an outside vendor's software called LPT:One. One of the reasons we chose this software was that it allowed us to designate websites that customers could print from for free and we needed that feature to allow printing of tax forms. When Adobe came out with Version 9, it changed the way it titled print documents which also caused the feature that allowed the free printing to stop working. The first year, we downgraded all public computers to Adobe 8 to allow the feature to still work. In the meantime, we have tried multiple times to get the vendor to make a change in their software to accommodate this but it doesn't appear they will be doing that. To work around the problem, IT worked with Kellie Bradford, the Manager of Web Development, to create our own page that would allow the feature to start working again. It made things go much smoother for the tax form printing to work as it had previously.

Digital Signage

Equipment has been purchased to provide digital signage at the libraries. The only library currently installed is the Northwest Library. This unit is running library commercials as well as a video taken when the library was still under construction. We plan within the next few months to add more content to these signs including "What's Happening" at the library that day and have the ability to provide weather coverage in case of severe weather.

Southern Oaks Remodel

In preparation for Southern Oaks moving back to their remodeled building, we have worked with AT&T to have service reinstalled in the building, had phone lines installed for the fire alarm, bid out and awarded the bid for the data and surveillance system wiring, and are working with Cox to have the data line service reinstalled. We also worked with Bibliotheca to obtain a quote for a sorter and have installation of this sorter scheduled for mid-September.

Power Receptacles for Laptop Users

When we began offering wireless Internet access, customers also wanted to be able to plug in their laptops for charging. We started out by showing them where the floor boxes or wall outlets were and eventually put power strips on top of the tables. However, we felt that the tables would look much nicer if we could find a “finished” product that installed into the table rather than just sitting on top of it. We found a two outlet single flip-up box that would pop up for power use but could be pushed into the table to maintain a flat surface if it was not being used. We purchased these units and had them installed on tables at Bethany, Belle Isle, Capitol Hill, Choctaw, Downtown, Edmond, Northwest, Village, and Warr Acres. Staff are pleased with the addition and customers really like having power readily accessible when they are using the library’s wireless network.

Email Switch

We have been trying to make an e-mail change for several years. The e-mail client we were using, Calypso, was no longer supported and was not meant for the amount of e-mail that people receive and retain today. We would have liked to use Outlook but with shared computers and logins, there was no security for multiple users’ accounts being on a single computer.

OneNet, our Internet Service Provider (ISP), installed a new mail server that allowed for web access to e-mail. This allows staff to access their e-mail through a web browser on any computer. This took care of the problems we were having with Calypso and gave people access to their e-mail from anywhere.

Something we found out after the fact was that you cannot be logged in to two accounts at the same time. This caused some issues for people that managed special accounts or departmental e-mail. To deal with this situation, we installed Thunderbird, another e-mail client for these users.

Doctor/Dental Leave Changes

At the December Commission meeting, the library commission approved eliminating doctor/dental leave and reducing the amount of sick leave earned. These changes had to be implemented in the Human Resources/Payroll software to take effect the first of 2012 without affecting anything in the current year.

Additional Services provided by MLS Information Technology Department

Our help desk has logged and our technicians have handled 1,603 service calls over the past year. This does not include calls that can be resolved immediately over the phone. We have chosen to only log calls that require support and/or a visit by a technician to resolve the issue. Including Northwest, IT Technicians have upgraded or installed 240 computers this year. Technicians also continue to visit each computer on a quarterly basis to upgrade software, Windows security updates, web browser plugins, and check for any hardware or software problems with the computer as well as cleaning the keyboards, mice, monitors and making sure equipment is in good working order. Many other projects have also been completed.

Plans for the Coming Year

The IT department will continue to be involved in areas of construction with the move-in for the remodeled Southern Oaks Library, keeping the temporary Southern Oaks location open, and the upcoming Jones and Del City libraries as it relates to technology. In addition to the wiring for computers and phones, there are several other items that are being considered or planned for that involves the IT department. The list below includes projects that we plan to complete during the coming fiscal year as well as others that will be worked on as time allows.

Research/Bid Out New ILS System

On April 30, Jimmy Welch sent Donna a letter saying that he will be retiring at the end of June 2013. This means we have to plan how we will move forward and transition to a different Integrated Library System (ILS). We have a very good system that can carry on for some time. However, we believe that it is not in the best interest of the library to try and find people that could continue this system as it is today. The work is really much more than one person can handle.

A committee has been formed to begin looking at what options are available. Anne Fischer went to the American Library Association (ALA) conference so that she could look at the various vendors to determine which ones would be most viable to us. We have started communication with these companies and will be viewing demos of their products as well as potentially visiting libraries that are using their systems.

Southern Oaks Library Preparation

Southern Oaks will soon be moving back to their remodeled building. The data wiring installation is beginning in a couple of weeks and we will be busy overseeing that project. Once that is complete and furniture is installed, we can begin putting the additional computers that were purchased in the building. In early September, the temporary location will close and the library will move back to their building. IT will be busy moving computers and other IT related equipment as well as overseeing the installation of security cameras. We will also be overseeing the install of a sorter similar to the one that was installed at Northwest. This one will work the same way as far as checking materials in but will have a longer conveyor as the space for the sorter is odd-shaped and required a special configuration of a 45 degree turn in the conveyor. We are very excited for the staff and customers to begin enjoying the updates to the building.

OCLC Number Changing

The library system uses OCLC as their source for bibliographic records for our catalog. Earlier this year OCLC announced that they will reach one billion records sometime after July 1, 2013. As a result, OCLC needs to increase the length of the OCLC number field to accommodate a variable length number string. When the Bibliographic file for our system was first designed, disk space was at a premium so you did not put in room for field growth within a record. Since

we did not have space to allow for this type of change, we will now need to accommodate that change by reformatting the Bibliographic file. This change will affect 131 programs as well as the Cataloging and CatClerk clients used by the Cataloging staff.

Netbooks

At the very end of the year, Netbooks were purchased by the library. Once these are set up and distributed to the libraries, it will allow them to issue library cards both in the library at a location other than the service desk as needed as well as remotely from the library. A secure web page has been developed that allows them to lookup customers by name to see if they have ever had a library card. They can then issue them a card if they haven't or work with them to code the other card lost and re-issue a new card. This will be useful for school visits and other projects both in and out of the library.

Digital Signage

Another project for this year is to extend the digital signage to other libraries. We hope to expand what is offered to show programs scheduled and other library information. This is an ongoing project that will require coordination with several departments.

Other Projects

In addition to the projects listed above, we will be upgrading/replacing approximately 200 computers. When the Almonte location is reopened, we will be adding around 30 additional computers to the inventory. We have an inventory of almost 900 devices including computers and printers and needing to replace too many in one year could have a very detrimental effect on the budget and IT staff.

We plan to replace eight routers and 32 switches throughout the system. This equipment has been in place since 2004 or earlier and is at end-of-life and no longer supported. We will also be replacing older wireless access points to provide access to the Wireless-N technology which is faster than the b-g technologies.

We will also continue maintaining the computers we own, take care of software upgrades including updates to our anti-virus software, web browser plugins, etc. and other service calls as requested. And, I'm sure there will be projects that come up throughout the year that are not on our "To Do" list at this point in time.

Future Plans

We continue to have many ongoing future plans. Again, some of these plans may not be completed in this fiscal year, but we still need to maintain awareness of the needs so that we do not come up with surprises in the future and find ourselves unprepared. These plans include:

- Supporting Technology as part of the Library's Strategic Plan
- Keeping abreast of emerging technologies
- Continue researching vendors of library software and updates to their products that might be useful for MLS
- Updating a portion of the hardware each year
- Evaluating the desktop operating system
- Evaluating the server operating system
- Evaluating and updating the communications systems as needed

In closing, it seems that we say this every year, but this has once again been a busy, but productive year for Information Technology at MLS. In the coming year, we are continuing to look forward in providing customers and staff with the new and exciting items and supporting their information technology needs.

Information Technology System Description

Summary Description of Information Technology System

The Metropolitan Library Integrated System (MetropoLIS) provides vital automation 24 hours/7 days a week. It supports over 800 networked devices, including computers, printers, and iPads throughout the library system. The computers include 26 servers, 300 public computers, 18 Express Checkout computers, 50 Children's computers, 66 CyberMARS catalogs, 308 staff computers, and 53 iPads as well as computers that manage the public computer signup and public printing.

Servers

The library's primary database server is a Hewlett-Packard (HP) NonStop database server with four CPUs each containing four gigabytes of memory and over one terabyte of mirrored disk storage. The HP NonStop system contains the databases and software that are accessed by CyberMARS through the Internet, the Z39.50 gateway, as well as all of the library support functions including circulation, in-library catalog searching, materials acquisition, cataloging of materials, accounts payable, payroll and personnel functions, etc.

The Library has 18 Windows 2003/2008 servers that provide services for the system's network. Two of the servers are the primary and backup domain controllers that manage security services for the library's network and provide internal Domain Name Services. Services also provided through the servers include: Web Page services for the library, CyberMARS, a Z39.50 gateway through the Library of Congress, access to the staff catalog, backup files for disaster recovery, management of the anti-virus/anti-spyware software, the Oklahoma Images and Oklahoma Folklore databases, the meeting room booking database, and Internet filtering for wireless customers. Two servers run the Linux operating system and provide utilities and images used by the IT staff for setting up computers and maintaining images of each model's hard drive. We now have an all-in-one appliance that provides Internet filtering for both staff and public computers. Two additional servers are specialty servers for managing the wireless network. Three servers provide the software that operates the library's phone system and voicemail services. There are also nine servers that run the surveillance systems at Downtown, Northwest, Ralph Ellison, and the Service Center.

Desktop Computers and Laptops

The library system has almost 800 desktop and laptop computers. These computers are used for staff work (308), public computers with Internet access (300), children's use (50), CyberMARS (66), Express Checkout (18), 53 iPads, 25 Netbooks, and 29 others are used for computer sign-up and print management.

All of these computers are on the technology replacement cycle and must also be maintained by keeping software up to date, installing and/or updating Internet plugins, cleaning off temporary

files that affect computer performance, and checking for bad hardware components. IT technicians visit each library on a quarterly basis to update software and clean up disk space on each computer in addition to other projects including computer replacements and service calls.

Network Components and Telephony

The network devices located at the various library agencies are used to connect the library system's WAN together through the use of data communication circuits. The Downtown and Northwest libraries are connected to the Cox WAN through 1Gb connections. All other full-service libraries and the Service Center are connected to the network through 100Mb data communication lines. The Jones Library connects to the library network via a T-1 line through the Choctaw Library; Luther connects through Edmond Library via a T-1 line, Harrah and Nicoma Park have T-1 lines connected through Midwest City, and Wright has a T-1 line connected through Southern Oaks. The library system's connection to the Internet consists of two 100Mb circuit from the computer center at Downtown to our Internet Provider, OneNet.

The equipment used to make these connections consists of thirty-three routers, sixty-three switches, fifty-six access points and one firewall appliance. The routers transfer both computer data and telephone traffic from building to building. The switches are used to connect individual devices within a building including computers, printers, and telephones. The access points are used for wireless computing for both staff and customers. All of these devices must be configured to maintain security on the library's network.

Security of the library's network is vital to maintaining services. We regularly deal with e-mail spamming issues, hacking attempts and attempts to use our network to share copyrighted files.

Another part of our network management is the telephony segment. We have three servers that manage calls and voice mail for the library's 227 telephones. These servers are computers with telephony and voicemail software which must be updated on a periodic basis including replacing the hardware as well as upgrading the software.

Software Description

Software for MetroPoLIS includes more than 700 different programs that have been developed in-house to perform the following functions:

Circulation

- ⇒ Materials Circulation; checkout, renewal, checkin
- ⇒ Flat Panel Touch Screens used with Virtual Circ Desk software that allows navigation by touching the screen
- ⇒ Receipt printers that will allow staff to provide customers with a detailed receipt of their transactions
- ⇒ Laser barcode scanners using CODABAR and Code39 bar code number systems

- ⇒ RFID equipment and software that allows staff to perform functions on multiple items at the same time including checkin/checkout, receiving of reserves, inventory functions, etc.
- ⇒ RFID Automated Materials Handling (AMH) sorter/returned materials checkin
- ⇒ Text-to-Speech Software that gives verbal message to staff
- ⇒ Automatic detection of delinquent patrons, cards with PPO restrictions, and Under 17 customers that need parental permission to check out R-rated videos at checkout time
- ⇒ Patron Inquiry for Transactions and Patron Information entry and update
- ⇒ SMS texting to remind customers they have materials coming due
- ⇒ Production of self-mailer overdue notices qualifying for lowest USPS rates using the Intelligent mail barcode or e-mail notifications
- ⇒ Production of follow-up billing statements
- ⇒ Production of Annual Fee Card expiration letters
- ⇒ iFind
- ⇒ OverDrive Customer Authentication

Express Customer Units

- ⇒ Checkout Materials
- ⇒ Renew Materials
- ⇒ View/Print Borrowing Record
- ⇒ Pay for fines, fees, lost materials with cash or credit card

Cash Handling

- ⇒ Fines and other payment collections
- ⇒ Prepaid Accounts
- ⇒ Cash/credit card reconciliation interface with Business Office system
- ⇒ Credit card PCI compliance

System Reserves

- ⇒ Placing patron reserve requests for materials system-wide
- ⇒ Automatic "Trapping" of reserved materials at checkin time
- ⇒ Daily label production for staff to pull materials from shelf that customers have reserved
- ⇒ Reserves Confirmation and Receiving functions
- ⇒ Production of self-mailer reserve notifications or e-mail notifications that alert customers when reserved materials are available for pickup
- ⇒ Detailed status information including position on list, number waiting, and number of copies available
- ⇒ SMS texting to remind customers that they have reserves to pick up
- ⇒ Reserve Pull List
- ⇒ srConfirm

MLS Web-based Software

- ⇒ CyberMARS
 - Public Access Catalog -- providing author, title, subject, call number, and keyword access. Also provides suggested search terms, cover images, similar title suggestions and topic word cloud.

- Viewing of Personal records including transactions, status of reserves, and prepaid account
 - Renewal of materials
 - Acceptance of credit cards for payments of fines and/or lost materials
 - Placing of reserves
 - Notification of reserves ready for pickup
 - eNotification of overdue
 - eReminders for both system reserves and materials coming due
 - Placing of Parental Preferences Option
 - Customer authentication for OverDrive E-media access
 - Library developed software to provide seamless access to subscription databases. This software makes access to these databases seamless by authenticating the customer through their library card information when accessing remotely or by IP address when in the library rather than requiring them to enter special user names and passwords for each database. Without the seamless integration, customers would have to be given a username and password for each database. All are available for access in the library and many are available for customers to access from home.
- ⇒ Staff Catalog
 - ⇒ Oklahoma Images
 - ⇒ Oklahoma Folklore Collection
 - ⇒ MLS Events Calendar
 - ⇒ MLS Staff Leave Calendar
 - ⇒ MetroLibrary.org search function
 - ⇒ Subscription Database redirection for transparent connection and statistics
 - ⇒ Oklahoma County Building Index
 - ⇒ Software for allowing e-mail suggestions of materials for purchase
 - ⇒ Who's Who Pictorial Staff Directory
 - ⇒ Z39.50 Gateway
 - ⇒ RSS Feeds

Note: Z39.50 is a national and international (ISO 23950) standard defining a protocol for computer-to-computer information retrieval. Z39.50 makes it possible for a user in one system to search and retrieve information from other computer systems (that have also implemented Z39.50) without knowing the search syntax that is used by those other systems. Many libraries across the world access the MLS Z39.50 gateway server application to obtain catalog and holdings information using a Z39.50 client. Many others access our database via the Z39.50 Gateway available through the Internet on the Library of Congress bibliographic web site.

Public Computer Access

- ⇒ Sign-Up system for use of public computers
- ⇒ Reservation slips with personal/private code
- ⇒ Overhead monitors to notify customers when their computer time is available using reservation code assigned when customer signs up to use computer
- ⇒ Internet client -- used to log customers on, verifies that customer is Internet certified, and automatically logs off inactive user
- ⇒ Browser access to the World Wide Web

- ⇒ Microsoft Office (includes Word, Excel, Powerpoint, & Access)
- ⇒ Licensed reference resources
- ⇒ Internet monitoring

Materials Inventory Control

- ⇒ Assist agencies in collection management through various reports
- ⇒ Provide agencies with item inquiry
- ⇒ Provide agencies with internal agency collection control for:
 - Materials Location (within agency)
 - Coding Materials for rebind, mending, withdrawal, etc.
 - Temporary loans of materials to other agencies
 - Bindery control system

Materials Selection/Acquisition

- ⇒ Agency level fund accounting (detailed by type within fund)
- ⇒ Order entry and tracking
- ⇒ System level collection management information
- ⇒ GASB Compliant Materials Depreciation Reporting
- ⇒ MLS Catalog linkage with Baker & Taylor
- ⇒ Customer Suggestion Management System
- ⇒ iWeed

Cataloging

- ⇒ Windows-based Client application for editing MARC records and transferring records from OCLC to the NonStop system
- ⇒ Subject cross references (both LC and local)
- ⇒ Automatic inventory entry
- ⇒ Processing "kit" production (including barcode)

Technical Processing

- ⇒ Automated receiving records of on order materials
- ⇒ Cataloging workslip production
- ⇒ Acknowledgment of receipt triggers automatic payment by the Business Office without further data entry
- ⇒ Access to Accounts Payable and warrant information online
- ⇒ Bindery Control
- ⇒ RFID/SR Tagging Stations
- ⇒ RFID AMH Agency sorter for new materials
- ⇒ Big Bin (Vertical Lift Storage Unit)
 - Barcode Workslip item retrieval
 - Print barcode tote labels
 - Shelf/bin Utilization report
 - Binned too long report
 - Binned age analysis

Serials Control

- ⇒ Checkin of periodicals
- ⇒ Routing capabilities
- ⇒ Linkage to MetroPoLIS
for circulation and overdue reporting
for access to serials holdings via Public Access Catalog
- ⇒ Bibliographic control
- ⇒ Claiming report
- ⇒ Subscription Maintenance
- ⇒ Subscription Usage reports
- ⇒ Checkin of continuations

Financial Management

- ⇒ Accounts Payable Processing (A/P)
- ⇒ Warrant creation including MICR printing
- ⇒ Financial Reporting including Grant Accounting
- ⇒ A/P interface with MetroPoLIS materials order/receiving process
- ⇒ Windows-based client for fixed asset accounting and physical inventory
- ⇒ iPod for physically taking inventory
- ⇒ GASB Compliant FF&E Depreciation Reporting
- ⇒ Program budget system
- ⇒ Oklahoma Employment Security Commission Reporting Interface

Payroll/Human Resources

- ⇒ Employee time accounting
- ⇒ Employee leave and personnel records
- ⇒ Performance Appraisal
- ⇒ Payroll production
- ⇒ Cafeteria Plan
- ⇒ Retirement accounting
- ⇒ Payroll check creation including MICR printing & SafeCheq™ barcode
- ⇒ Direct Deposit (ACH)
- ⇒ Query facility and export to MS Excel
- ⇒ Various reports
- ⇒ Safety library with checkin/checkout functionality

Reports

- ⇒ Collection Analysis
- ⇒ Library usage by time period Report
- ⇒ Circulation Gains/Losses Report
- ⇒ Patron Registration Report
- ⇒ Patron Registration matched to U.S. Census Geographic base file
- ⇒ Collection Shelf Management Reports
- ⇒ System Reserves Analysis Report
- ⇒ Billing Analysis Report

- ⇒ Internet Usage reports
- ⇒ GIS/GPS Information System

Windows Server Software/Utilities

- ⇒ mlsPCLibrarian -- allows staff to see who is logged on to an Internet computer
- ⇒ mlsPcHelper – Configurator software to allow remote updating of configuration files; allows Automation staff to deploy software updates without copying the file to each individual computer or needing to visit each computer to install the update; also allows remote re-booting of computer and other computer management functions

Other

- ⇒ Meeting Room Reservation System
- ⇒ Mailing List/Label System
- ⇒ Typesetting (Browsing the Shelves: Your Guide to Finding Nonfiction Materials)
- ⇒ iBrowse
- ⇒ CASS software interface -- U.S. Postal Service certified software interface that allows the library to mail overdue notices and system reserve notifications at automated rates.
- ⇒ Oklahoma Images administration software
- ⇒ Oklahoma Folklore administration software

Third Party Software

- ⇒ Raiser's Edge Software Client Interface (Used for managing Endowment donors, Friends' memberships, and Volunteer records)
- ⇒ Electronic Mail System
- ⇒ Anti-virus software
- ⇒ AccuZip CASS software (Used for mailing system reserve and overdue notices at Automation rate)
- ⇒ TrackIt! (Used for IT department's work order management and computer inventory management)
- ⇒ MetroU Learning Management System (hosted by SumTotal Systems)

NOTE: All software except the Third Party software has been developed by MLS Information Technology (IT) staff and is maintained by MLS IT Staff. Software that has been developed uses a combination of Cobol, Scobol, and TAL for the NonStop system and Visual Basic 6, VB.Net, Active Server Pages (ASP), Ajax, JavaScript, Objective C, and XML for the PC based and web-based applications. PC applications that communicate with the NonStop system use Remote Server Call (RSC) to send messages between the two systems.

MLS Philosophy re: Software Development

The Metropolitan Library System develops much of its software in-house without using a turnkey software vendor. Our philosophy regarding library automation has been to redevelop and

update a portion of our software and replace a portion of our computer hardware each year. Using this approach, we have been able to avoid the trauma that other libraries have dealt with when making an automation upgrade -- throwing out the entire system and choosing a new vendor. However, as we have been saying, MLS can plan for a migration that can take place on a timetable that will allow implementation at a well thought out pace. We will still continue to research and evaluate new technologies for possible use and improved processes for the library and make recommendations for purchase and implementation as warranted.