E-Rate Policy Brief

July 2013

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Introduction

It's time to bring our schools into the 21st Century.

President Obama offered that message when he traveled to Mooresville, NC, last month to announce "ConnectEd,"a proposal aimed at providing 99% of America's students with high-speed broadband Internet within the next five years.

There are several trends driving the need for a reformed and revitalized E-Rate program. First, broadband facilitates the connected learning environment critical for today's teachers and students. It brings together the ecosystem of curricular resources, learning tools, online courses, and other education systems that are being leveraged to improve teaching and learning. Second, new models of education, particularly online and blended learning, require significantly more broadband than traditional classroom models. Finally, the implementation of the online Common Core State Standards assessments being prepared by the Partnership for Assessment of Readiness for College and Careers and Smarter Balanced Assessment Consortium require schools to have enough broadband to accommodate large number of students using the network at a single time.

Acknowledging these needs, the Administration wants the Federal Communications Commission (FCC) to modernize the E-Rate program, which provides discounts to assist public and private schools as well as libraries obtain affordable telecommunications and Internet access. The program has helped provide basic connectivity, but has also grown in complexity while schools have needed faster broadband connections The FCC recognizes that, "education doesn't stop at the schoolyard gate or library door," but until now the E-Rate has been structured to support buildings — schools and libraries — not learning. This leaves emerging innovative models of education, such as blended and online learning, operating without the benefit of E-Rate support.

Given that the FCC voted unanimously to launch a rulemaking process to overhaul the program, we thought it useful to provide a short overview of the program and a discussion on what to expect in terms of the big issues to watch during the upcoming debate.

Universal Service and E-Rate Background

Let's start with the Universal Service Fund (USF).

Created in 1934, the USF was designed to make local telephone service available to all Americans at reasonable rates through various subsidies and discount programs. The intention was to lower the costs of services in high-cost areas, ensuring access to certain types of telecommunications services.

Funds for the program are generated from fees imposed on all interstate telecommunications service providers, who in turn typically pass the fee along to customers. A carrier's contribution is based on its end-user telecommunications revenue and the FCC's calculation of the USF's revenue needs.

The Universal Service Administrative Company (USAC) manages the collection of revenues from certain service providers and their reallocation back out through the USF programs. The USF is composed of four programs, and the Fund is composed of four subsidy programs. The Rural Health Care Program supports connectivity for rural

health care providers. The High-Cost Program subsidizes the build out of telecommunications infrastructure in rural and other remote areas where the costs of installing this kind of infrastructure are prohibitively high. The Low Income Program subsidizes telephone service for low-income subscribers.

The fourth program is the E-Rate Program, which was created by the Telecommunications Act of 1996 to provided $2.25 billion in discounts to assist schools (public and private) and public libraries with obtaining affordable telecommunications and Internet access. The level of discount that a school or library receives ranges from 20 to 90 percent, depending on whether the school is located in an urban or rural area and on the percentage of its students eligible for the National School Lunch Program.

Eligible services are broken out into two categories:

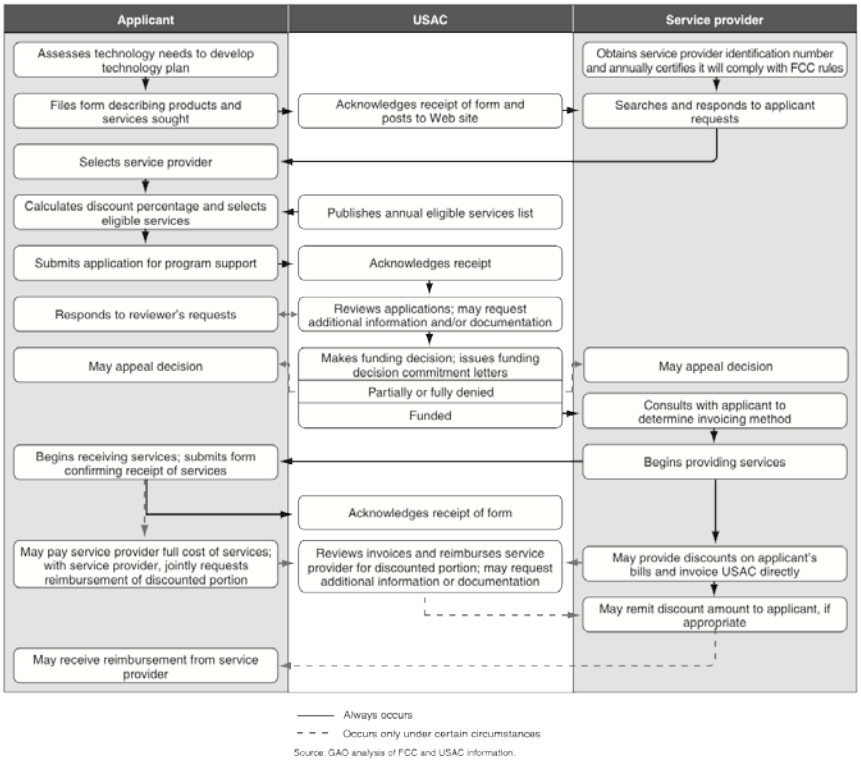
- Priority 1: Includes telecommunications services, such as local, long-distance and wireless telephone services, as well as leased high-speed data lines, Internet access, Web hosting, VOIP, and certain email services. Installation of these eligible services is also eligible.
- Priority 2: Often referred as "internal connections" which includes cabling, routers, wireless and video network components, as well as basic maintenance of internal connections, such as the repair and upkeep of eligible hardware and basic technical support.

Typically, all applicant Priority 1 services are approved and the remaining funds are allocated to Priority 2 services, starting first with the lowest income applicants and funding applicants downward through lower discount levels until the available funds are exhausted. The committed funds are held by USAC, which then either reimburses vendors directly for the discounted portion of the E-Rate-approved services that they provide, or reimburses the applicants if they choose to pay their invoices in full.

But to receive these funds, schools have to undergo, on an annual basis, perhaps the most complicated application process encountered. Here's a short, simplified summary of the process:

1. Create a Technology Plan for Priority 2 services
2. Open a competitive procurement cycle by Posting Form 470 to solicit bids on services an applicant is seeking to purchase
3. Wait 28 days, and then conduct a bid evaluation with the price of eligible services being the most heavily weighted factor
4. Select a provider
5. File Form 471 to formally request funding from USAC, provide vendor contract details, and show discount calculations

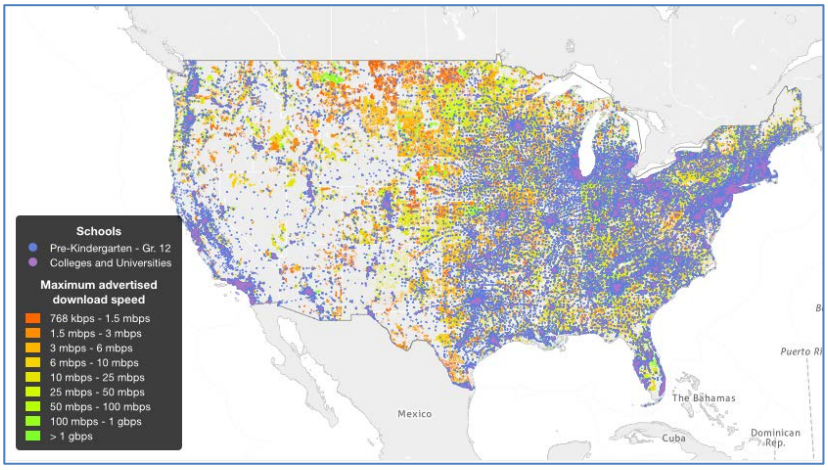
E-rate Application Process



6. File Item 21 Attachment to explain what specific services, speeds and quantities of services or equipment will be purchased
7. Receive a Program Integrity Assurance review where each application is reviewed for compliance with program rules
8. File Form 486 after funding has been committed to tell USAC that services are or will be provided and invoices may be paid, which certified entity has approved the technology plan, and that the applicant is compliant with all applicable Children's Internet Protection Act (CIPA) requirements
9. Submit Invoices to USAC
10. USAC reimburses the provider or the applicant, depending on whether the applicant received discounted invoices

In reality, the process and paperwork is much more complex, with applicants facing hundreds of pages of paperwork and juggling three different funding years at the same time. Browse through Virginia's guide to get a sense of what applicants actually face.

The State of E-Rate



Despite the hurdles, progress has been made. Since 1996, the E-Rate clearly helped schools acquire some of the basic connectivity needed to allow students to access digital services and content. Approximately 83 percent of public schools, 14 percent of private schools and 51 percent of public libraries participate in this program. We know from numerous data sources that basic levels of connectivity have reached most schools. According to the National Broadband Plan, 97 percent of schools are connected to the Internet, many due to E-rate support. A study by the National Center on Education Statistics found that by 2005, 94 percent of instructional rooms in public schools had Internet access and that 97 percent of public schools with Internet access used broadband services. The Broadband map also shows the level of connectivity available to schools in their communities.

However, the program has also grown in terms of complexity as it has struggled to keep up with technology advances and school needs. Some of the primary challenges include:

- **Complexity:** The process is long, complex, and exhaustive for applicants which, according to the U.S. Government Accountability Office (GAO), have led some eligible schools and libraries to not participate. For those that do participate, the challenge of managing the procurement, application process, post-commitment record retention, and audits, has required many to hire full-time staff and consultants. The GAO found that of the "approximately $33 billion in funding that was requested between 1998 and 2007 but that did not result in a funding commitment, about 23 percent was denied because applicants did not correctly carry out application procedures."

- **Demand Exceeds Available Funds:** Each year, more funding support is requested than what is available under the $2.25 billion cap. For funding year 2012, the demand was $5.237 billion – over twice the amount available. That year was also the first time in which $2.44 billion was requested for Priority 1 – an amount that exceeded the total available for the entire program; meaning that that few schools received support for internal connections. Funds for Learning has a useful graphic showing forecasted demand by discount band. As a result, schools are often receiving connectivity but not support for internal connections. The FCC's survey of E-Rate participants underscores this, with most respondents indicating that they did not receive E-Rate funding for internal connections (67 percent) or basic maintenance of internal connections (65 percent).

- **Undispersed Funds:** According to a GAO study, about $5 billion of the estimated $19.5 billion in E-Rate funds committed to schools and libraries from 1998 to 2006 were never used. Some applicants estimated the services cost more than they did, while others secured funding commitments but did not authorize the disbursements. This is a recurring problem. In May of this year, the FCC announced that $450 million in unused funds will be carried forward from previous years.

- **Eligible Services Are Convoluted:** USAC maintains a 55 page "Eligible Services List" that is updated annually by the FCC. The list tends to lag technology advancements and often forces USAC to make awkward parsing of eligible technology (for example, what percentage of a website's cost is eligible to receive support and what percentage is not). USAC periodically releases a Notice of Proposed Rule Making (NPRM) to consider modifications to eligible services. The NPRM is also released when they are considering major changes, such as in 2010 when leasing dark fiber was made eligible.

- **Next-Generation Models are Being Left Behind:** The E-Rate is structured to support *schools and libraries* not *learning.* As a result, a school can receive a discount but school models involving online learning or certain blended models, like the flipped classroom, operate under some uncertainty as to what is and is not eligible. A perfect test case is the largest online school in the country, the Florida Virtual School (FLVS), which submitted comments to the FCC in 2010: "So while the total telecommunications and ISP costs to support FLVS were more than $53 million in the 2008-09 school year, the E-rate reimbursement was only $5,237. In other words, while FLVS's entire instructional model is built around broadband, the E-rate only reimbursed 0.01% of the total broadband and telecommunication costs incurred by students, teachers, and the school." They go on to further argue that, "The definition of a classroom in the 21st century is much more far-reaching, and a student's mobile device will be a "classroom" no matter where they are accessing their education due to movement into the mobile space by virtual schools. Florida Virtual School is quickly moving into mobile education, and our students will soon take their classroom with them wherever they go." Any modernization of the E-Rate needs to better include these schools and models of learning. This is exactly the type of learning that E-Rate strives to support.

E-rate 2.0

The FCC launched a NPRM process through which they will solicit ideas and debate around reform. The process, as Whiteboard Advisors notes, includes a comment and reply period with a final rule emerging after all the input has been collected.

There are a number of clear areas where the E-Rate needs to be improved, strengthened and modernized to better meet the needs of today's students and teachers. Areas include:

- **Simplifying the Application Process:** GAO found that 40 percent of participants found the overall process of filing to be difficult. There is no reason for a program that is 10 times smaller than Title I to be 10 times more complicated in terms of the application process. It needs to be more streamlined, less resource-intensive, and provide more certainty to applicants in a timelier manner. Not only should the process be overhauled, but whatever emerges should be done completely online – from submitting the forms, to the processing, to the final reporting. The data collected should be made open using open data principles, not only for transparency but also to help support third-party research and analysis. This can help support work to identify pricing trends, unmet demand, and other needs across the country.

- **Focus Support on Next-Generation Technology:** Funds can currently be used to subsidize pagers and basic telephone service. The program should instead focus on the core broadband and infrastructure needed to support true digital learning and prepare schools for the assessments aligned to the Common Core State Standards.

- **Supporting Next-Generation Models of Learning:** The program should be about supporting learning not just schools. Online learning and blended learning models allow teaching and learning to occur at any time and place, as long as a connection is available. As the Broadband Plan states, "Education doesn't stop at the schoolyard gate or the library door. Digital textbooks and other mobile learning devices allow students to learn in a real-world context, inside the classroom and beyond. Because of their low cost and accessibility, these mobile devices can also help advance digital equity, particularly for children from economically disadvantaged communities." E-Rate should encourage this, but, unfortunately, instead, the current program cuts off support for learning when a child leaves the walls of a school or library.

- **Create Incentives for Joint Procurement:** The complexity of the application process has created a disincentive for group- and collaborative-purchasing, and as a result they are the exception, not the rule. Modernization offers a chance to create incentives for pooling together purchases to achieve higher cost savings.

There are already a number of proposals that have been teed up for consideration.

FCC Commissioner Rosenworcel, a former staffer for E-Rate champion Senator Rockefeller, has talked about an E-Rate 2.0 on several occasions and offered a plan to:

- Raise the funding cap.
- Set clear broadband capacity goals.
- Encourage public and private partnerships to develop more cost-effective technologies.

- Streamline the E-Rate application process.
- Encourage broadband adoption at the home, and study the effectiveness of school hot spots.

FCC Commissioner Clyburn has offered general principles for reform to:

- Provide schools and libraries with affordable access to high-capacity broadband.
- Ensure the administrative efficiency of the program.
- Revitalize the program, including better analyzing applicant data, considering how best to distribute funding fairly, eliminating support for outdated services, and reallocating any savings toward investments in more bandwidth.
- Engage state and local officials, foundations, network operators and innovators building the next generation of learning tools and content.

Commissioner Pai delivered one of the more detailed proposals thus far, to:

- Simplify the program including the introduction of a new two page form.
- Ensure fairer distribution of funding to allocate an E-Rate budget across every school so they know how much they are eligible for. Schools would receive money on a per-student basis and funds would follow students when they change schools.
- Focus on next-generation technologies for kids to eliminate the disincentive to spend money on connecting classrooms, and no more funding for stand-alone telephone service.
- Provide more transparency and accountability by creating a website where anyone can find out exactly how any school is spending E-Rate funds and adopting a Sarbanes-Oxley-like approach where a school district superintendent or school principal must certify that E-Rate funds were used to help students.
- Provide more fiscal discipline where schools would contribute at least one dollar for every three E-Rate dollars they receive, and cap the overall USF budget before any increase to the E-Rate budget may be considered.

The Leading Education by Advancing Digital Commission has proposed a five-point "blueprint" to:

- Solve the infrastructure challenge by upgrading the wiring of our schools.
- Build a national effort to deploy learning devices and courseware.
- Accelerate the adoption of a digital curriculum.
- Embrace and encourage model schools.
- Train teachers on the use of information and communications technologies.

Funds for Learning proposed a rebooted E-Rate that would:

- Increase annual E-Rate funding to $4.5 billion permanently, with an ongoing adjustment for inflation.
- Restore the original technology-neutral E-Rate framework by removing the “Priority System” funding cap.
- Place reasonable limits on the annual amount of E-Rate discounts available to any single applicant.

The State E-Rate Coordinators have also submitted a set of ideas for reform including:

- Focusing on broadband and phasing out basic telephone service over five years, and eliminating support for webhosting.

- Revising internal connections.
- Setting a maximum discount of 70 percent for Priority 2.
- Requiring that all applicants be scheduled on a rotating basis to apply for Priority 2 funding.
- Streamlining the forms and application process.

There are several other groups with ideas or proposals not yet made public, including Education Superhighway, which is known for their school speed test. Lynne Holt and Mary Galligan, from the University of Florida, also offered some ideas for a rebooted E-Rate last year. The Congressional Research Service also explored various ideas for reforming all of USF, not just the E-Rate, back in 2011. And, at Digital Learning Now! (DLN) we have been working with lawmakers, the Administration and the FCC on ideas for E-Rate reform and other mechanisms, such as broadband tax credits, to help accelerate broadband deployment.

In addition, the FCC launched a one-year competitive pilot program in 2011 that supported off-campus wireless Internet connectivity for mobile learning devices. The pilot, dubbed "Learning on the Go," provided $9 million in support for 35,000 students in 14 states, but only to 20 schools nationwide. The program was not extended for a second year, and the schools that were awarded funding in the pilot have had to pay for the full cost of the service after June 30, 2012 – a reason many schools didn't initially apply for the program. The question remains whether this pilot will become a permanent component of the E-Rate.

Looking Ahead

There are two striking things about the current debate. First, there is a unanimous agreement that the program needs to be reformed, modernized and simplified. Second, there are no calls for "ending the E-Rate," the way we have seen in the past. It is significant that the lone Republican on the FCC, Commissioner Pai, said, "At its core, E-Rate is a program worth fighting for" and offered thoughtful ideas for reforming it, not ending it.

The real areas of debate will be around what the E-Rate should pay for, how to best simplify the program, and how to best restructure the current discount bands.

That said, the most sensitive political issue facing the FCC lies with increasing the size of the program and how that growth will be funded. The $2.25 billion allocated to the E-Rate was a very rough guess 16 years ago, when the program was created. But both bandwidth and its cost have grown while the size of the E-Rate fund has remained essentially capped.

Lifting the cap raises difficult political and policy questions. The USF contribution system itself needs modernization, but that is a bigger issue than just E-rate reform. The USF contribution rate has more than doubled from 5.7 percent in 2002 to as high as 17 percent in 2012.

The challenge is that while the rate is technically not a tax (based on several court cases and according to the Internal Revenue Service), it has the same effect as a tax, and is regressive in the sense that low-income individuals pay the same rate as high-income. Reforming this mechanism is challenging and would require carefully balancing competing interests. Capping the fund would decrease the amount of subsidies available, particularly since it is based on a declining source of revenue. However, extending the funding base to other services might diminish broadband adoption by increasing the price of broadband services. Past efforts to reform

the E-Rate have vexed the Administration, Congress and the FCC. Most recently, the FCC launched a process last year to reform the contribution methodology only to later withdraw it.

How the FCC navigates any increased support for E-Rate will generate concern among various parties. Senator McCaskill has already suggested reallocating the $2 billion in the Lifeline program to cover additional E-Rate support.. Representative Walden has proposed capping the entire USF. Commissioner Pai has proposed essentially a "PayGo" policy which has secured the support of a number of conservative groups

These concerns are understandable when one considers stories about fraud, waste and abuse within the program, including a recent analysis of the entire USF that highlights fraud in the Lifeline program and several high-profile fraud cases that challenged the E-Rate program. Squeezing out the inefficiencies in these other programs could free up additional dollars for schools and libraries.

Funding an expanded E-Rate program also comes at a time of decreased federal support for education technology. While the Investing in Innovation Fund (i3) and Race to the Top District grant program have provided support for some innovation, the Administration has zeroed out the Enhancing Education Through Technology (EETT) grants. Had the program been fully funded, schools would have had more than $4 billion in additional dollars to spend on the technology not supported by E-Rate, such as devices, professional development, online courses and digital content. This is important because the E-Rate was considered to be a complement to EETT (and its predecessor, the Technology Literacy Challenge Fund).

Also, in seeking buy-in for these reforms, proponents of E-Rate reform run the risk of overstating the benefits of modernizing E-Rate. A historical look back shows us that while E-Rate helped accelerate connections, it didn't bring about the education transformation some had expected. In 2005, Austan Goolsbee, who later became one of President Obama's top economic advisors, examined California data and found that the E-Rate did not lead to improved school performance. Even excluding test scores, he found, "For the few non-test outcomes we have, though, such as the probability of taking advanced classes, the share of graduates going into the UC system (i.e., the system with higher standards), and the overall dropout rate, we found no significant impact of Internet connections on performance." And, while he found a positive correlation to schools using the program to adopt Internet connections, he noted that "the E-Rate legislation was passed in the midst of a strong upward trend in the fraction of schools with Internet access. Thus, even in the absence of the federal subsidy, many school districts would likely have chosen to make Internet investments."

Recent device studies have found the same. Ulrich Boser, from the Center for American Progress, authored a thoughtful study examining student use of technology and found that it was being used in basic, not transformative ways. A recent paper from the National Bureau of Economic Research also examined home access to computers using a rigorous, randomized control study design and found, "Although computer ownership and use increased substantially, we find no effects on any educational outcomes, including grades, test scores, credits earned, attendance and disciplinary actions."

None of this is surprising for those of who are engaged in advancing digital learning. Devices and connectivity alone do not compose new models of learning. Rather, the transformative power of technology comes when schools are redesigned around the flexibilities and possibilities offered by connected learning environments. That is where we see powerful models emerge, such as New Classrooms, Rocketship Education, Carpe Diem, Pennsylvania Hybrid Learning Initiative, or the Quakertown Community School District.

When President Obama traveled to Mooresville earlier this month, he chose an example of a school transformed not by technology but by the culture and model created by a visionary superintendent. The lesson from Mooresville isn't the power of broadband. Rather, it is how a dynamic leader can facilitate transformation of school model and culture. As AEI so succinctly put it, "ConnectED won't guarantee a Mooresville miracle." Leadership and school redesign generated this student success. Mooresville's academic performance catapulted from 109th to the second-highest-performing district in the state (while 99th of 115 districts in state funding). At the same time, Mooresville's graduation rates skyrocketed from 64 to 90 percent and third-grade reading scores jumped to 94 percent on grade level (African-Americans to 92 percent; Hispanic students to 91 percent). This conversion process is outlined in Dr. Edwards' book *Every Child, Every Day* (with a forward by DLN founders Gov. Jeb Bush and Gov. Bob Wise).

Mooresville demonstrates that the access challenge can be solved by thoughtfully reallocating resources. As of 2012, the district ranked 100th out of 115 school districts in North Carolina in per-pupil expenditures, spending less than $7,420 per student – far less than the national average. And the connectivity costs are more affordable due to a unique public-private partnership facilitated by the State government that also leverages E-Rate support.

As leaders in schools, government and policy begin taking up the important task of modernizing E-Rate and bringing it into alignment with the present needs of our schools and children, they would be wise to take another trip to Mooresville, Rocketship, FLVS, or Guilford County Schools and look past the shiny new technology to get down to the deeper roots of what makes connectivity successful. In the end, it is about deeper learning, better teaching and a more dynamic education environment.

We have a moment in time to modernize the E-Rate to ensure it works for our schools, libraries and students. More important, it offers us the opportunity to ensure it will accelerate the next-generation models of learning that we know can boost student achievement and deliver the high-quality education that all students deserve.

About Digital Learning Now!

Digital Learning Now! is a national campaign under the Foundation for Excellence in Education (ExcelinEd), with the goal of advancing state policies that will create a high-quality digital learning environment to better equip all students with the knowledge and skills to succeed in this 21st-century economy. The policy framework stems from the belief that access to high-quality, customized learning experiences should be available to all students, unbounded by geography or artificial policy constraints.