OPLIN
OHIO PUBLIC LIBRARY INFORMATION NETWORK

Annual Report
Fiscal Year 2013

July 1, 2012 – June 30, 2013

Major Accomplishments in FY 2013

➡ Majority of OPLIN network currently consists of 247 Ethernet circuits (96%).

➡ New contract signed with local wireless provider to reach additional sites.

➡ OPLIN core upgrade completed, resulting in 10 Gbps Internet access capacity.

➡ OpenDNS was officially implemented as centralized Internet filtering solution.

➡ New database authentication is based on browser HTML5 Geolocation API.

➡ OPLIN employed new Copyright Infringement Alert System for notifications.

➡ OPLIN launched a revised and redesigned version of Explore Ohio website.

➡ E-Rate workshops and consulting services provided for Ohio public libraries.

The **Ohio Public Library Information Network (OPLIN)** provides broadband Internet connections and related information services to Ohio public libraries. Our primary mission is to ensure that all Ohio residents have fast, free public Internet access throughout the 251 independent local public library systems in Ohio, as well as the use of high-quality statewide research databases not freely available on the World Wide Web.

OPLIN is defined in the Ohio Revised Code section 3375.64 as "an independent agency within the State Library of Ohio, for the purpose of ensuring equity of access to electronic information for all residents of this state." Planning for OPLIN started at the beginning of 1994 under the leadership of the Ohio Library Council (OLC), and it was established in the State Library budget in fiscal year 1996.

As a state government agency, OPLIN receives extensive fiscal support services from the State Library of Ohio and contracts with the Ohio Office of Information Technology (OIT) for assistance with network management. As a result, less than 10% of the OPLIN budget is used for administrative costs, such as personnel, rent, equipment, and supplies. The remainder of the budget is used to purchase the services provided to Ohio public libraries, primarily Internet telecommunications (typically ~ $3 million annually) and subscriptions to basic information databases (typically ~ $1.5 million). Therefore, public libraries do not need to pay for these services from their limited individual budgets because OPLIN provides them.

OPLIN is governed by Director, Stephen Hedges, and a Board of Trustees composed of 11 members selected from the staff and past or present board members of Ohio public libraries, who serve for a term of three years. Since OPLIN seeks a variety of representatives from public libraries, board members are chosen based on location, library size, and skill. *The five staff members currently employed at OPLIN are below:*

OPLIN Staff Members

Director:	Stephen Hedges
Technology Project Manager:	Karl Jendretzky
Library Services Manager:	Laura Solomon
Network Support:	Vincent Riley
Customer Relations/Support:	Amie McReynolds

OPLIN Services and Resources

Originally, OPLIN only provided two major, important services for libraries: Internet connectivity and databases. Over the years, OPLIN has grown beyond its initial mission to provide a host of other valuable services that public libraries would otherwise be unable to afford themselves. We provide these additional services and resources in a streamlined and efficient manner without incurring unreasonable or extra charges due to staff ingenuity and skill as well as by using free or open source solutions when available, and low-cost alternatives when not.

are crucial both to the public and staff, especially in this declining economy with limited budget funding and increased necessity for access to library resources and current technology.

- Internet connectivity
- Research databases
- Support Center assistance
- Email accounts
- SMS text messaging
- OpenDNS filtering service
- Dynamic Website Kits

- E-Rate workshops
- Public Library Data Center
- State DNS services
- Explore Ohio website
- OPLIN mailing lists
- Technology newsletters
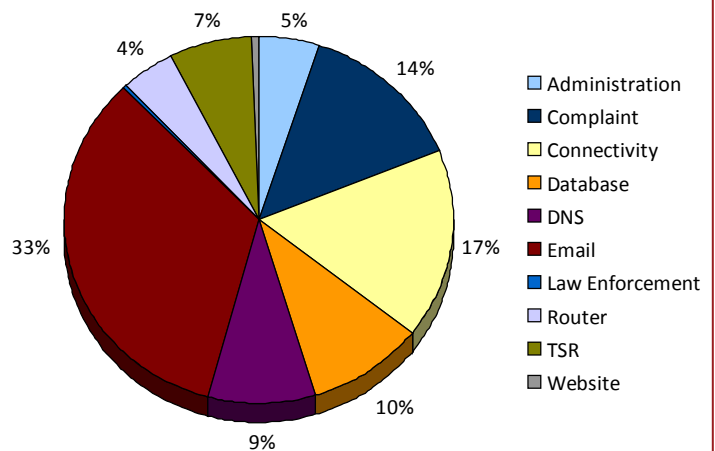- Social media/blogs

While the eventual consumers of our services are often members of the general public, our actual customers are in fact limited to the public library systems of Ohio. The goal of Ohio public libraries is to provide free and open access to all types of information resources and technology for the citizens of this state, and the services that OPLIN is able to offer libraries

Every year, OPLIN strives to implement changes to make our services more cost-effective and efficient. We use Linux-based software solutions when possible because they offer numerous advantages, including cross-platform compatibility with multiple operating systems and a large support community.

Support Center Tickets

The OPLIN Support Center provides assistance to public libraries for a wide variety of technical questions and issues in addition to maintenance and monitoring services of networks and databases. In this fiscal year, Support Center personnel opened 1,424 tickets (compared to 2,183 last year) for 251 library systems in a total of ten categories.

Total tickets dropped substantially from last year, mostly due to the change in how we notify libraries of "copyright infringements." We no longer open tickets for copyright complaints, which was the largest category. This year, the majority of support tickets were related to email issues (33%) and connectivity (17%). Spam abuse complaints were only 14%, while Telecommunications Service Requests (TSR), including Ethernet circuit installs/upgrades and T1 disconnects, accounted for 7%. Database and DNS problems were 10% and 9% of tickets.

Legend:
- Administration
- Complaint
- Connectivity
- Database
- DNS
- Email
- Law Enforcement
- Router
- TSR
- Website

Pie chart values: 5%, 14%, 17%, 10%, 9%, 33%, 4%, 7%

Internet Connectivity

OPLIN provides an Internet connection for the Ohio public library systems in addition to connections for the State Library of Ohio and the four regional library systems for 256 total circuits. We have existing state contracts with Time Warner Cable (TWC), AT&T, TW Telecom, ComNet, and Horizon Telcom to supply these fiber and copper Internet connections. Also, we have a new contract with local wireless provider, Agile Networks, to replace T1 lines in rural areas that we previously were not able to reach with Ethernet.
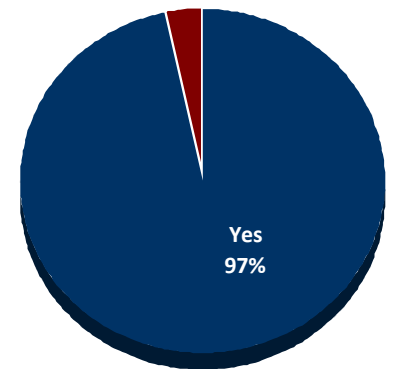
Total number of Internet connections:

July 1, 2011 –
84 Ethernet circuits, 2 DS3, 170 T1 lines

July 1, 2012 –
234 Ethernet circuits, 2 DS3, 20 T1 lines

July 1, 2013 –
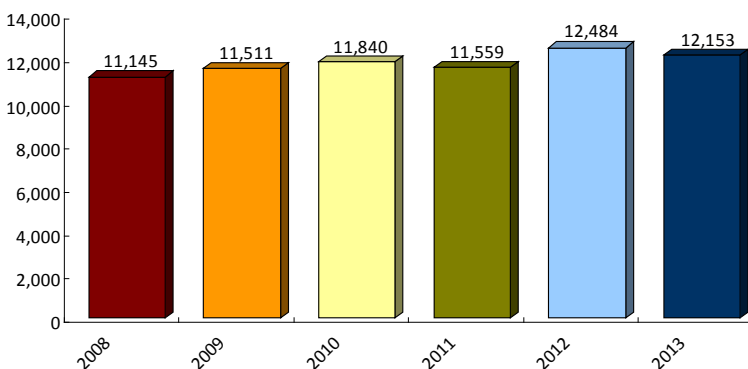247 Ethernet circuits, 2 DS3, 7 T1 lines

Due to the major upgrade project originally launched in FY 2011, the majority of the OPLIN network (96%) is now Ethernet with only seven T1 circuits remaining, mostly due to the lack of existing area infrastructure. The number of public libraries that received new circuits this year was 13. We expect to have Ethernet connections installed in another five libraries during FY 2014, which would mean that only two libraries with T1 circuits will be left to upgrade.

The total network bandwidth usage for libraries at the beginning of the fiscal year (July 1, 2012) was 2,000 Mbps, and at the end of the year (June 30, 2013) was over 2,500 Mbps, which prompted the need to upgrade to 10 Gbps core router hardware to handle additional bandwidth. Libraries are eligible for a circuit upgrade for increased bandwidth if the circuit maintains an average of 70% utilization during peak afternoon hours over a specified time period. Based on area network infrastructure, we try to upgrade circuits to broadband Ethernet when possible, which is newer technology and rapidly replacing older T1/DS3 connections. A single T1 line has a capacity of 1.54 Mbps, DS3 (bundle of 28 T1s) has 44.74 Mbps, and Ethernet carries a range of 2 Mbps to 1 Gbps on our network.

As for public wireless access, libraries manage their own setup and costs if they choose to provide Wi-Fi for their patrons, and 693 out of 717 public library buildings (does not include bookmobile or outreach) currently offer free wireless

**Yes
97%**

Wireless Access

to their user communities, which has again increased from last year. These libraries allow patrons to use their own laptops or mobile devices on the wireless network while some libraries also provide loaner laptop or tablet computers.

The number of computers available for public use in libraries has decreased to 12,153 with a total of 24,357 computers in Ohio public libraries. Typically, these numbers have continued to increase as the use of technology and Internet access became a necessary focus of public libraries, however, budgetary cuts and use of patrons' own laptops and other devices might be possible reasons for the decrease this year.

Number of Public Computers

OPLIN paid about $3 million, or $251,000 per month, for public library telecommunications.

Ohio Web Library Databases

The Ohio Web Library is a vast collection of 404 electronic information resources, or databases, provided by Libraries Connect Ohio (LCO), composed of four library networks – OPLIN, OhioLINK, INFOhio, and the State Library of Ohio.* LCO can cooperatively purchase access to these statewide resources at a cost-effective rate whereas most individual libraries would never be able to afford them on their own. Within the licensed databases are 7,355 full text journals, magazines, and newspapers (publications with ISSN), and these research databases are available for free to all Ohio residents either through public library websites or directly from the website maintained by OPLIN, located at *http://www.ohioweblibrary.org*.

In FY 2013, a total of 12,399,547 searches were performed, and 4,930,226 documents were retrieved. These numbers have remained fairly consistent with the typical usage trend seen in previous years, however, searches have slightly decreased while retrieved documents have slightly increased this year.
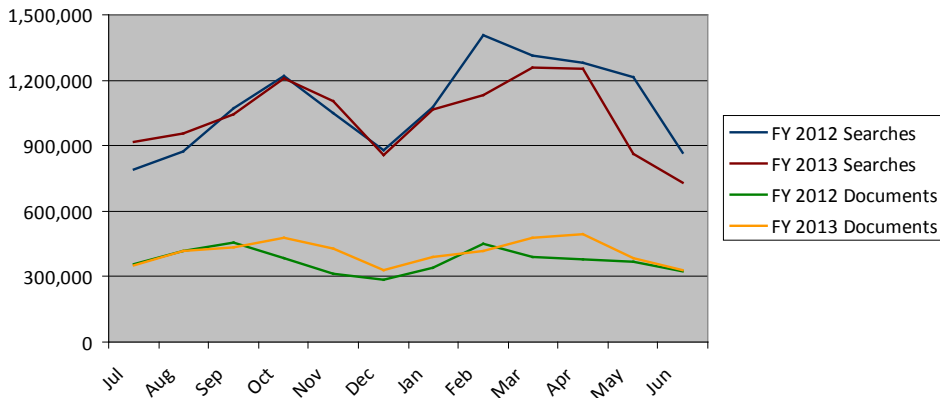
The Ohio Web Library collection has remained basically the same in FY 2013 – Ancestry Library Edition and Mango Languages were both renewed for another year. However, the EBSCO Communication & Mass Media Complete and Humanities International Index databases were discontinued as part of the statewide collection due to budgetary constraints. Both databases will still be accessible through OhioLINK.

OPLIN paid about $1.54 million for statewide databases.

Ohio Web Library Statewide Databases (FY 2013)

- American and English Literature
- Ancestry Library Edition
- The ART Collection
- Biography Reference Bank
- EBSCOhost Databases
- EBSCO Academic Source
- EBSCO Business Source
- EBSCO Kids Search
- EBSCO Newspaper Source
- EBSCO Student Research Center

- Facts on File Science Online
- Job and Career Accelerator
- LearningExpress Library
- Mango Languages
- NewsBank (Ohio Newspapers)
- Oxford Reference Online
- Sanborn Fire Insurance Maps
- World Book Online
- World Book Early World of Learning
- World Book Kids

Email and SMS Services

OPLIN email service is extremely flexible and easy to use for libraries, and we currently provide webmail storage capacity of 1 GB per user. In June 2011, OPLIN migrated to a new user-friendly, web-based mail application called Zimbra. Specifically, Zimbra Open Source Edition (OSE) provides an updated appearance and additional features for webmail (http://mail.oplin.org) users, and an advanced administration and management console for OPLIN staff to increase workflow and efficiency.

In addition, OPLIN offers two active Linux mail servers to provide public libraries with options for increased functionality, reliability, and security. One mail server (http://mail.oplin.org) is used mainly for staff email accounts and accessing webmail, while the other one (http://lists.oplin.org) is used for mass ILS notifications and distribution lists as well as for hosting OPLIN and library-related listservs.

In June 2012, we increased email security and began requiring SMTP authentication for outgoing mail due to public library computers becoming compromised by malware and sending spam. This change should only have affected regular staff email accounts because libraries should use the listserv mail server (http://lists.oplin.org) to send ILS library notices and other bulk mail because the SMTP requirement is not enabled for these types of uses.

Last fiscal year, SMS text messaging service became widely available for public libraries to use in conjunction with their ILS servers for sending patron notices, and we switched to a more reliable provider, Trumpia, in April 2012.

OPLIN provides approximately 2,400 email accounts to public library staff members.

SMS Text Messaging Statistics

- 97 total library systems are now using SMS
- Total number of text messages sent: 323,524
- First week of FY 2013: 4,368 msg/wk
- Last week of FY 2013: 8,123 msg/wk

Dynamic Website Kits

Since April 2008, OPLIN has been offering Dynamic Website Kits to Ohio public libraries, a service that provides modern, updated websites with advanced features and options at a modest price. The cost includes the initial setup, maintenance/upgrades, hosting, and free training at OPLIN. Professional sites are essential to meet the changing needs of library communities in addition to showing patrons that libraries are still vital and relevant institutions. Website Kits are built with Drupal, a popular content management system (CMS), for ease of use, ability to update content, and custom appearance. These sites are standards-compliant, which provides increased accessibility and usability, and utilize responsive web design (RWD) so that a separate mobile version is no longer required.

The total number of Ohio public libraries using the Web Kit service is 64 with 18 completed in FY 2013.

New Dynamic Website Kits

- Bellaire Public Library
- Carnegie Public Library (Washington C.H.)
- Findlay-Hancock County Public Library
- Fort Recovery Public Library
- Gnadenhutten Public Library
- Grafton-Midview Public Library
- Herbert Wescoat Memorial Library
- Homer Public Library
- Jackson City Library
- Kirtland Public Library
- Lima Public Library
- Mercer County District Public Library
- Milton-Union Public Library
- Portage County District Library
- Richwood-North Union Public Library
- Southwest Ohio & Neighboring Libraries
- Washington County Public Library
- Willoughby-Eastlake Public Library

Internet Filtering and E-Rate Program

Internet Filtering is provided to Ohio public libraries to satisfy a legislative requirement that OPLIN offer to assist local libraries use filters, which helps them in becoming CIPA-compliant (Children's Internet Protection Act) or maintaining CIPA-compliance. The State of Ohio budget bill for FY 2012 and 2013 stipulated that OPLIN "...shall research and assist or advise local libraries with regard to emerging technologies and methods that may be effective means to control access to obscene and illegal materials."

Starting in July 2012 (FY 2013), OPLIN fulfilled this requirement through a statewide contract with OpenDNS to provide a web-based Internet content filtering system available to all Ohio public libraries at no additional charge. Libraries can set up a free OpenDNS account through OPLIN and associate their IP address range with the account to control types of content that patrons can see, similar to a traditional content filter that the library might otherwise buy. As of June 2013, 76 libraries had registered OpenDNS accounts through OPLIN.

The federal E-Rate program, administered by the Universal Service Administrative Company (USAC), provides discounted rates to assist schools and libraries in obtaining affordable telecommunications and Internet access. All public libraries are eligible to receive E-Rate refunds by simply completing some required

Internet Filtering

*76 total libraries currently use OpenDNS, and 21 libraries registered in FY 2013.*

OPLIN paid $44,000 for OpenDNS filtering.

E-Rate Program

182 public libraries filed for E-Rate refunds and were awarded approximately $3.7 million.

forms, and once reimbursed, libraries can spend the money on anything that they need. The OPLIN consortial discount averages 50% to 60%, but discounts for individual libraries can range up to 90%, which can be a critical source of additional revenue.

Because it is so important for libraries to claim their E-Rate funds, OPLIN and the State Library sponsor E-Rate workshops presented by Lorrie Germann, State Coordinator, to assist public libraries in completing the application forms. All Ohio public libraries are required to submit additional E-Rate forms to OPLIN annually, regardless of whether the library itself participates in the E-Rate program.

OPLIN received approximately $1.07 million in E-Rate reimbursements in FY 2013.
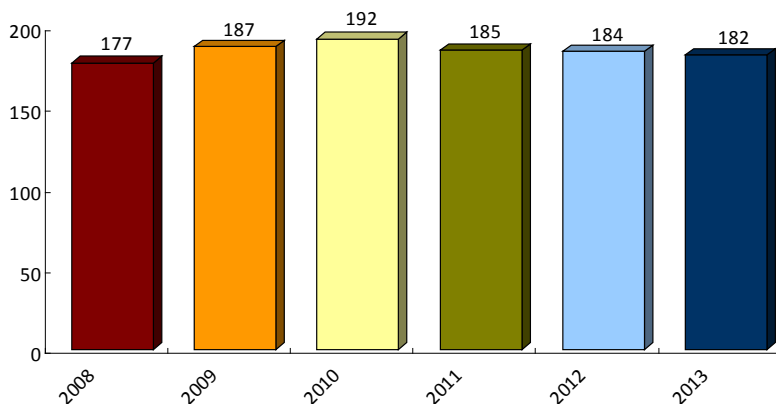
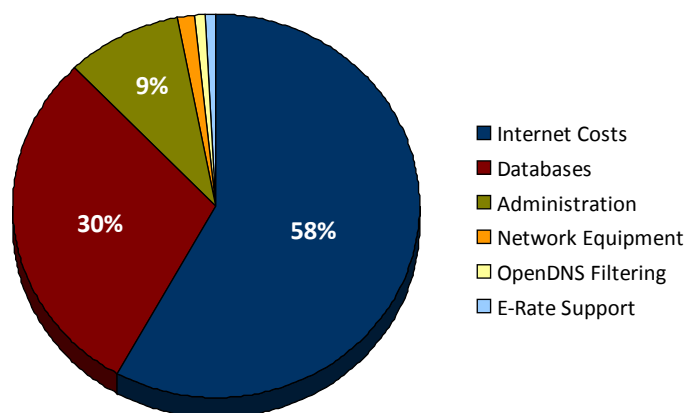*Number of Libraries – Filed for E-Rate*

OPLIN Financial Highlights

The State of Ohio budget benefited in FY 2013 from the slightly improved economy and reduced sharing of revenue with local governments, so that it was possible to use a surplus to fill the Rainy Day fund. The overall objective of the Kasich administration remains unchanged: Restrain state spending while improving services to taxpayers. OPLIN continues to operate within this objective with less than 10% of all expenditures going toward administrative costs, including personnel, and all remaining funds are used to provide direct services to Ohio public libraries.

As in the past, we use free and open source software (FOSS) whenever possible on our network and staff computers for monetary as well as for quality reasons. OPLIN also actively seeks opportunities to collaborate with other state agencies to improve efficiencies and control costs. As library demand for Internet bandwidth continues to rise, we take particular care to identify cost-effective means of providing reliable and sufficient Internet access to all OPLIN participants.

OPLIN received $3,689,788 from the Public Library Fund (PLF) in FY 2013, which was the same amount received in FY 2012 and will be the same amount transferred in FY 2014 and 2015. Also, OPLIN received $1,066,982 in E-Rate reimbursements and $50,597 from other sources.

Time Warner Cable (TWC), AT&T, and TW Telecom have master state contracts with the Ohio Office of Information Technology (OIT) for fiber optic circuits. In FY 2013, OPLIN also began using the OARnet network for data transport over long distances and purchased circuits from ComNet and Horizon, partners with OARnet in the Ohio Middle Mile Consortium.

Pie chart legend:
- Internet Costs (58%)
- Databases (30%)
- Administration (9%)
- Network Equipment
- OpenDNS Filtering
- E-Rate Support

Financial Report

REVENUE		EXPENSES	
Public Library Fund	$3,689,788	Internet Costs	$3,008,561
E-Rate Refunds	1,066,982	Databases	1,542,582
Website Kits	35,320	Administration	478,590*
Other	15,277	Network Equipment	65,863
		OpenDNS Filtering	43,925
		E-Rate Support	45,000
TOTAL	**$4,807,367**	**TOTAL**	**$5,184,521**
Loss drawn from previous years' E-Rate reimbursements			$377,154

* Administration figure includes $30,000 for ebook legal research.

OPLIN Changes

The biggest change undertaken at OPLIN in FY 2013 had to be the new selection of databases for the Ohio Web Library collection that took effect at the beginning of FY 2014. The Libraries Connect Ohio partnership likes to provide a stable collection of statewide information resources, but every five years the collection is reviewed by a committee of librarians to make sure that it is meeting Ohio's information needs at the most efficient price point, and 2013 was the year for such a review.

A less obvious but very important change this year was the installation of a 10 Gbps network card in the OPLIN core router to connect to the state's "edge" router that passes all state government traffic to the Internet. The previous amalgamated connection could supposedly carry 4 Gbps, but the connection was so complex that could not be verified. The better way to make this connection is with a network card, so the OPLIN Board approved the purchase and installation of a 10 Gbps card to simplify the connection to the Internet and size it for future growth.

The ongoing changes from the old copper circuits to new fiber circuits at libraries have now reached the point where only a few "tough cases" are left to convert, but we are constantly looking for new solutions from vendors to finish the conversion of all circuits. OPLIN also continues to closely monitor the ongoing consolidation of Internet services among other state agencies and watch for opportunities to leverage such activities for the benefit of public libraries.

Finally, the OPLIN Board approved a grant of funds to the Ohio Library Council to pay for legal research into library lending of ebooks. The legalities surrounding this issue are complex, and the legal research should provide a starting point for developing a consistent message about ebooks and libraries, as well as the foundation for possible legislation. The OPLIN Board will also support the cost of communicating the results of the research. The Ohio Revised Code charges OPLIN with "...ensuring equity of access to electronic information for all residents of this state," and the ebook lending problem is the biggest impediment to access to information that libraries currently face.

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