E-rate 2.0

The Future of the Schools and Libraries E-rate Program

STATE OF ARKANSAS

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EXECUTIVE SUMMARY

Schools in America are requiring increasingly higher broadband speeds for the necessary bandwidth to the Internet as well as inter-district connectivity between schools/buildings to meet the growing demand of technology in today's education. Libraries also require higher broadband speeds to provide public services. This paper highlights the requirements for additional high speed broadband, the educational technologies and library consumer requirements that are driving that need.

Every initiative must have a funding source that will assist with start-up costs and provide sustainability. The Schools and Libraries E-rate Program provides more technology funding to K-12 schools and public libraries than any other program or grant.[1]

Up to $2.25 Billion is available to schools and libraries across the nation for telecommunications services, Internet access, and internal connections every year through the E-rate program. E-rate is a program administered by the Schools and Libraries Division (SLD) of the Universal Service Administrative Company (USAC) and the program is funded by telecommunications customers through a universal service charge. The charge is paid by each customer that receives telephone service across the nation. The funds derived from this charge are collected by telecommunications service providers and deposited into the Universal Service Fund. The Universal Service Fund is managed by the Federal Communications Commission (FCC) and funds four (4) programs: Connect America Fund (formerly the High Cost program), Low Income, Rural Health, and Schools and Libraries.

Each year, E-rate provides approximately $2.25 Billion in funding across four service categories: telecommunications services, Internet access, internal connections, and internal connections basic maintenance. E-rate discount percentages are based upon the federal school location designation (urban or rural) and criteria related to the National School Lunch Program. Note that E-rate funding is expediting the rollout of high speed bandwidth for common core testing.

The request for funding far outstrips the funds available through the E-rate Program. Each year over $5 Billion is requested. The E-rate Program must be modified to keep up with the growing high speed broadband requests. These changes cannot be achieved solely through modifications to the services eligible for funding. E-rate stakeholders continually discuss program funding requirements.

In 2012 the needs of the E-rate Program gained more focus as stakeholders submitted comments to the FCC. In 2013 the focus has gained momentum on June 6th when the President introduced the ConnectEd Initiative.

The FCC released a Notice for Proposed Rule Making (NPRM) on July 23, 2013. The NPRM provides all interested parties the opportunity to submit comments and replies to the comments of other stakeholders.

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[1] http://www.fcc.gov/document/fcc-commissioner-jessica-rosenworcel-connected-initiative

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- The deadline for submitting comments is September 16, 2013.
- The Deadline for submitting reply comments is October 16, 2013.

The NPRM contains an extensive list of questions looking at every aspect of the E-rate program. It is anticipated the result of the NPRM will be a total overhaul of the program. In various presentations FCC Commissioners Rosenworcel and Pai have mentioned they would like to see the changes by the Funding Year 2015/2016 application cycle. Some changes may happen for Funding Year 2014/2015 the more extensive changes will not occur until Funding Year 2015/2016 or later. Stakeholders are strongly encouraged to reply whether at the single school, a school district, library, consortia or state level.

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INCREASED BROADBAND IS REQUIRED FOR
DIGITAL LEARNING INIATIVES

The Schools and Libraries E-rate Program began in 1997 after passage of the 1996 Telecommunications Act. The goal of the program was to "wire" or connect every school and public library in America to the Internet. At that time the Internet had been available to the public for only six (6) years.   There was little educational content, no video streaming, and no electronic text books available. In the 1990s, just 14 percent of schools were connected to the Internet.[2] Today, 22 years later, more than 92% of the America's schools are connected to the Internet [3]but that connectivity is not robust enough to utilize the full array of educational content the Internet now provides. There are schools in America that still do not have high speed connectivity to the Internet. These schools are connected at the same speed as a residential customer. How can a school with this type of connectivity possibly keep up with the demands of more and more educational initiatives requiring high speed broadband access to the Internet?

The Federal Communications Commission (FCC) defines broadband as 200,000 bits per second, to 30 megabits per second (Mbps) with recent offerings that include 50 to 100 Mbps.[4] The more content and services obtained via the Internet, the more the requirement for higher broadband speeds increases.

Discussions about broadband or bandwidth in schools should also include; Internet connection capacity, Inter-district distribution to school campuses, Inter-campus distribution, bandwidth management/shaping and content filtering.

A school's lack of broadband access could be the result of several factors:

1. The service is unavailable in the area.
2. The service is available but the initial broadband build out is cost prohibitive.
3. The service is available but the monthly cost of broadband service is cost prohibitive.
4. The school does not have the necessary local area network infrastructure to fully utilize high speed broadband.
5. Lack of staff with the proper technical expertise.
6. Technical staff overloaded and do not have time to dedicate to technology or broadband initiatives

While this paper is a discussion on technology and funding issues in the K-12 environment, let us not forget that the knowledge and skills a K-12 student learns today is the basis for a college education or employment in the increasingly technological workplace. Many colleges and universities have moved to

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[2] http://blogs.edweek.org/edweek/DigitalEducation/2013/05/e-rate_badly_in_need_of_an_ove.html
[3] http://www.rockefeller.senate.gov/public/index.cfm/press-releases?ID=8e1e04d2-d4f0-4ae0-aab8-736a2f566ea9
[4] http://www.fcc.gov/guides/getting-broadband Broadband speeds vary significantly depending on the particular type and level of service ordered and may range from as low as 200 kilobits per second (Kbps), or 200,000 bits per second, to 30 megabits per second (Mbps), or 30,000,000 bits per second. Some recent offerings even include 50 to 100 Mbps. Broadband services for residential consumers typically provide faster downstream speeds (from the Internet to your computer) than upstream speeds (from your computer to the Internet).

digital textbooks and the use of laptops/tablets for instruction. Many offer on-line courses for specific subjects that are Internet based and cannot be attended other than through the Internet. Our students must be prepared to enter this arena with knowledge that allows them to effectively use technology as an educational and workplace tool.

WHAT ARE THE EDUCATIONAL INITIATIVES THAT ARE DRIVING THE DEMAND FOR MORE BROADBAND ACCESS?

Anytime-Anywhere Access: Education does not stop when the student walks out of the school building. Students' education continues while homework is completed. Students today expect immediate access to learn, whether at school, home or the local hangout. They use Google talk, Instant Messaging, You Tube, gaming and virtual reality software such as Minecraft to access data and role play to develop solutions to problems. Students today can collaborate with each other in ways that were not available or even thought of five (5) years ago. Should the E-rate Program pay for this access or, should another USF program such as low-income/lifeline pay the connectivity charges when parents cannot afford the cost?

Cloud Computing: As school districts and institutions of higher education begin finding ways to incorporate cloud computing into their day-to-day activities, cloud productivity suites are finding ways to make their programs more accessible than ever." As of May 2011, 27% of K-12 IT professionals are working with a cloud computing solution in their school district. The average percent of IT budgets schools expect to spend on cloud computing in K-12 is 40%[5].

Common Core State Standards: "The Common Core State Standards (CCSS) provide a consistent, clear understanding of what students are expected to learn, so teachers and parents know what they need to do to help them. The standards are designed to be robust and relevant to the real world, reflecting the knowledge and skills that our young people need for success in college and careers. With American students fully prepared for the future, our communities will be best positioned to compete successfully in the global economy."[6]   Forty-five states, the District of Columbia, four territories and the Department of Defense Education Activity have adopted the CCSS. Online assessment based on CCSS is scheduled to begin during the 2014-2015 school year. Discussions are still underway as to whether online assessment will be delivered concurrently to all students directly across the Internet or be cached on a server and transmitted after all online assessments are completed. This decision impacts the bandwidth requirements.

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[5] http://www.onlinecolleges.net/2012/08/29/going-to-the-cloud/ http://thejournal.com/articles/2011/05/26/k12-budgets-begin-shift-toward-cloud.aspx
[6] http://www.corestandards.org/

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Partnership for Assessment of Readiness for College and Careers (PARRC) is a 22-state consortium working together to develop next-generation K-12 assessments in English and math.[7] In answer to the need for criteria by which schools should be preparing their infrastructure and bandwidth to meet the demands these online assessment systems will place on the schools, the PARRC has recommended the following bandwidth requirements for concurrent assessment which are based on recommendations from the State Educational Technology Directors Association (SETDA).[8]

SETDA Recommendation:

	Minimum Specifications	Recommended Specifications
External Connection to the Internet	To be determined by October 2013	100 Kbps per student or faster
Internal School Network	To be determined by October 2013	1,000 Kbps per student or faster

In May 2012 the SETDA published *The Broadband Imperative: Recommendations to Address K-12 Education Infrastructure Needs[9]*.   The bandwidth guidelines in this publication are cited in the PARRC recommendations by the FCC and others as the standard bandwidth requirements.

- By 2014-2015: 100 MB per 1,000 students (100 Kbps per student)
- By 2017-2018: 1 GB (1,000 MB) per 1,000 students (1 MB per student)

SETDA is preparing comments in response to the NPRM.

Digital Learning: Digital Learning is "learning facilitated by technology that gives students some element of control over time, place, path and/or pace. Digital learning is more than just providing students with a laptop. Digital learning requires a combination of technology, digital content and instruction.[10] Digital Learning can customize and personalize education so all students learn in

Digital Textbooks or E-books: An electronic book (referred to as e-book, eBook, digital book, or even e-edition) is a book-length publication in digital form, consisting of text, images, or both, and produced on, published through, and readable on computers or other electronic devices. The Oxford Dictionary of English defines the e-book as "an electronic version of a printed book," but E-books can and do exist without any printed equivalent. "Commercially produced and sold E-books are usually intended to be read on dedicated e-book readers. However, almost any sophisticated electronic device that features a controllable viewing screen, including computers, many mobile phones, and nearly all smartphones, can also be used to read e-books. Some companies, such as Amazon, with their Kindle for PC software,

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[7] http://parcconline.org/ additional technology guidelines may be found at this link
[8] http://www.parcconline.org/sites/parcc/files/PARCCTechnologyGuidelines2dot1_Feb2013Update.pdf
[9] http://www.setda.org/web/guest/broadbandimperative
[10] http://gosa.georgia.gov/defining-digital-learning

provide an emulator that allows a user to read their format on other platforms. According to the Leading Education by Advancing Digital (LEAD) Commission, schools moving from traditional textbooks to digital textbooks save $250 per student per year.[11]

Distance Learning: Distance Learning has multiple definitions depending on who is speaking. The basic definition of distance learning is: the student and instructor are separated from each other. Instruction may be one-to-one or one-to-many as one teacher may be speaking to one classroom or multiple classrooms.

Distance learning can be as basic as the student emailing an assignment to the instructor, to a media rich environment leveraging all available technology. It can mean the course is taught over the Internet using slides or streaming video that enhance the instructional material. It can mean a course taught using Compressed Interactive Video (CIV). In this environment, the teacher is located outside the classroom and a facilitator is in the classroom. Distance Learning allows small or rural schools the ability to meet all the educational requirements and offer electives to students. It may be necessary to use this method of teaching when a teacher is unavailable because of the school location, pay-scale, or due to budget restrictions. Other types of distance learning you will hear are virtual classrooms, Web 2.0 applications, including blogs, wikis, instant messaging, social networking and other tools for collaboration and learning.

Globalization today and in the future requires an understanding of the world and its diverse cultures. Virtual field trips via Distance Learning can provide students global experiences and opportunities for collaboration with students across the world. Foreign language skills are enhanced when the student can communicate with a student located in a foreign country. In the past this was accomplished by having a pen-pal in a foreign country. Communication today is Google Chat, Face Time or Skype to name a few. The student not only learns the written language but also the body language, inflections and gestures that are all part of communication and hold as much or more meaning as the written and spoken word.

The requirement for distance learning or digital learning is not just for the K-12 student. School technology is also used for teachers' continuing education and professional development. The availability of on-line courses and video conferences allow a teacher to keep pace with educational changes without travel.

One-to-One Initiative: The One-to-One Initiative provides a laptop or tablet to every student. Some schools are rolling this out by grade level while others are rolling it out district wide. This effort is necessary if the school wishes to incorporate digital textbooks into the curriculum. "Human beings don't naturally all learn the same material at the same pace in the same way. 1:1 technology allows teachers to differentiate their content delivery and student assignments to meet the needs of <u>all</u>

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[11] http://www.leadcommission.org/news/leaders-discuss-transition-digital-textbooks

students."[12] In a Wall Street Journal article, the author notes how schools are seeing an increase in student reading skills by two grade levels.[13] The article also shares the comments of a professor explaining how 1:1 has increased the participation of students in the classroom. "Students can anonymously ask the instructor's aide a question through a chat window during class, and others can see these questions and answers. Students can also rate their own understanding of each slide, giving the professor valuable feedback." [14]

STEM: STEM is an acronym that stands for Science, Technology, Engineering and Mathematics. It refers both to jobs and to education by implying:

- That the future of good jobs in a global economy rests on people who have these skills, and
- That education in these fields is essential as part of general education for the 21st Century as well as for the jobs that explicitly require STEM qualifications and degrees.[15]

While the future stability of our economy is unknown and we currently face many challenges, parents will take comfort in knowing that science and engineering jobs are growing 70 percent faster than other occupations. This means students with STEM education will be at an advantage when competing for the high-tech, high-wage jobs of the future. This was fueled by America's high demand for educated individuals to fill the job openings requiring highly skilled STEM workers in order to keep some of the nation's most innovative company's right here in the U.S[16]
Between 2008 and 2018, careers in computer systems design and related services are forecasted to increase by 45 percent. These jobs rely heavily on education and skills such as math or problem-solving.[17]

ARKANSAS' LEADERSHIP ADDRESSES THE NEED FOR HIGH SPEED BROADBAND

Governor Mike Beebe's new task force (FASTER Arkansas) whose acronym stands for Fast Access for Students, Teachers & Economic Results — and its sister committee, the Quality Digital Learning Study, are working to determine just how much broadband Internet is needed by schools overall and what will be necessary to participate in Common Core testing.[18] Both groups will report to the governor by early December on potential solutions.

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[12] http://www.emergingedtech.com/2012/04/why-every-student-should-be-in-a-11-classroom/ Why Every Student Should Be In a 1:1 Classroom
[13] http://online.wsj.com/ad/article/laptop-evolve in a single year, 20 percent of LGF students increased their reading skills by two grade levels.
[14] http://ns.umich.edu/new/releases/7711
[15] http://araoc.org/what-is-stem/ "The underlying equation is STEM = 21st Century jobs."
[16] http://www.stemschool.com/ Upcoming 2013 STEM Education Conferences
[17] http://www.stemschool.com/articles/why-stem-education-is-becoming-increasingly-important/
[18] http://www.arkansasbusiness.com/article/93732/faster-arkansas-beebe-gathers-education-tech-leaders-to-evaluate-k-12-Internet-needs

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In a speech at a conference of the Arkansas Association of Education Administrators in Little Rock, Beebe said, "the task force Faster Arkansas, the state Department of Education's Quality Digital Learning Study and his office are gathering information on what capacity for broadband exists at K-12 schools across the state to determine what is needed, with the ultimate goal of making high-speed Internet available in every school district."[19] Beebe urged AAEA members to cooperate with a statewide study of broadband in schools and to share information with Faster Arkansas and the Quality Digital Learning Study.

In his July 17 Democrat Gazette article Brian Fanney quoted Ed Franklin, chairman of the Quality Digital Learning Study (QDLS) and executive director of the Arkansas Association of Two-Year Colleges on the goal of the QDLS. Mr. Franklin said the goal is to work with industry to find solutions. That might involve wireless networking, running new fiber-optic cables, locating unused cables and setting up long-term agreements between school districts and Internet service providers.

Tom Kimbrell, education commissioner says that "meeting testing requirements for new Common Core standards is part of what is driving the bandwidth debate, but the problem extends far beyond this one element." He is hoping for a private-public partnership that will provide 100% broadband coverage at all levels of the state's school children.[20]

In an article by Talk Business[21] the first priority was identified as working on accurate data. "I think the need for accurate, better data needs to be priority one with all of the task forces right now," says Cox communications director of government affairs Len Pitcock, who serves on the QDLS committee. "The data to a large degree that's being used that indicates there are some problems is based on what the districts are operating on today, not what's available to them."

Jerry Jones, chairman of the governor's FASTER task force was a guest Talk Business TV program.[22] Here is what he had to say about Arkansas Broadband:

You have to have a network within the school itself that is adequate and can be accessed by the teachers and accessed by the students with enough distribution of the capability so that they can do what they want to be able to do….

If we don't solve it the kids will solve it for us. Because they are growing up in a digital world and they're becoming true digital natives and when they are very very conversant with the technology in their non-school life and if they walk into a school that is back where I was in the 60's & 70's they're going to fix it.

I am not really worried about the technology. The technology is out there. What I'm a little bit concerned about is we've got to find a way to fund this because nothing comes free.

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[19] http://arkansasnews.com/sections/news/arkansas/beebe-school-officials-cooperate-broadband-study.html
[20] http://talkbusiness.net/2013/07/business-education-leaders-bridging-a-broadband-ravine-of-communication/
[21] http://talkbusiness.net/2013/07/business-education-leaders-bridging-a-broadband-ravine-of-communication/
[22] http://talkbusiness.net/2013/07/business-education-leaders-bridging-a-broadband-ravine-of-communication/

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According to the Arkansas Department of Information Systems (DIS), only a handful of the state's public schools may have a nationally recommended broadband capability of 100 Mbps per 1,000 students and staff. The average Arkansas school district with 1,800 students currently has 40 Mbps of bandwidth and needs at least 140 Mbps more, the department concluded. Business leaders with leading Internet Service Providers (ISPs) contend the situation is not nearly as negative as the DIS report projected.[23]

Rep. James McLean (D-Batesville) is chairman of the House Education Committee and is a member of the Joint Budget Committee. Also a member of the QDLS group, McLean thinks the working groups will fashion a reasonable solution to the problem in advance of 2014's fiscal legislative session. That meeting of the General Assembly will give lawmakers a chance to address funding challenges of the broadband equation as well as potentially address any policy changes that could be required. "From what I'm gathering, I feel like there's going to be something coming down the pike in the next several months that we'll be able to take to the fiscal session," he said. "I think it will be equitable and fair and is going to be able to address the broadband issue and the Common Core issue in these rural districts that just have no broadband capacity." [24]

Franklin explains that he is truly in "blank slate" mode right now. No preconceived plan exists, he insists. It may take a public-private partnership, it may take a statewide plan with regional sub-plans, he says.[25]

FASTER Arkansas: Fast Access for Students, Teachers & Economic Results: On
Wednesday (July 10), Gov. Mike Beebe (D) convened a group of leaders representing Internet service providers (ISPs), political and educational representatives, and members of the state's business elite to discuss the subject, which could carry a price tag for upgrades as high as three-quarters of a Billion dollars. [26]

"The group was tasked by the Governor with bringing back potential solutions to accelerate broadband activation where it exists and finding alternatives in areas that lack infrastructure. A subset of the FASTER group includes ISP representatives – cable, Internet and phone company executives – who are expected to improve on the accuracy of the DIS broadband capability map. "[27]

Quality Digital Learning Study:[28] On July 10, the same day as the FASTER Arkansas' first
meeting the Department of Education held its first meeting of its Quality Digital Learning Study, which will look at the problem from an educational perspective.

The 89th Arkansas General formed the Quality Digital Learning Study Committee to "establish and maintain the necessary infrastructure and bandwidth to sufficiently facilitate and deliver a quality digital learning environment in each school district and public charter school."

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[23] http://talkbusiness.net/2013/07/broadband-tools-to-schools-is-there-a-political-will-and-way/
[24] http://talkbusiness.net/2013/07/broadband-tools-to-schools-is-there-a-political-will-and-way/
[25] http://talkbusiness.net/2013/07/broadband-tools-to-schools-is-there-a-political-will-and-way/
[26] http://talkbusiness.net/2013/07/mission-critical-broadband-challenge-connecting-business-education-leaders/#
[27] http://talkbusiness.net/2013/07/mission-critical-broadband-challenge-connecting-business-education-leaders/#
[28] http://www.arkansased.org/divisions/policy/quality-digital-learning-study

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In conjunction with key stakeholders, the Quality Digital Learning Study Committee will:

- Study the deployment of high-speed broadband to schools, classrooms, and communities sufficient to meeting the evolving needs of teaching and learning in a digital age
- Research the technology to improve teaching and learning through professional development and provide access to affordable, effective digital learning tools, and applications in all schools
- Identify the short and long-term infrastructure, broadband and digital learning needs of Arkansas public schools
- Devise methods to establish and maintain sufficient broadband capacity to provide quality digital learning opportunities in Arkansas public schools

The QDLS' website is an excellent resource for reports, facts and figures.

E-RATE & PUBLIC LIBRARIES

The E-rate has played a pivotal role in helping libraries connect their users to the Internet. Today, more than 95% of our nation's libraries offer Internet access to the public. This is compared to 1996, when 28% of library systems that offered public access to the Internet in at least one branch. With more than $350 million in discounts since 1998, the E-rate has helped change the public library's information technology landscape.[29]

Libraries provide essential services to the public through equitable public access to information and telecommunications services. All types of libraries – public, school and academic - need affordable "big pipe" broadband connectivity to meet the ever-increasing needs of library users. [30] The American Library Association's policy agenda includes but is not limited to the build-out of high-speed, affordable national broadband services.

INCREASED BROADBAND IS REQUIRED FOR LIBRARY INIATIVES

The policy paper "Fiber to the Library"[31] published in September 2009 further explains the importance of broadband if libraries are to fulfill their mission of servicing the American public. What is driving the libraries need for bandwidth? People of all ages and backgrounds increasingly depend on the local library's public access computers, Internet access, and reference support to search for jobs, take classes, complete homework assignments, obtain medical information, and receive government information and

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[29] http://www.ala.org/advocacy/telecom/erate
[30] http://www.ala.org/advocacy/telecom
[31] [31] http://www.ala.org/offices/sites/ala.org.offices/files/content/oitp/PDFs/fiber%20brief_%20published.pdf

services. A local library's Internet capabilities can also play an essential role in disaster response and the provision of emergency services.[32]

A 2013 Pew report, "Library Services in the Digital Age"[33] states that "Free access to technology at libraries now rivals books and reference help as a key library service. Moreover, a notable share of Americans say they would embrace even wider uses of technology at libraries such as:

- **Online research services** allowing patrons to pose questions and get answers from librarians: 73% of Americans ages 16 and older say they would be likely to use such a service.
- **Access to technology "petting zoos"** to try out new devices: 69% of Americans ages 16 and older say they would likely use that service.
- **"Amazon"-style customized book/audio/video recommendation options** that are based on patrons' prior library behavior: 64% of Americans ages 16 and older say they would be likely to use that service.
- **Apps-based access to library materials and programs:** 63% of Americans ages 16 and older say they would likely use that service.
- **"Redbox"-style lending machines or kiosks** located throughout the community where people can check out books, movies or music without having to go to the library itself: 63% of Americans ages 16 and older say they would likely use that service.
- **GPS-navigation apps** to help patrons local material inside library buildings: 62% of Americans ages 16 and older say they would likely use that service."

THE SCHOOLS AND LIBRARIES E-RATE PROGRAM

As stated at the beginning of this paper the Schools and Libraries E-rate Program began in 1997. The framework of the E-rate program can be summed up as: An eligible service provided by an eligible provider to an eligible location and used by an eligible person for educational purposes.

An eligible entity is defined as:[34]

- **School Eligibility:** For purposes of universal service fund (USF) support, schools must meet the statutory definition of elementary and secondary schools found in the No Child Left Behind Act of 2001 (20 U.S.C. § 7801(18) and (38). Schools operating as for-profit businesses or that have endowments exceeding $50 million are not eligible.
- **Library Eligibility:** Libraries must meet the statutory definition of library or library consortium found in the 1996 Library Services and Technology Act (Pub. L. 104-208) (LSTA) and must be eligible for assistance from a state library administrative agency under that Act.

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[32] http://www.ala.org/offices/sites/ala.org.offices/files/content/oitp/PDFs/fiber%20brief_%20published.pdf Page 3
[33] http://www.pewInternet.org/Press-Releases/2013/Library-Services.aspx
[34] http://www.usac.org/sl/applicants/beforeyoubegin/definitions.aspx

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The Eligible Services List provides the list of services and equipment eligible for E-rate funding. There are two funding priorities, Priority I and Priority II.   There are five (5) sections or categories of service.

- **Priority I**: Telecommunications Service, Telecommunications and Internet Access.
- **Priority II**: Internal Connections and Basic Maintenance of Internal Connections.[35] The Eligible Services List[36] is updated annually and made available prior to the opening of the E-rate filing window.

Funding Cap: Per Commissioner Rosenworcel "E-rate is the nation's largest education technology program."[37] Funding was capped at $2.25 Billion until 2010 when the funding cap's annual allocation was adjusted for inflation.

Pursuant to section 54.507(a) of the Commission's rules, the Wireline Competition Bureau announces that the E-rate program funding cap for funding year 2013 is $2,380,314,485.   Section 54.507(a) (1) of the Commission's rules requires an adjustment of the E-rate program's annual cap based on the gross domestic product chain-type price index (GPD-CPI) measure of inflation.   The new cap represents a 1.8% inflation-adjusted increase from funding year 2012's cap of $2,338,786,577.   The Commission began indexing the annual funding cap to inflation in 2010 to allow the E-rate program to keep pace with the changing telecommunications needs of schools and libraries. [38]

E-rate Program Process: There are seven (7) steps in the application process and at a minimum five (5) forms each with its own deadline:

1. Technology Planning
2. Competitive Bidding (Form 470)
3. Selecting Service Providers
4. Applying for Discounts (Form 471)
5. Application Review
6. Starting Services (Form 486 and 479)
7. Invoicing (Form 472 or 474)

There is also:

- Letter of Agency for consortia or state network participation
- Form 500 to change contract dates or return funds
- Service substitution letter to change services or equipment

An applicant can be working on as many as three funding years (FY) at the same time causing anxiety and stress for many applicants.

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[35] http://www.usac.org/sl/applicants/beforeyoubegin/eligible-services/default.aspx
[36] http://www.usac.org/sl/applicants/beforeyoubegin/eligible-services-list.aspx
[37] http://transition.fcc.gov/Daily_Releases/Daily_Business/2013/db0723/FCC-13-100A3.pdf
[38] https://www.fcc.gov/document/e-rate-inflation-based-cap-funding-year-2013

. For example:

- Completing reimbursement requests for FY2012/2013
- Responding to application review questions for FY2013/2014
- Submitting the Form 486 (Form 479 if required) for FY2013/2014 once the funding commitment decision is received
- Updating technology plans for FY2014/2015 if required
- Submitting Form 470 for FY2014/2014
- Gathering invoices and data for the Form 471

Discount Matrix:[39] Applicants use the discount matrix to determine the correct discount level for an individual school or library outlet.

An application for discounts on eligible services must calculate the percentage discount that it (and the entities it represents) is eligible to receive.

INCOME Measured by % of students eligible for the National School Lunch Program	URBAN LOCATION Discount	RURAL LOCATION Discount
If the % of students in your school that qualifies for the National School Lunch Program is...	*...and you are in an URBAN area, your discount will be...*	*...and you are in a RURAL area, your discount will be...*
Less than 1%	20%	25%
1% to 19%	40%	50%
20% to 34%	50%	60%
35% to 49%	60%	70%
50% to 74%	80%	80%
75% to 100%	90%	90%

An applicant can lose funding for various reasons such as; competitive bidding violation, ineligible service/equipment, Forms filled out incorrectly or missed deadline.

This brief description of the E-rate program's complex process indicates the need for program reform.

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[39] http://www.usac.org/_res/documents/sl/pdf/samples/Discount-Matrix.pdf

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THE FUTURE OF THE SCHOOLS AND LIBRARIES E-RATE PROGRAM

CALL FOR REFORM OF THE SCHOOLS AND LIBRARIES E-RATE PROGRAM

President Obama's ConnectEd Initiative In his speech on June 6, 2013, the President introduced the ConnectEd Initiative directing the FCC to begin a process that will connect 99 percent of America's students to high-speed Internet within five years.[40]

Senator Jay Rockefeller (R WV): On January 23, 2013, Rockefeller laid out his legislative priorities for the 113th Congress.[41] Among his nine (9) priorities, Senator Rockefeller stated "he will work to further expand high speed and wireless Internet access in West Virginia's schools, secure a strong future for the program, and create an Office of Rural Education to strengthen and promote education in rural areas like West Virginia." On March 12, 2013, Senator Rockefeller called for major expansion of the E-rate Program.[42] "By the end of this decade, I believe that every school in America should have one gigabit of Internet connectivity," Rockefeller said. "If every coffee shop in this country can offer a connection to wireless Internet, then surely every school should be able to offer it as well."

On March 12, 2013, Senator Rockefeller gave the following remarks at the U.S. Senate Committee on Commerce, Science, and Transportation titled "Oversight of the Federal Communications Commission."[43] "We must make sure every child in this country is prepared to compete in the global economy and that means having access to the Internet and all innovation that derives from it."

In an article published on March 12, 2013, "Congressional staff members said that Mr. Rockefeller hoped to gradually expand the amount of money devoted to E-Rate, providing for an additional $5 Billion to $9 Billion in total funds over the rest of the decade."[44]

Statement of Commissioner Jessica Rosenworcel:[45] On March 3, 2013, FCC Commissioner Jessica Rosenworcel appeared before the United States Senate Committee on Commerce, Science, and Transportation. In her address Commissioner Rosenworcel called for updating the Universal Service and E-rate for the Broadband age. "Moreover, our surveys suggest that 80 percent of schools and libraries believe their broadband connections do not meet the current needs. So I believe it is time for E-Rate 2.0. I think it is time to reboot, reinvest, and reinvigorate this program and put it on a course to provide higher speeds and greater opportunities in the days ahead… As every educator knows, digital information and technology will continue to play an increasing role in education, so we need to think about how we are going to meet the broadband infrastructure needs of our schools and libraries. We need to think big about the future of E-Rate…Simply put, we need to create E-Rate 2.0. We need to fund and adapt E-Rate to meet the needs of a data-driven society."

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[40] http://www.washingtonpost.com/blogs/answer-sheet/wp/2013/06/06/text-of-obama-speech-we-will-connect-99-percent-of-schools-to-Internet/
[41] http://www.rockefeller.senate.gov/public/index.cfm/press-releases?ID=13ca1fe0-f0c9-4bd8-8922-4635c688ec0f
[42] http://www.rockefeller.senate.gov/public/index.cfm/press-releases?ID=8e1e04d2-d4f0-4ae0-aab8-736a2f566ea9
[43] http://www.commerce.senate.gov/public/index.cfm?p=PressReleases&ContentRecord_id=2c48227e-9b09-4e9d-a5fc-79f5b205ebe2
[44] http://www.centerdigitaled.com/news/Should-E-Rate-Expand.html
[45] http://www.fcc.gov/document/commissioner-rosenworcel-fcc-oversight-hearing-statement

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FCC Chairman Appoints Director of Digital Learning: On April 16, 2013 "FCC Chairman Genachowski announced the appointment of Michael Steffen Director of Digital Learning[46] to lead the FCC's work within the agency and across government, public, and private partners to modernize broadband infrastructure in U.S. schools and libraries and expand access to the opportunities of digital technologies for America's teachers, students, and parents. The FCC is the largest funder of Internet connectivity in K-12 schools in the United States." This appointment further emphasizes the FCC's commitment to education and the deployment of broadband for educational use.

Remarks of Commissioner Ajit Pai on Connecting the American Classroom: A Student-Centered E-rate Program: In his July 16, 2013 comments Commissioner Pai stated "Instead of a student-centered E-rate program, we now have one too heavily focused on bureaucracy." [47] He discussed five (5) aspects of the structural problem. They are: (1) Delay (2) Paperwork (3) The need to hire consultants (4) Misplaced funding priorities (5) Bad incentives.

Commissioner Pai also talked about the lack of transparency those results in the FCC knowing "the different types of capacities of broadband services that are supported through the E-rate program". The FCC knows broad details of what categories of service are funded but not the specifics of how the money is being used. The lack of transparency also makes local accountability difficult.

Commissioner Pai's provided five (5) suggestions to improve the E-rate program.

1. Simplify the program by eliminating all but two (2) forms; an application and a report on how funds were spent.
2. Fairer distribution of funds by providing a per student funding with additional funds allocated for schools in rural and/or low-income areas as well as small schools to account for higher costs and different needs.
3. Focus on next-generation technologies by eliminating funding for stand-alone telephone service, non-instructional facilities and focusing on connecting classrooms. Eliminate funding priorities so local schools can prioritize how the dollars are spent.
4. Provide more transparency and accountability by creating a website where anyone can find out exactly how E-Rate funds are spent to help students.
5. Fiscal responsibility is ensured when the schools have a fixed amount of money and must contribute at least one dollar for every three dollars received (25%). The E-Rate cap should not be increased until there is a cap established for the overall USF budget.

Senate Commerce Committee: On July 17th the US Senate Commerce Committee held a hearing on the E-rate Program. The hearing is titled "E-rate 2.0: Connecting Every Child to the Transformative

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[46] http://transition.fcc.gov/Daily_Releases/Daily_Business/2013/db0416/DOC-320250A1.pdf
[47] http://www.aei.org/events/2013/07/16/connecting-the-american-classroom-a-student-centered-e-rate-program/

Power of Technology".[48] The witness panel provided the Committee with perspectives on the E-rate program.

Dr. Sheryl R. Abshire, chief technology officer for Calcasieu Parish School System, Louisiana: Dr. Abshire explained the importance of E-rate to Calcasieu Parish School System. She expressed the need for increased funding, the need to set well-reasoned, achievable bandwidth goals for classroom and device connectivity taking into account the different needs and demands of rural, urban and suburban schools and libraries.[49]

Ms. Linda H. Lord, state librarian, Main State Library stated: Ms. Lord stated "The E-rate program has transformed libraries and the technology resources we offer our communities since 1998. According to a 2013 Pew Internet Project report[50] the availability of computers and Internet access now rivals book lending and reference expertise as vital library services. Seventy-seven percent of Americans say free access to computers and the Internet is a "very important" service of libraries, compared with 80 percent who say borrowing books and access to reference librarians are "very important" services." Ms. Lord went on to explain how residents struggle with inadequate resources to meet basic necessities and depend on the library to stay connected.[51]

Patrick Finn, senior vice president, US Public Sector, Cisco Systems, Inc.: Mr. Finn provided three (3) suggestions to modernize the E-rate program: (1) Funding levels should meet the needs of more schools and students, not fewer. (2) Minimum bandwidth requirement should be adopted, (3) Eliminate the outdated distinction between Priority I and Priority II should be eliminated.[52]

James G. Coulter, co-chair LEAD Commission (Leading Education by Advancing Digital) provided observations on educational technology in the US compared to other nations. Lead also observed that E-rate provides an invaluable tool for addressing educational technology infrastructure challenges, that it is time to modernize E-rate and implement digital learning technology. "LEAD released a five-point national blueprint to accelerate the positive deployment of digital learning. The plan is both ambitious and attainable, offering significant long-term gains for our children." In summary the five (5) points are: (1) Broaden School Broadband (2) Deploy Devices Nationally by 2020 (3) Accelerate Digital Curriculum Adoption (4) Fund and Celebrate Model Schools (5) Train Teachers for Digital teaching. [53]

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[48] http://www.commerce.senate.gov/public/index.cfm?p=Hearings&ContentRecord_id=4395bf05-e4b9-4477-93df-e54faf2a81c5&ContentType
[49] http://www.commerce.senate.gov/public/?a=Files.Serve&File_id=2a24e52e-e5b2-4909-a319-bfe8f2ade37a
[50] http://libraries.pewInternet.org/2013/01/22/library-services/
[51] http://www.commerce.senate.gov/public/?a=Files.Serve&File_id=81ff9fe1-4fc2-4ee7-9084-190e9fc434a8
[52] http://www.commerce.senate.gov/public/?a=Files.Serve&File_id=54a4b9df-e0c3-433c-9df2-c83355924fbf
[53] http://www.commerce.senate.gov/public/?a=Files.Serve&File_id=45344d1a-c57f-4869-ae66-f40d62afe8d6

The E-RATE PROGRAM MUST BE RESTRUCTURED AND FUNDED TO MEET THE CONNECTeD GOALS

Eliminate support for telephony services in order to better fund broadband: This is not a new idea. The question was raised in the FCC's 2010 NPRM.[54] Proponents for the elimination of telephony services argue that applicants can convert to a VoIP solution for telephony needs. VoIP is not a solution for all schools when schools are struggling to obtain broadband services for critical educational applications. Even schools that may have adequate bandwidth may not migrate to VoIP because the internal infrastructure of the local area network equipment and cabling will not support the technology. Priority II funding has not been available to the majority of schools.

Should there be other changes to the eligible services list? Others believe the program should fund only Internet connectivity as defined in the Section 254 of the 1996 telecommunications act. How does Web Hosting or email fit this definition?

Where will the funds come from? Commissioner Rosenworcel has proposed taking funds from other USF programs such as the funds recovered from the Life Line Program. President Obama has suggested raising the USF contribution factor. The current proposed contribution level is 15.1 percent of the interstate telecommunications charges on a customer's bill[55].

Increase source of funding – other providers pay in: Only Telecommunications providers pay into the USF fund. Should Internet service providers or internal connection providers that receive funding also contribute to the fund?

How much is enough: The true cost to implement the President's ConnectEd initiative is not available at this time. Stakeholders have begun speculating on what the E-rate Program cap should be. Suggestions are $4.5, $7 or even $9 Billion. It is unclear whether the figures are for broadband or include other telecommunications, Internet access and equipment or equipment maintenance. Does this provide funding for the broadband infrastructure build out, or, does it include funding for the monthly recurring service to sustain the network once built? Is this a onetime increase to cover installation costs until all schools have high speed bandwidth? Data does not exist to provide a baseline for the amount of funding required to meet the technology needs of today. E-rate funding for Priority II equipment and maintenance has historically gone to applicants in the highest discount band. Because applying for Priority II is more rigorous than applying for Priority I services and applicants in the lower discount bands do not request funding.

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[54] http://www.networkworld.com/news/2010/030510-fcc-wants-existing-phone-subsidies.html?source=NWWNLE_nlt_daily_am_2010-03-08
[55] http://transition.fcc.gov/Daily_Releases/Daily_Business/2013/db0612/DA-13-1361A1.pdf

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Funding for internal connections and internal connections basic maintenance are considered Priority II funding. The cap for Priority II funding is determined after all Priority I funding commitment estimates are complete. Applicants may request funding for internal connections only twice during a five year period. The table below provides the Priority II funding cap over the life of the E-rate program.

The demand for Priority I funding increased 12 percent in funding year 2012/2013. Due to the growth in Priority I funding requests, the availability of Priority II funding for funding year 2012/2013 covered only applicants with a 90% discount level and denied funding to every schools with a discount of 89% or below. Funding Year 2013/2014 had growth similar to funding year 2012/2013 with Priority 1 funding requests over the Funding Year 2013/2014 funding cap $2.3 Billion. At this time it appears there will be no funding available for Priority II requests. If this trend continues Priority I funding could also be negatively impacted for applicants with the lowest discount levels.   The approval of funding requests at the lower discount levels was possible by the rollover of funds.

HISTORICAL E-RATE PRIORTY II FUNDING

Funding Year	Priority II Discount Rate Threshold	Roll-over in Millions
1998	70%	
1999	All	
2000	82%	
2001	86%	
2002	81%	
2003	70%	$ 420
2004	81%	$ 150
2005	80%	
2006	86%	
2007	81%	$ 650
2008	87%	$ 600
2009	77%	$ 900
2010	All	$ 900 + $ 250
2011	88%	$ 850
2012	90%	$ 1,050

COMMENTS AND RECOMMENDATIONS FROM E-RATE STAKEHOLDERS

National Broadband Plan: The plan emphasized the importance of broadband connectivity in education. "Broadband can enable improvements in public education through e-learning and online content, which can provide more personalized learning opportunities for students. Broadband can also facilitate the flow of information, helping teachers, parents, schools and other organizations to make better decisions tied to each student's needs and abilities. To those ends, the plan includes recommendations to:

- Improve the connectivity to schools and libraries by upgrading the FCC's E-Rate program to increase flexibility, improve program efficiency and foster innovation by promoting the most promising solutions and funding wireless connectivity to learning devices that go home with students.

  - Accelerate online learning by enabling the creation of digital content and learning systems, removing regulatory barriers and promoting digital literacy.

  - Personalize learning and improve decision–making by fostering adoption of electronic educational records and improving financial data transparency in education."[56]

In 2012 talk among E-rate experts and stakeholders became   focused on restructuring the E-rate Program and the necessary funding. The following information is presented in chronological order. The order is not indicative as to the importance of or agreement with the recommendation.

Funds for Learning E-rate Proposal:[57] Funds For Learning® (FFL) is a professional firm specializing in the federal E-rate funding program. On February 8, 2013 Funds for Learning presented a proposal to reform the E-rate Program. The main points of the proposal are: Increase cap to $4.5 Billion, Priority established by school and per student funding... On July 3, 2013 Funds for Learning presented data to the FCC reporting funding requests in various ways.[58] FFL is preparing comments in response to the NPRM.

EducationSuperHighway: EducationSuperHighway (ESH) is a non-profit organization with the mission of ensuring that every K-12 school in America has reliable, high capacity (100MB+) Internet access so they can take advantage of the promise of digital learning. We are a team of former business executives, tech engineers, educators and philanthropists who are passionate about using our skills, energy and resources to help improve America's public schools.[59] EducationSuperHighway recognizes the importance the E-rate Program has played in providing Internet services to K-12 schools and public libraries. The organization offers this solution: Awareness Building and E-rate 2.0.[60] ESH suggests changes in the priority level of services, a onetime capital investment to connect schools, pooled purchasing, simplification of the application process along with increased transparency and accountability.[61]

Schools, Health and Libraries Broadband Coalition (SHLB)[62] A panel discussed E-rate 2.0 during the May 2013 SHLB conference. The Schools, Health and Libraries Broadband Coalition, based in Washington, D.C., advocates policies that encourage the deployment of affordable, open, high-capacity

[56] http://www.broadband.gov/plan/executive-summary/
[57] http://apps.fcc.gov/ecfs/document/view?id=7520927795
[58] http://apps.fcc.gov/ecfs/document/view?id=7520927795
[59] http://www.educationsuperhighway.org/index.html
[60] http://www.educationsuperhighway.org/policy-gap.html
[61] http://www.slideshare.net/edsuperhighway/esh-i-nacol-webinar862013 Slides 8 & 9 are preliminary figures and are subject to change as more data is gathered.
[62] http://www.broadbandus.tv/shlb_130501.aspx?VID=broadband/130503_Broadband_SHLB_0945_PP10.flv#anchor

broadband networks and faster Internet services for schools, libraries, health care providers, and other community anchor institutions across America. The SHLB Coalition consists of a wide variety of non-profit and commercial organizations working together to champion broadband programs that can enhance anchor institutions' ability to serve their communities. "We will continue to speak out for the interests of schools, libraries and other anchor institutions on broadband issues in the future."[63]

State E-rate Coordinators' Alliance (SECA) E-rate Proposal: SECA membership is comprised of 98 members from 46 states and 2 U.S. territories. Not only do SECA members assist applicants through the E-rate process they also work closely with the FCC and USAC providing insight on program issues. Many SECA members are responsible for large consortia or state applications. On June 18, 2013 SECA submitted an E-rate 2.0 proposal to the FCC.[64] SECA's recommendations are: More E-rate funding is needed, changes to the Eligible Services List, Lowering the maximum discount for Priority II funding, changes to the discount calculations, streamline the Form 486 establish a portal. SECA also proposed performance measures. SECA is preparing comments in response to the NPRM.

NOTICE OF PROPOSED RULE MAKING (NPRM)

The FCC released the NPRM for E-rate 2.0 on July 24, 2013.[65] When the FCC considers changes to existing programs a Notice of Proposed Rule Making (NPRM) is issued seeking input from the public and program stakeholders. Any person or organization may comment on a NPRM. The deadline for comments is September 16, 2013. After the comment deadline there is a 30 day reply-to-comment deadline. The deadline for reply comments is October 16, 2013. The NPRM was released July 19th of 2013.[66] The FCC has provided a short summary of the NPRM.[67] This is the most comprehensive effort to change the program since the creation of the program. With approximately 1,000 questions the NPRM touches every aspect of the E-rate program.

Through the NPRM the FCC seeks comments on three (3) main goals:

Increased Broadband Capacity: To ensure schools and libraries have affordable access to 21st century broadband, the notice of proposed rulemaking seeks comment on a range of approaches to focus funds on high-capacity broadband, including:

- Simplifying rules on fiber deployment to lower barriers to new construction
- Prioritizing funding for new fiber deployments that will drive higher speeds and long-term efficiency
- Phasing out support for services like paging and directory assistance

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[63] http://www.shlb.org/initiativesshlb.org/initiatives
[64] http://apps.fcc.gov/ecfs/document/view?id=7520924964
[65] http://transition.fcc.gov/Daily_Releases/Daily_Business/2013/db0723/FCC-13-100A1.pdf
[66] http://transition.fcc.gov/Daily_Releases/Daily_Business/2013/db0723/FCC-13-100A1.pdf
[67] http://transition.fcc.gov/Daily_Releases/Daily_Business/2013/db0719/DOC-322288A1.pdf

- Ensuring that schools and libraries can access funding for modern high-speed Wi-Fi networks in classrooms and library buildings
- Allocating funding on a simplified, per-student basis

Cost-Effective Purchasing: To maximize the cost-effectiveness of E-rate purchases, the proposal seeks comment on:

- Increasing consortium purchasing to drive down prices
- Creating other bulk buying opportunities and increasing pricing transparency
- Increasing transparency on how E-rate dollars are spent
- Improving the competitive bidding process
- Creating a pilot program to incentivize and test more cost-effective purchasing practices

Streamlined Program Administration: To streamline the administration of the E-rate program, the proposal seeks comment on:

- Speeding review of E-rate applications
- Providing a streamlined electronic filing system and requiring electronic filing of all documents
- Increasing the transparency of USAC's processes
- Simplifying the eligible services list and adopting more efficient ways to disburse E-rate funds Streamlining the E-rate appeals process

Outstanding Issues: The proposal also seeks comment on a variety of other issues, including:

- The applicability of the Children's Internet Protection Act (CIPA) to devices brought into schools and libraries, and to devices provided by schools and libraries for at-home use
- Adjusting to changes to the National School Lunch Program that affect E-rate
- Additional measures for protecting the program from waste, fraud and abuse
- Wireless community hotspots

ARKANSAS STORIES

East Central Arkansas Regional Library System (ECARLS), Wynne, AR**:**
 ECARLS upgraded to a new Integrated Library System (ILS) in 2010-2011 in order to facilitate resource sharing and move to a regional Online Public Access Catalog (OPAC). The new ILS required additional bandwidth to perform to its optimum potential. The library system had the opportunity to upgrade to fiber, and the library budget supported the installation of this project in 2011. The new monthly recurring cost for the fiber was significantly higher than the previous Internet access bill, and the library director decided to apply for E-Rate to help pay for the new monthly charges. The E-Rate application was successful, and the post-discount monthly cost for the fiber service is approximately what the library was paying for the slower Internet connection.

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Saline County Library, Benton and Bryant, AR**:**
The two library branches of the Saline County Library were formerly paying high prices for slow Internet service.   Following the steps of the E-Rate application process, the library conducted a fair and open competitive bidding process to search for a more cost effective Internet service provider and faster Internet access. The library was able to select one service provider for both telecommunications and Internet access services. The goal of the E-Rate program is to give schools and libraries the best service at the most competitive price, and this objective was successfully met for Saline County Library.

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Prairie County Library, Des Arc, DeValls Bluff and Hazen, AR**:**
The three branch locations all had slow Internet service. Following the E-Rate application process, the library director negotiated a contract that significantly increased bandwidth to the library branch locations located in three rural delta communities. The final cost per month for the increased Internet speed was prohibitively expensive, and without E-Rate funding, the project would not have moved forward.

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Because our District has to low of a percentage of free and reduced we did not qualify for Priority 2 funding so district was unable to build the wireless network as fast as needed.

Preston Perry
Technology Coordinator
Beebe School District
Preston.perry@badger.k12.ar.us

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With E-rate funding the district was able to increase bandwidth, install a new phone system....
Bandwidth to meet the increasing demands and needs of interactive video/audio services to help enhance the innovative learning opportunities that are available to students today.

Without E-rate funds the district would not be able to......

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To provide the technology to empower the low socio-economic students we work with as a district with 90% discount for E-rate funding.

E-rate funding enhances and helps the district be able to provide quality Internet, networking, and infrastructure. By doing this E-rate frees up district funds to allow us to make purchases that can have a direct impact on the devices and technology we put into the student's hands. While ensuring we have the infrastructure to support that device and allow the student to have access to learning opportunities that would otherwise may not be available to that student.

Charles Weber
Technology Coordinator
Decatur School District
techcoord@decatursd.com
Phone-479-752-3983

The Izard County Consolidated School District was able to increase much needed bandwidth using E-rate funding. I applied for Priority Two funding Year 14 (07-01-2011/06-30-2012) for internal connections (PoE switches and Access Points) to complete a wireless access project. I didn't hear until December, 2012 that the application was denied because of funding. Priority Two funding was awarded for 88% schools. Izard County Consolidated School District is an 87% school. We were not funded.

Mary Jackson
Izard County Consolidated School District
Mary.jason@iccougars.org

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E-Rate for Harrisburg School District has been on the whole a positive program for the District. Using E-Rate funding the District has been able to increase Bandwidth from 3.0 Megs to 50 Megs at one location, and from 1.5 Megs to 25 Megs at a second location.

The increase in bandwidth has allowed our teachers to deliver enriched content to students and allowed students hands on opportunities in a technology enriched environment. We feel that parental involvement though the use of Web Hosting and other measures has been increased and has had a positive impact on the school district.

The district was among the early adopters of E-Rate, the first year of the program, and with that funding 15 plus years ago, we were able to add internal connections and at that time we were able to serve the needs of our students.

The dramatic increase in the number of devices in the school building and the increased use of technology as a tool has reached the point that our internal infrastructure is now our weakest part of our network. I feel that it has reached the point that it is limiting classroom teachers in delivering the enriched instructional content that teachers want to deliver and that students deserve.

We are among the Districts who will never qualify for Tier II funding following that first year that E-Rate was established and the program became widely known.

The internal infrastructure that was put in place 20 years ago, the first year that E-Rate existed as a program has become obsolete. The district has applied for upgrades through Tier II funding, but given our level of discount of 82%, we will never qualify for Tier II funding.

We have applied for Internal Connections on a couple of occasions. The estimated cost to upgrade our existing infrastructure is between $350,000 - $500,000. The upgrade would put the district in the position to meet the needs of our students for years to come.

Harrisburg School District like most schools in the state has limited financial resources and the assistance of E-Rate funding for the needed internal upgrades would make it possible for our district to continue offering enriched curricular experiences to our students and patrons.

It is my belief that Bandwidth and the Infrastructure to support students is a higher priority than Telecom and if it were possible, I would recommend that the Telecom portion of the funding be directed to schools in the nation to support improvements in Bandwidth and Internal Connections.

Sincerely,
Doug Worley,
Technology Coordinator/E-Rate Coordinator
Harrisburg School District
Harrisburg, AR
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Hillcrest School District

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Lynn, Arkansas 72440
Phone: (870) 528-3462
Fax: (870) 528-3766

April 5, 2013

To whom it may concern:

My name is Greg Crabtree and I am the Superintendent of the Hillcrest School District. The Hillcrest School District is located in rural Northeast Arkansas and consists of 300 square miles of farmland. Our school district has a density ratio of 1.25 students per square miles. According to the last National Census, our poverty index has more than doubled since 2008. We are located 30 miles in each direction from a Walmart, and 60 miles from any substantial employment opportunities for our patrons.

The reason I am writing this letter to you is to let you know that our district could not survive without ERate funding. Even with all of the disadvantages listed above, we are a very competitive school district in our region, and have students enrolling from other Districts around us.

A few years ago, I went to a Technology Conference and saw a presentation from a New Tech School. The concept caught my attention and I knew at that moment what I was hearing would work for the students at Hillcrest. I knew there would be challenges, but I knew our students deserved this opportunity. I immediately went back to campus and started telling the High School Principal. He also was sold on the idea and said, "sounds like Common Core on steroids to me."

We knew the first and largest challenge would be our bandwidth. At that time we were using 1.5 mb for our entire high school's bandwidth. We were constantly having issues and teachers and students were reaching the boiling point of frustration. We decided to use our stimulus money to overhaul our fiber which at the time was ancient. We connected all buildings on both campuses with 12 pair fiber and upgrade all switches inside each building. After the completion of that project, to get where we needed to be for New Tech, we completed a wireless internet for all buildings on both campuses.

The largest hurdle we knew was yet to come. How are we going to be able to afford to expand our bandwidth and be able to afford to maintain that expansion? We started working with the engineers from CenturyLink and Mrs. Becky Rains to cover the large part of the cost. After the first conversation with Mrs. Rains, we knew that ERate was the solution to allow our students this opportunity. ERate is currently covering approximately 80%, which is $48,000.00 per year of the $60,000.00 per year cost. Thanks to ERate funding we are now running 50 mb of bandwidth with the ability to expand to 100 mb in the future if needed.

To complete the success story, this week we have had Macbook Airs delivered to our campuses for every student in grades 3-12, and have been approved as a New Tech High School to begin next fall. You would not believe the excitement this has caused in not only within our district, but with parents of students from surrounding districts calling to explore the possibility of joining us next fall.

Hillcrest Elementary Principal
Shawn Rose

Superintendent
Greg Crabtree

High School Principal
Mike Smith