

MSLN Annual Report

February 27

2015

Report from the Maine State Library and the Maine Department
of Education to the Maine Public Utilities Commission for
Funding Year 2015 (July 1, 2015 through June 30, 2016)

Maine School
and Library
Network

Table of Contents

Overview.....	3
Year of Change	3
Leadership	3
Assessments	3
Technology	4
Looking Forward	4
Participation Fee.....	5
Broadband Bills and Proceedings	5
Recommendations for Funding Year 2015-2016	6
I. Continued Funding for Services	6
A. Transport Services	6
B. Internet Access Services.....	7
C. CIPA Compliant Content Filtering	7
D. Content Databases and E-Discovery Solution	8
E. Technical Services	8
F. Operational Services	9
II. Administrative Services	10
A. Fund Administrator	10
B. E-Rate Support	10
C. Contract Management.....	11
D. Invoicing	11
E. Budgeting and Financial Management.....	11
Appendix A	12
Comparison of MTEAF Funding: Funding Years 2011 - 2015.....	12
Appendix B	13
MSLN Project Budgets - Funding Years 2008 – 2015	13
Appendix C	14
E-Rate Modernization Summary	14

Overview

The Maine Public Utilities Commission (MPUC) requires that the Maine State Library (MSL) and the Maine Department of Education (MDOE) present to the MPUC an annual plan that addresses how Maine Telecommunications Educational Access Fund (MTEAF) funds will be spent to address the connectivity needs of Maine schools and libraries. Networkmaine is a consortium formed by the MDOE, MSL, the State of Maine's Office of Information Technology and the University of Maine System to support, in part, participating Maine schools and libraries efficiently. This effort is known as the Maine School and Library Network (MSLN).

The Executive Director of Networkmaine was tasked by the Networkmaine Council with submitting this Annual Report for FY 2015-2016 on behalf of the MDOE and MSL. This report highlights the events impacting the Maine School and Library Network Project over the past year, details how the requested funds will be spent to address the connectivity needs of Maine Schools and Libraries in the year to come, and includes the MDOE and MSL's request for Maine Telecommunications Educational Access Fund (MTEAF) funds.

Year of Change

The past year has been one of significant change for the MSLN Project and its participants. There have been multiple personnel changes at the state level, an increased use of on-line assessments, and technology changes aimed at attempting to meet participants' needs while recognizing the revenues into the MTEAF are shrinking.

Leadership

This past year has seen more changes in Networkmaine's leadership than any other in the past two decades. At the Maine State Library Linda Lord retired from the position of State Librarian after a distinguished career. James Ritter took over as the State Librarian as of January 2015. The Department of Education lost two strong leaders as well. Commissioner Rier stepped down from his position for medical reasons and Jeff Mao, Learning Technology Policy Director, moved on from his position at the MDOE to join Common Sense Media. The Governor has appointed Tom Desjardin as Acting Commissioner of Education and Mike Muir has been hired as the new Learning Through Technology Director as of February 2015.

It would be unacceptable not to recognize Joanne Steneck, General Council, and Tom Welch, Chairman, at the MPUC both of who retired this past year. Both Joanne and Chairman Welch were involved in the MSLN Project at its inception. Joanne also spent many years as the Chair of the MTEAF Advisor Board. Their contributions towards ensuring all Maine's schools and libraries have access to the Internet and learning technologies will continue to pay dividends for many years to come.

Assessments

Starting in the spring of 2015, Maine will use the Maine Educational Assessment (MEA) in Mathematics and English Language Arts/Literacy, developed by the Smarter Balanced Assessment Consortium, as its annual statewide assessment. This new computer adaptive assessment measures higher-order thinking in Maine's recently updated standards in mathematics and ELA/literacy. The alternate assessment for students with significant cognitive disabilities is also a computer-adaptive assessment, developed by the National Center and State Collaborative (NCSC).

This spring will be the first time the required statewide assessment is administered in an adaptive, online setting. The computer delivery will better allow students to demonstrate critical and higher-order thinking skills; more accurately measure where students are academically; give educators and parents more timely information to inform instruction; and allow for a more efficient, cost-effective administration.

Maine Adult Education programs have recently started offering the High School Equivalency Test (HiSET™) in place of the GED. The HiSET™ provides adults with an opportunity to obtain a certificate with the legal standing of a high school diploma through a pre-testing, preparation and testing program. In Maine, the HiSET™ program and assessment are available both on paper and on-line.

The importance of these assessments and the move towards online versions increase the mission-critical nature of the MSLN Project and the connectivity it provides to the schools.

Technology

This past year saw a dramatic increase in the use of video conferencing and streaming video in public libraries across Maine. The expansion of the number of meetings using both the Tandberg equipment in place at libraries, as well as the desktop video conferencing client, Jabber Video, revealed the need for increased bandwidth at public libraries. The normal computer use, the increased wireless use, and the requirements for the desktop video conferencing have put strains on many public library connections. In addition, streaming content from new video-based computer and software courses available via Learning Express Library™ 3.0 and Lynda.com®, further increased the need for bandwidth at the local level. Utilizing this technology for statewide meetings and training allows greater participation among our rural libraries and those libraries with one or two staff members who are unable to travel. This provides cost savings at the local and state level and widens the Maine State Library's reach to its constituency.

In the past year, 250 schools and libraries benefited from bandwidth increases on roughly 130 circuits. Even so, about a dozen schools chose to contribute local funds to further increase the bandwidth available to them. It is the Networkmaine Council's hope that the pending transport contract(s) will allow for it to provide a significant increase in available bandwidth to all participating schools and libraries in the coming year.

Networkmaine has adopted new, lower-priced site routers in an attempt to reduce costs. As bandwidth to the schools and libraries has increased over the last few years it has become clear that the MSLN Project would not be able to continue to afford use Cisco products. In order to prepare for the time where 100 Mbps connectivity is the norm Networkmaine researched lower cost routers that are able to scale to 1,000 Mbps (1 Gbps) without costing multiple thousands of dollars. After evaluating various solutions, Networkmaine has settled on routers from Ubiquiti Networks for Maine's schools and libraries. These new site routers are a fraction of the cost of Cisco products that scale to 1 Gbps throughput while still delivering most of the functionality used as part of the MSLN Project.

Looking Forward

There is much to celebrate in the FY2015-2016 funding year. The existing Transport and Internet Access contracts for the MSLN Project are all expiring June 30, 2015 and have been put out to bid. It is anticipated that any newly negotiated rates will be lower than the current rates. Networkmaine asked for proposals that will deliver a *minimum* of 100 Mbps symmetrical

connectivity to every school and library participating in the MSLN Project meeting the connectivity goals of the Whitehouse's ConnectED initiative. The hope is that this level of connectivity will be able to be acquired at a cost close to the current annual funding level allocated for Transport Services. MDOE and MSL has included \$300,000 in this year's budget request to cover one-time circuit installation and equipment costs related to bandwidth upgrades.

Participation Fee

The Networkmaine Council voted to establish a consortium participation fee assessed to K12 schools for the FY 2014-2015 funding year. The Networkmaine Council has voted to maintain the Participation Fee at the same level for the FY 2015-2016 funding year. The annual fee has again been set at \$1 per student and is anticipated to generate up to \$180,000 in funding. The participation fees will be used to help cover the Internet Access Service costs and operating costs of the MSLN Project.

Broadband Bills and Proceedings

There are multiple broadband related bills before the State Legislature that could have an impact one way or another on the MTEAF. If none of these bills result in an increase to the MTEAF (none anticipated), it is clear to the Networkmaine Council that additional funding sources will need to be found to sustain the services currently provided to schools and libraries through the MSLN Project.

The FCC has totally revamped the E-Rate program in the past year. Most of the changes implemented did not impact the MSLN Project in any significant way for the upcoming funding year. However, there are rules changes that will take effect in the FY 2016-2017 funding year that could bring significant benefits to Maine. A summary of these changes is included at the end of this report.

The MSL, MDOE, and the University have all been actively following and involved in these proceedings trying to guide them in a direction that will be beneficial to Maine. It is worth mentioning that the FCC and others have long heralded the consortia model used here in Maine¹ as the most efficient and effective method of obtaining high-speed broadband connectivity for K12 schools and libraries. In fact, FCC staff and a number of third-parties looking to help schools and libraries across the country take best advantage of the E-Rate program continue to engage with various Networkmaine Council members to learn more about how we are structured and operate.

Online testing, cloud services, distance learning, and a shift to online educational content make reliable, fast, low-latency connectivity an absolute requirement for learning in our schools and libraries. The Networkmaine Council has spent countless hours working to ensure that the MSLN Project meets these requirements.

¹ <http://www.educationsuperhighway.org/reduce-costs.html>

Recommendations for Funding Year 2015-2016

The MDOE and MSL are confident that the plans and adjustments they have made for FY 2015-2016 will position the MSLN Project to meet the connectivity needs of Maine's K12 schools and libraries. Therefore, for Funding Year 2015-2016 (July 1, 2015 – June 30, 2016), the MSL and MDOE respectfully submit the following recommendations for funding to the Commission for its consideration:

I. Continued Funding for Services

The MSL and the MDOE request continued funding for services to all qualified schools and libraries pursuant to 35-A M.R.S.A. § 7104-B(1) (referred to as MSLN) as further described below.

A. Transport Services

The demand for bandwidth continues to increase. This fact is demonstrated by the growth in the number of schools and libraries requiring 20 Mbps or higher connectivity. The percentage of schools and libraries connected at 20 Mbps or higher number in FY2014-2015 totals 66%, up from 44% in FY2013-2014. In total some 250 schools and libraries benefitted from bandwidth upgrades this past year.

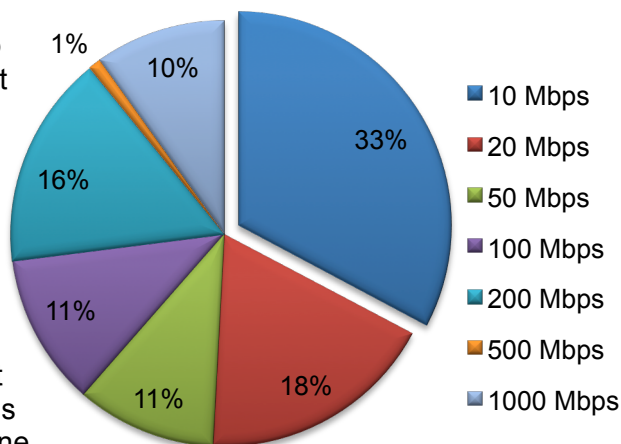
The FCC's E-Rate program is very heavily utilized and has long struggled to provide funding anything but Priority-1 services (Internet and Telecommunication). The FCC has issued two orders in the past year concerning the E-Rate program. These orders retooled the program and raised the funding cap by \$1.5B to \$3.9B annually to meet the connectivity needs of the nation's schools and libraries.

In Maine, opening up the MSLN Project to multiple transport providers in 2009 created a more competitive bidding process that allowed Networkmaine to secure more aggressive pricing for transport services. This same approach is being taken this year as Networkmaine released RFPs for both Transport and

Internet Access Services. This funding request is for the first year of the pending transport contracts. While final contracts have not been written or signed, the bidding process is far enough along so that the MDOE and MSL anticipate lower transport rates in the new contracts will allow for significant bandwidth increases across the project while staying within current budgetary amounts for Transport Services.

Assuming Federal E-Rate will pay a minimum of 70% for approved schools and libraries, it is anticipated that Transport Services will be provided at a cost to the MTEAF that is at or below the budgeted costs for the FY2014-2015 funding year.

MSLN Bandwidth Distribution '14-'15



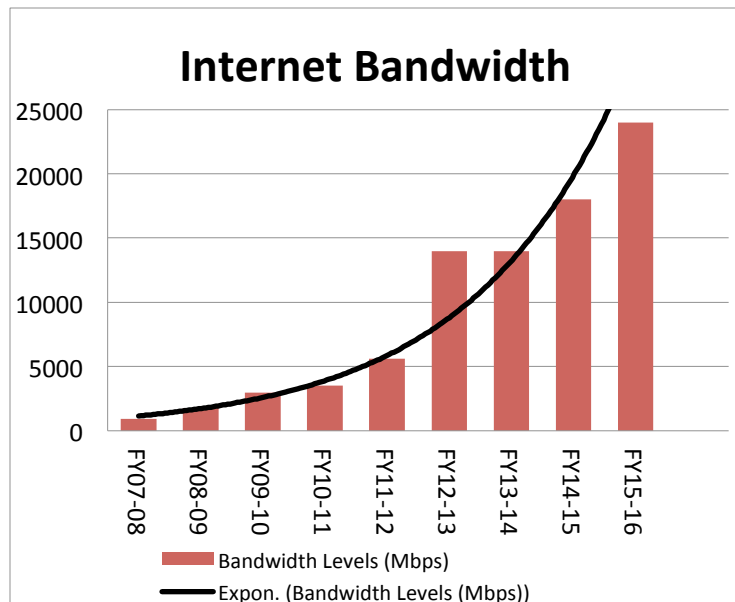
Anticipated impact on MTEAF is \$2,275,000

B. Internet Access Services

Networkmaine's contracts for Internet Access expire June 30, 2015, as such; Networkmaine released an RFP for Internet Access Service starting in FY2015-2016. The MSLN Project is benefiting from the decreasing unit cost of Internet Access Service, Networkmaine's increased use of settlement free peering with major content providers and Networkmaine's on-net Content Delivery Network caching farms.

The use of settlement free peering and on-net CDN caches slows the rate of growth in the needed Internet Access Services by redirecting traffic from content providers to multiple private peering points and CDN caches rather than across the commodity Internet. Networkmaine is leveraging Internet-2's Commodity

Peering Service (CPS) to help manage the growth in Internet Access Services needed to support the MSLN Project. Between 50% and 60% of traffic coming into MSLN currently comes from these other sources.



While the Internet Access Service contracts have not been written or awarded, the MDOE and MSL anticipate being able to contract for Internet Access Service at a lower rate than available on the previous contracts. For Funding Year 2015-2016, the local (Maine) cost of acquiring Internet Access Service will be funded by the annual Participation Fee paid by the schools.

Anticipated impact on MTEAF is \$0

C. CIPA Compliant Content Filtering

The MTEAF currently supports the full cost of providing a centrally managed content filtering solution that helps meet the requirements of the federal Children's Internet Protect Act (CIPA) while minimizing the administrative and technical burden on the schools and libraries. While CIPA compliance is a requirement to receive E-Rate reimbursement for Internet Access Service, solutions for meeting the requirement are not eligible for E-Rate funding.

Networkmaine is using a cloud-based solution offered by OpenDNS to provide content filtering for the schools and libraries. This service eliminates both the fiscal and administrative burdens of maintaining servers to run content filtering software.

Networkmaine's use of OpenDNS for the MSLN Project was featured in *Converge*² magazine as the first state-network to leverage cloud-based technology to provide a CIPA compliance solution for its participants.

The MSL and the MDOE request that MTEAF funds be made available for the continued funding of content filtering for FY 2015-2016.

Anticipated impact on MTEAF is \$87,600

D. Content Databases and E-Discovery Solution

The MSL and the MDOE recommend the continued subscription of electronic databases and E-Discovery solution to provide statewide access for citizens through MARVEL, Maine's Virtual Library, as permitted by 35-A M.R.S.A. § 7104-B.

MARVEL!

Funding for the MARVEL databases comes from most of its patron base. MTEAF provides funding on behalf of the public libraries and K12 schools. The University of Maine System, Bates, Bowdoin and Colby colleges, and the state general fund through the Maine State Library also provide additional funding.

E-Discovery

This year also saw a change in the "single search" product used for the MARVEL databases. A new product called EBSCO Discovery Service™ (EDS) has replaced the earlier product. The system indexes metadata and content from the disparate MARVEL resources, normalizes the data and provides a simple interface for users. This provides a fast, streamlined, user-centric approach to searching the MARVEL databases and resources with the MaineCat statewide catalog. User satisfaction is higher with the easier to use results page and refined searching options. Prior to the implementation of a single search tool, located online at <http://libraries.maine.edu/mainedatabases/>, library users in Maine faced challenges in selecting the appropriate resource for their research – to the average user, the MARVEL online resources presented an often confusing array of options. EDS provides residents of the state a much-needed 'Google-like' single starting point from which the full depth and breadth of the collection of online resources available while also offering an easier interface and results page for novice users.

The MSL and the MDOE recommend continued funding for the MARVEL content databases, online resources and the EBSCO Discovery Service™ single search product for FY 2015-2016.

Anticipated impact on MTEAF is \$682,600

E. Technical Services

Expenses for third-party services, equipment, software, and maintenance that are not E-Rate eligible are included as part of this Technical Services category if they are not specifically requested in a separate funding request. These services include but are not limited to, constituent premise equipment (CPE), Internet 2 Secondary Group Participant

² <http://www.convergemag.com/infrastructure/Maine-Moves-to-Cloud-Based-Internet-Filtering-for-Public-Schools-Libraries.html>

fees, IPv4 address space, hardware and software maintenance for core networking equipment, colocation fees, core network equipment and software upgrades and replacements.

In addition, the MSL and the MDOE leverage MaineREN, Maine's Research and Education Network, as the optical backbone for MSLN. Multiple 10 Gbps optical transports are dedicated for aggregating the traffic to/from the K12 schools and public libraries between MaineREN's optical nodes. Participating schools and libraries also share three 10 Gbps optical transports with other MaineREN participants to connect to both Internet 2 and contracted Internet Service Providers out of Cambridge, MA and Albany, NY.

The core routers used to support the MSLN project will have been in service for over 5 years by the end of this funding year. Due to the age of these routers and due to the anticipated significant increase in the number of 10 Gbps aggregation circuits that are provided by the Transport Services vendors to connect the K12 schools and libraries to the network core, these routers need to be replaced. Much of the significant increase in funding requested for Technical Services over FY2014-15 is to refresh this equipment. This increase is for a one-time capital expenditure with an expected life span of at least five (5) years rather than a sustained budgetary increase that is expected annually.

The MSL and the MDOE request that MTEAF funds be made available for the continued funding of Technical Services for FY 2015-2016.

Anticipated impact on MTEAF is \$600,000

F. Operational Services

Networkmaine provides the day-to-day operation and end user support for MSLN. These Operational Services involve Network Operations Center support services including but not limited to:

- Network monitoring
- Problem tracking and resolution
- Constituent premise equipment (CPE) configuration
- Transport and Internet access vendor management
- Network upgrade and installation management
- Technical security services
- Onsite technical support through the "Circuit Rider" program

In addition Networkmaine provides schools and libraries with network design consultation, unlimited e-mail accounts with spam and anti-virus scanning, web site hosting, web content filtering, Domain Name Services, DHCP services, and IP address management.

The MSL and the MDOE request that MTEAF funds be made available to contribute towards the costs to operate MSLN for FY 2015-2016. This year's request is approximately \$96K greater than last year's request. Roughly \$26K of the increase is to cover the additional man hours, travel costs, and shipping costs that are anticipated as being necessary to upgrade the school's and library's Transport Services as a result of the pending contracts. The remainder of the increase in this request, roughly \$70K, is simply an adjustment in funding sources for operational costs. A larger portion of the

Networkmaine Participation Fees will go towards funding Internet Access rather than Operational Services. As noted above, the MSL and MDOE expect to use this year's Participation Fees to fund Internet Access Services. This request will be matched with up to \$50,000 in Participation Fees being collected from K12 schools.

Anticipated impact on MTEAF is \$ 459,700

II. Administrative Services

The MDOE contributes \$437,000 towards the administrative costs of MSLN through a Cooperative Agreement with the University. Along with this direct financial contribution by the MDOE, MSL provides in-kind contributions through staffing the State E-Rate Coordinator position for libraries. No MTEAF funds are spent administering the MSLN Project except for the fees paid by the PUC to the MTEAF fund administrator. The Administrative Services provided to the MSLN Project are detailed below.

A. Fund Administrator

The MSL and the MDOE ask that the Commission re-authorize the expenditure of funds to pay for a fund administrator to assess carriers, collect funds from carriers and make payments from the Fund (as permitted by 35-A M.R.S.A. §§ 7104-B(2) and 7104(3)).

Anticipated impact on MTEAF is \$ 25,100

B. E-Rate Support

Networkmaine acts as the E-Rate filing Consortium lead on behalf of participants in the MSLN Project for all eligible services associated with the project. In that role, Networkmaine manages the entire filing process and certification of the federal E-Rate paperwork. In addition, Networkmaine has taken on the role of State E-Rate Coordinator for Maine's schools. Networkmaine's involvement in assisting schools with the E-Rate filing process for both MSLN Project and non-project E-Rate eligible services include providing training, information dissemination, answering questions about the E-Rate filing process, and assisting schools with Program Integrity Assurance requests from USAC. Due, in part, to Networkmaine's assistance, \$8.4 Million of E-Rate funds came to Maine in the 2013-2014 funding year.

As in the past, Networkmaine is leveraging its web-based consortium enrollment site³ to ease the E-Rate process for the K12 schools and libraries. This site allows Networkmaine to greatly computerize and automate the data collection and form completion process. No longer are the schools and libraries asked to manually fill out information on paper forms that are readily available in both federal and state government data sources. Instead this data is automatically incorporated into the forms greatly reducing the chance of human error. The participating schools and libraries only need to fill out their site-specific information on the web site and confirm various certifications. Once completed the schools and libraries download the various forms (Letters of Agencies, Form 479s, etc.) from the web site which are already filled out with all the appropriate and provided information ready for them to sign and return to Networkmaine.

³ <https://enroll.networkmaine.net>

The consortium enrollment site has been well received over the last few years. Networkmaine makes improvements each year to incorporate feedback received in the previous year. Modifications are also made to reflect any changes in the E-Rate Program for the coming funding year.

Anticipated impact on MTEAF is \$ 0

C. Contract Management

Networkmaine successfully negotiated five year contracts for transport services with three services providers; FairPoint Communications, Oxford Networks, and Time Warner Cable New England and three year contracts for Internet Access Services with Time Warner Cable New England and Dark Fiber Service with Maine Fiber Company. The entire procurement process from writing the RFPs to final contract negotiations is managed by the University of Maine System's Strategic Procurement Office. As the University of Maine System is the customer of record on all of these contracts, its Strategic Procurement Office will continue to ensure that the contracts are adhered to and will maintain all required documentation related to the contacts for ten years after their service term as required by the E-Rate program rules. It is also managing all procurement efforts for additional services in the future including the rebidding of Transport and Internet Access Services starting July 1, 2015.

Anticipated impact on MTEAF is \$ 0

D. Invoicing

Networkmaine handles all invoicing activities related to MSLN. These activities include receiving the invoices from the contracted service providers, verifying their accuracy, submitting the invoices for reimbursement from both the MTEAF and the E-Rate Program, reconciling payments, and maintaining records for the time frame required by the E-Rate Program rules. Networkmaine leverages UMS' Accounts Payable department and their electronic document management and imaging system for many of these activities.

Anticipated impact on MTEAF is \$ 0

E. Budgeting and Financial Management

The University of Maine System's Director of Sponsored Programs and Administration oversees Networkmaine's management of the MSLN Project budget. The MSLN Project is reviewed and accounted for by the Director of SPA.

Anticipated impact on MTEAF is \$ 0

Appendix A

Comparison of MTEAF Funding: Funding Years 2011 - 2015

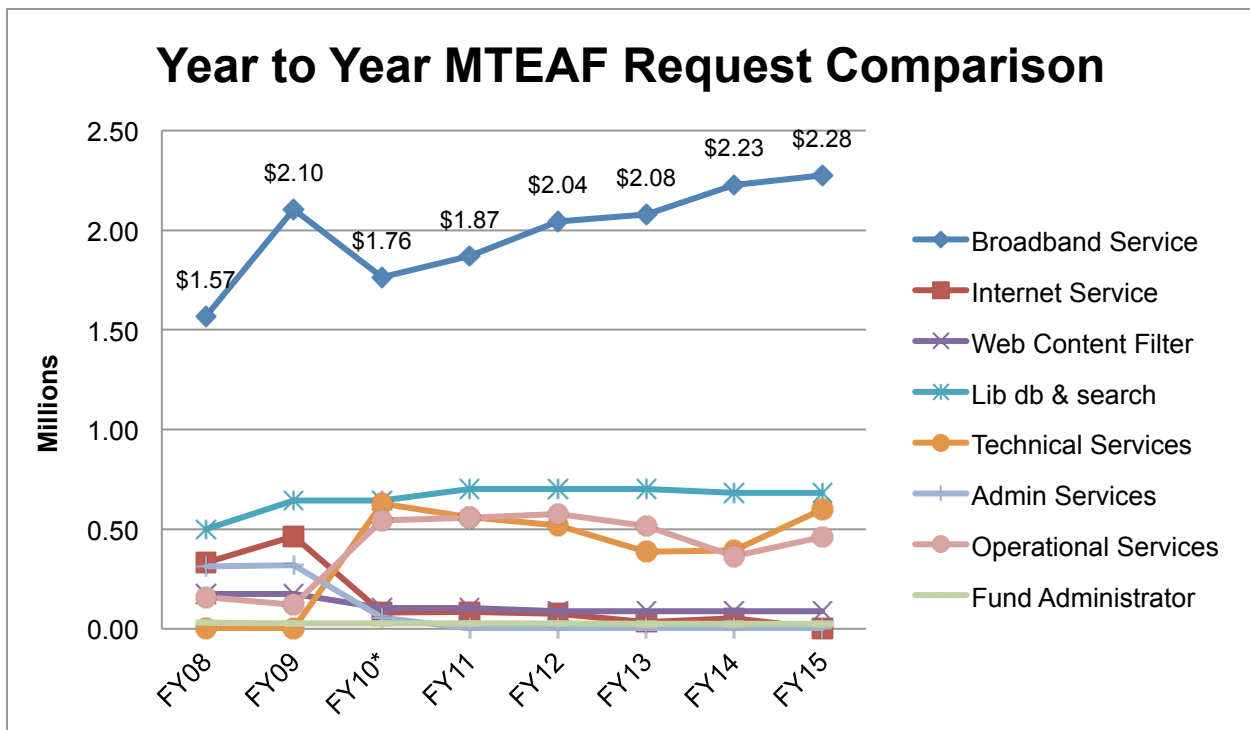
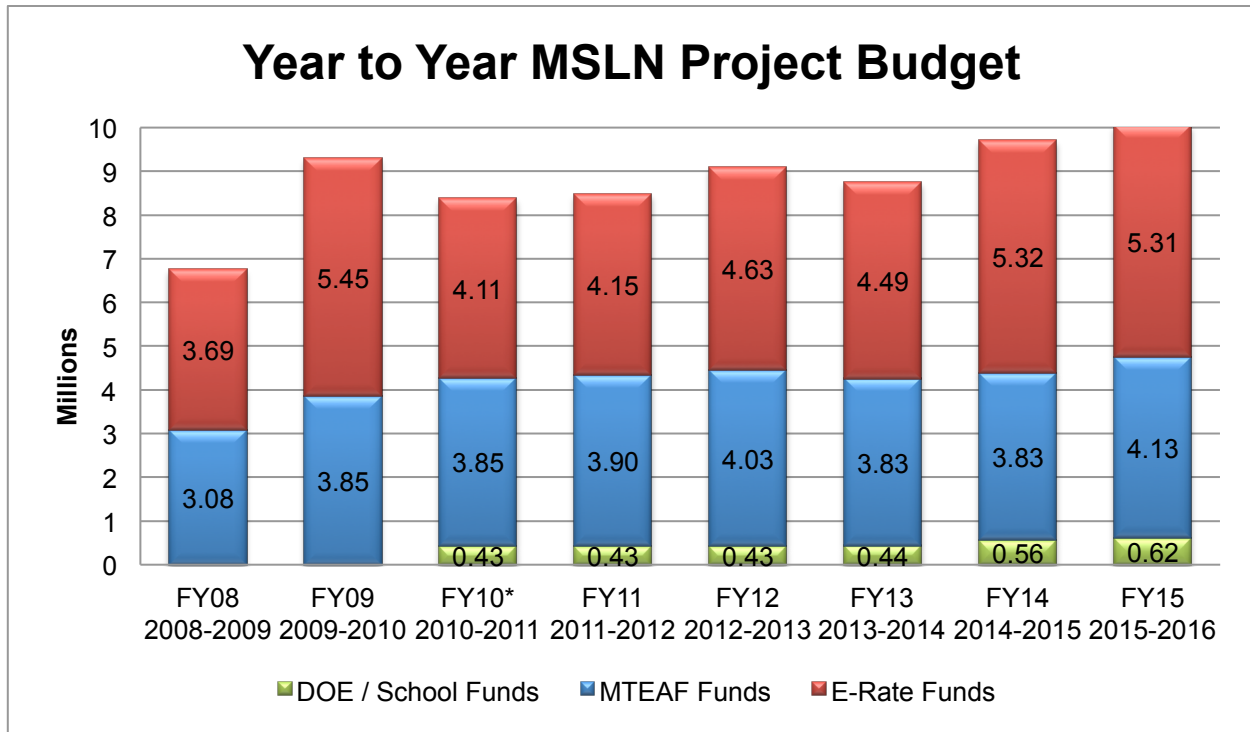
Services	2011-2012 Actual	2012-2013 Actual	2013-2014 Actual ⁴	2014-2015 Budgeted	2015-2016 Requested
Transport Service ⁵	\$1,819,344	\$2,013,394	\$2,094,252	\$2,227,000	\$2,275,000
Internet Service	\$ 73,115	\$ 78,675	\$ 37,431	\$ 51,300	\$ 0
CIPA Compliant Content Filter	\$ 87,552	\$ 87,552	\$ 87,552	\$ 87,600	\$ 87,600
Content Databases & E-Discovery	\$ 699,110	\$ 702,599	\$ 657,116	\$ 682,600	\$ 682,600
Technical Services	\$ 470,975	\$ 515,508	\$ 349,994	\$ 392,500	\$ 600,000
MTEAF Fund Administrator	\$ 25,080	\$ 26,400	\$ 25,080	\$ 25,100	\$ 25,100
Operational Services	\$ 531,371	\$ 539,197	\$ 557,495	\$ 363,900	\$ 459,700
Totals:	\$3,706,547	\$3,963,325	\$3,808,920	\$3,830,000	\$4,130,000

⁴ Adjusted down from requested amount of \$4.136 M due to projected lack of MTEAF funding

⁵ Total cost prior to expected E-Rate reimbursement: 2015-2016 - \$7,583,300

Appendix B

MSLN Project Budgets - Funding Years 2008 – 2015



*Networkmaine created in FY 10

Appendix C

E-Rate Modernization Summary

Two FCC orders significantly modify the E-Rate program beginning in Funding Year 2015:

- The FCC 14-99 E-Rate Modernization Order released July 2014 reoriented the E-Rate program to focus on broadband support.
- The FCC-14-189 Second Modernization Order released December 2014 provided further modifications and clarifications to the Modernization Order.

Category One and Category Two

The old Priority One and Priority Two designations will now be known as Category One and Category Two.

Category One focuses on services necessary to provide connectivity to buildings. Category Two focuses on connectivity to devices within buildings, and covers only broadband distribution services and equipment.

Category One and Category Two funding requests must be made on separate FRNs.

The annual funding cap baseline has been increased to \$3.91 billion beginning in FY2015, and it will continue to be adjusted for inflation beginning in FY2016. The FCC is targeting at least \$1 billion per year in Category Two discounts over the next five years.

Category One applications will continue to be funded before Category Two applications.

Category One Services

Telecommunications Services and Internet Access are eligible for E-Rate support with some exceptions.

Eliminated Services	Phased Out Services
<p>E-Rate support for the following has been eliminated effective FY2015.</p> <ul style="list-style-type: none">• Components of telephone service (such as directory assistance charges, custom calling services, direct inward dialing, and 900/976 call blocking)• Inside wire maintenance plans• Outdated services such as paging• Text messaging• Services that may use broadband but do not provide it (including e-mail, voice mail, and web hosting)• Applications and content• Equipment such as computers, laptops, tablets, and all other end-user devices <p>Off-campus use, even if used for an educational purpose, is ineligible for support and must be cost allocated out of any funding request.</p>	<p>E-Rate support for the following voice telephone services will be phased out beginning in FY2015 by subtracting 20 percentage points from an applicant's discount rate each funding year until they reach 0% funding support for voice services.</p> <ul style="list-style-type: none">• Local and long distance phone service ("POTS")• 800 service• Radio loop• Satellite telephone• Shared telephone service• Centrex• Wireless telephone service (including cellular voice services)• Voice over IP• Circuits dedicated to providing voice services

Applicants may seek support for individual data plans and air cards, but only when they can demonstrate that the purchase of such services is the most cost-effective way to connect students on school premises or library locations to the Internet.

Category Two Services

Broadband Internal Connections	
Eligible Services	Ineligible Services
<p>E-Rate support is available for broadband distribution services and equipment needed to deliver broadband.</p> <ul style="list-style-type: none"> • Wireless access points • Wireless controllers • Antennas (but they must be integral to the LAN/WAN) • Internal structured cabling (unless solely used for voice) • Firewall services • Network switches • Routers • Racks that house eligible equipment • Uninterruptable power supply that supports eligible equipment • Caching (including caching service, caching equipment or components, caching servers) • Improvements, upgrades, and software necessary to distribute high-speed broadband throughout school buildings and libraries • Cloud-based functionality of eligible equipment, such as cloud wireless controllers • Licenses for eligible equipment • Software that supports eligible equipment • Taxes, surcharges and other similar reasonable charges • Shipping charges • Eligible equipment that combines functionality, such as routing and switching 	<p>E-Rate support for the following has been eliminated effective FY2015.</p> <ul style="list-style-type: none"> • Circuit cards/components • Interfaces • Gateways • Servers with the exception of servers necessary for caching • Software with the exception of software that supports eligible broadband internal connections • Storage devices • Telephone components • Video components • Voice over IP or Video over IP components • Data protection components, such as virtual private networks with the exception of firewalls and uninterruptible power supply/battery backup

Basic Maintenance of Internal Connections	
Eligible Services	Ineligible Services
<ul style="list-style-type: none"> • Repair and upkeep of eligible hardware • Wire and cable maintenance • Basic technical support • Configuration changes 	<ul style="list-style-type: none"> • Services that maintain ineligible equipment • Upfront estimates that cover the full cost of every piece of eligible equipment • Services that enhance the utility of equipment • Network management services, including 24-hour network monitoring • On-site technical support • Unbundled warranties

Managed Internal Broadband Connections (FY2015 and FY2016 only)	
Eligible Services	Ineligible Services
<p>E-Rate funding is available for expenses or portions of expenses that directly support and are necessary for broadband connectivity within schools and libraries.</p> <ul style="list-style-type: none"> • Managed Wi-Fi up to an average pre-discount cost of \$30 per student per year • Management and operation of a LAN or WLAN • Installation, activation, initial configuration of eligible components 	<ul style="list-style-type: none"> • Managed voice service

Category Two Budgets

All Category Two funding is subject to a five year per-school or per-library budget limitation capping the amount of Category Two funding any one applicant can receive. Budgets are set at the individual school level and cannot be spread across other schools in the district.

Budgets are calculated as follows:

- School Budget = up to \$150 (pre-discount) per student over a five year period
- Library Budget = up to \$2.30 (pre-discount) per square foot over a five year period

Budget exceptions:

- The minimum pre-discount budget (or “floor”) for a school or library is \$9,200
- The budget for large urban libraries serving populations of 250,000 or more is increased to \$5.00 per square foot

This five year budget process is in effect FY2015 through FY2019.

Process Changes

Changes to the application process include the following:

1. Technology plans will not be required for either Category One or Category Two services.
2. Electronic filings of all forms by applicants and applicant notifications by USAC will be required by FY2017. Beginning in FY2015 the FCC Form 471 must be filed online, although applicants without an electronic PIN may certify the form via paper submission.
3. Effective immediately, invoicing deadlines may be extended only once upon request for 120 days. Requests for further extensions under “extraordinary circumstances” may be granted only by the FCC.
4. Effective immediately, all appeals — exclusive of requests for FCC rule waivers — must be made first to USAC. All appeals, regardless of the administrative body to adjudicate the appeal, must be submitted within 60 days of the date of the decision which precipitates the appeal.
5. Beginning in FY2016, BEAR reimbursement payments will be made directly to applicants and will no longer have to be funneled through the service providers, nor will the applicants be required to have the service providers approve their BEAR forms.
6. The document retention requirement has been extended from five years to ten years (from the last day of the applicable funding year or the service delivery date).

Discount Rates

Beginning in FY2015, discount rates for districts are based on the district-wide percentage eligibility of students rather than the former method of using a weighted average of individual school discount rates. The discount rate is calculated by dividing the total number of students in the district eligible for the national school lunch program (NSLP) by the total number of students in the district and comparing that single figure against the discount matrix. The district discount rate will apply to all funding requests, even if a service is only being provided to a subset of the schools.

Beginning in FY2015, the definition of “rural” and “urban” is based on the most recent decennial U.S. Census data. The Second Order establishes that schools in “urbanized areas” and “urban clusters” in which the population is less than 25,000 will be considered rural for purposes of discount calculation. Districts with a combination of rural and urban schools will qualify for the rural discount only if the majority of its schools are classified as rural.

The maximum Category Two discount is 85%, rather than 90%. All other discounts levels for both Category One and Category Two remain the same.