Before the
**Federal Communications Commission**
Washington, DC 20554

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| In the matter of:<br><br>Comment Sought on Broadband Needs in Education, Including Changes to E-Rate Program to Improve Broadband Deployment NPB Public Notice #15<br>Adopted: November 3, 2009<br><br>Schools and Libraries Universal Support Mechanism | GN Docket Nos. 09-47, 09-51, 09-137<br>CC Docket No. 02-6<br>WC Docket No. 05-195 |

**COMMENTS OF ENA (Education Networks of America, Inc./ENA Services, LLC)**

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## SUMMARY

ENA, consisting of Education Networks of America, Inc. and ENA Services, LLC, is a top provider of Internet Access and Telecommunications Services through the E-Rate program. ENA has been involved in the program since its initial filing year in 1998 and has significant experience with schools, libraries and large consortium filings.

ENA appreciates the opportunity to comment on the matters raised by this NPRM and intends to focus its comments on issues that are more specific to vendors and rely on applicants to provide specific examples and discussions on funding needs.

ENA believes strongly that the E-Rate program has driven technology adoption including broadband to schools across the country. As a nationwide service provider focused on broadband and related technology, ENA has either provided service to or discussed service options with most of the state education networks and many of the largest school systems. ENA promotes growth to higher end broadband services across its markets and works with over fifty (50) underlying service providers to deliver 10 mbps broadband service to a significant number of our customers including broadband to over 900 locations and growing in Tennessee (over 2/3 of the schools in TN have 100mb connections in place or in process). This level of broadband penetration has grown from a base of an ISDN line to each school when the program began in 1998.

ENA believes strongly that the combination of school district desire for higher broadband services, vendor focus on development of broadband for school districts and E-Rate funding can lead to the provision of higher level broadband to almost every district across the country. While local funding remains an issue for some districts, there are too many examples of successful higher capacity broadband projects in high cost districts to suggest that funding cannot be found for such projects within the boundaries of the current E-Rate disbursement methodology. To change the methodology now to benefit those that have been unwilling to participate to date does not seem necessary.

However, ENA is fully supportive of efforts to raise the funding level beyond the $2.25 billion which was originally determined in 1998. At a minimum, an inflation-based system should be considered. In addition, evaluation of changes to allocation of available funds for internal connections should be considered as all but the highest discount systems are without funds to support wiring – an effect that has increased over time as the amount of Priority One recurring funding has increased – mainly to fund broadband.

ENA is also strongly in favor of extending and/or adjusting the definition of education purpose to allow community access to schools connectivity outside of school hours. If schools are connected at higher capacity broadband that access is going to waste if not allowed to be used after hours for education and/or community purposes. For E-Rate funding to deny use of bandwidth at a school facility after hours does not reduce the cost of service to the E-Rate program and as long as the cost does not increase to allow such after hours use, there is no harm and much good in allowing community access consistent with what would be allowed for a library or other education centric community activities. Access should be controlled similar to how schools control access to their facilities for all other matters.

Specific comments to NPRM questions –

**BROADBAND DEPLOYMENT DATA**

1. We seek information on the current state of broadband connectivity, device availability, and adoption in U.S. schools and classrooms.

b. Although kilobits/device, kilobits/classroom, kilobits/student and devices/student are metrics to consider, what metrics should be used to measure an effective balance of network, hardware, application development, training, and adoption? Please include comment on metrics, benchmarks, and results against benchmarks.

ENA Comment – ENA's experience suggests that a measurement of kilobits/student or kilobits/computer will show that most schools, even ones with T-1 connectivity, have average levels of access far below what home users would consider acceptable. For example, a school with 100 computers would need at least 100 mbps of service to come close to matching most home DSL and cable modem service. While ENA recognizes that this analysis is unsophisticated given that not all computers/students are accessing the Internet at exactly the same time, ENA believes that some common sense minimum standards can be developed that are base levels for effective usage.

ENA has seen throughout its history of providing Internet Access that usage will drop if the speed is ultimately too slow to be useful for classroom instruction. ENA has seen numerous examples of large increases in utilization upon provisioning of higher level broadband even when utilization was not that high on existing service. ENA believes there is significant pent-up demand that does not manifest itself in usage of a current, slow solution as the teachers will abandon use of the technology until the speed is available.
ENA is also in agreement with the recommendations provided in the State Educational Technology Directors Association (SETDA) White Paper, "High Speed Broadband Access for all Kids, Breaking Through the Barriers", which concentrated on broadband needs for K-12 schools.

**COMMUNICATION AND VIDEO SYSTEMS**

8. We seek comment on implementation of other online applications in schools and school systems.
a. How have communication tools like instant messaging and online video conferencing supported instructional program implementation?
b. Where have live video streaming programs been implemented to scale?

ENA Comment – ENA has experienced and continues to see significant growth in online learning delivered over networks including online video conferencing and live video streaming programs. These programs have become a cost effective way to bridge gaps in qualified teacher availability and delivery of remedial instruction and credit recovery as well as higher level instruction such as advanced placement and college preparatory courses. ENA expects that the applicant community will provide numerous specific examples of success stories in these areas.

ENA believes that the E-Rate Program's broadband initiative will have a dramatic effect on extending learning opportunities through these types of communication and video systems. In addition to extending opportunities, the cost of a higher end broadband circuit that can benefit an entire school is typically much less expensive than adding even one full-time qualified teacher. While ENA does not advocate full scale reliance on distance learning solutions over use of in-class teachers, the ability to address teacher and funding shortages is very compelling and the E-Rate program is advancing many fronts just in this area.

**INNOVATION IN BROADBAND AND ONLINE SYSTEMS**

10. We seek comment on opportunities for government to support innovation in the education technology sector, both in terms of driving innovative program and product development, as well as driving adoption.

b. What are the opportunities for government in setting technology standards?

ENA Comment – Given the high levels of competition and technology change inherent in broadband and online systems, we believe that the market is the best regulator. Local school systems and state departments of education typically have standards for their networks and other technology programs that work for their area and situation. Adding another layer of government standards could create more cost and delay in innovation.

If federal technology standards are desired, they should be optional guidelines rather than requirements.

From a broadband perspective, setting of federal guidance regarding encouraged minimum levels of connectivity could be valuable to assist local technology staffs to convince local funding authorities to support the additional funding necessary to support broadband increases.

d. What are the opportunities for the government to support research and development to drive innovation to the education technology market?

ENA Comment - The FCC and E-Rate program could consider grant programs similar to the BTOP program to drive innovation. However, any such program will likely be very costly to administer as decisions will require evaluation of potential of certain projects – which is always difficult. We suggest the FCC examine currently available research and development incentives and adopt and/or adapt such existing programs to encourage education technology efforts. It is likely that certain programs already exist that could be leveraged with minimal changes and with publicity, support and training from the FCC/SLD.

**E-RATE MODIFICATIONS**

11. As part of the national broadband plan, we seek comment on how the Commission can modify the Erate program to more effectively meet the needs of applicants as well as whether the program can be a vehicle to stimulate the adoption of broadband throughout communities. For example, in Portugal researchers have found that the usage of broadband in schools creates a “spillover” effect that leads to greater broadband adoption in the community as students increase their Internet usage at home and transfer their technology skills to other family members.

a. Currently, schools and libraries may obtain discounts on various services that provide high speed access to the Internet as telecommunications and Internet access (priority 1) services. We are aware that applicants may characterize their funding requests according to terminology used on the eligible services list, such as DSL, “internet access via cable modem,” ATM, frame relay, T-1, T-3, Ethernet, OC-3, OC-12, ATM, “internet access via fiber optics,” etc. We seek information that would enable us to better understand at a more granular level what broadband services eligible applicants are buying today. Overall, what percentage of priority 1 funding is subsidizing broadband services at what speed levels, and what percentage is subsidizing basic voice service (wireline or wireless)? Can we segment the applicant community that receives discounts on higher capacity broadband services based on specific characteristics (such as number of students, rural vs. urban, discount level, etc.)?

ENA Comment – ENA is experiencing continued growth in higher capacity broadband deployment. We expect to see this trend continue as reliance on broadband for classroom instruction and administrative efficiencies continues to grow. For ENA's Priority One filings, more than 50% is for higher capacity broadband and that percentage continues to grow.
ENA's experience indicates that higher capacity broadband services cannot be segmented by any specific characteristics. ENA has seen broadband significantly deployed in rural and urban environments, in high and low discount environments and basically in every segment. The barriers to broadband growth are typically from lack of underlying provider service availability rather than any other factor. Location seems to be the key; however, with programs such as BTOP and the general growth in commercial and residential Internet usage, areas that could not be reached with fiber three or four years ago are starting to have availability. As an example, in the last twelve months, ENA has successfully utilized more types of providers than ever before including a rising use of local utility companies. Service providers recognize the potential for higher capacity broadband and are continuing to expand coverage including into previously unserved or underserved areas. As a K-12 focused provider, ENA has been very successful in getting these providers to include K-12 in their plans – many times as an anchor tenant on a new fiber deployment.

c. We seek comment on program modifications to maximize the use of broadband connections that are subsidized by the E-rate program. Recognizing that the statute requires that discounts be provided on services used for "educational purposes," we seek information on whether, and if so, how, past interpretations of the "educational purposes" requirement have restricted demand aggregation at the community level to support higher capacity broadband. For example, the program could be modified to allow for use of broadband facilities at schools by the general community, rather than just by school faculty and students. We seek specific examples of whether and if so, how, expanding the permissible use of E-rate supported services could confer benefits to a larger community or encourage partnerships with private or public organizations to pool resources to maximize broadband utilization. What practical or operational impact would such a change have?

ENA Comment – ENA strongly supports the modification of program rules to allow the use of available bandwidth at schools by other community programs after hours. At a minimum, schools should be allowed to provide library-like community access when schools are not in session. As the schools have paid for ongoing connectivity, if the FCC wishes to maximize value of what they have funded, it would be prudent to allow such additional usage without E-Rate penalty. Currently, school systems are penalized for expanding their programs to encompass after hour programs – even for their own students and communities – such treatment reduces the impact of the E-Rate program and restricts broad adoption of Internet services.

Regarding pooling of funds to purchase connectivity services, there is no current prohibition on such behavior; however, many applicants are fearful of losing E-Rate funding due to a mixed use of services. Cost allocation is a currently allowable remedy to share such connectivity resources (albeit without e-rate support for community usage). Encouragement of such sharing practices through outreach and training may increase the desired behavior in addition to rule changes on E-Rate eligibility.

The practical and operational impact of the change would primarily be in promulgation of new rules defining what usage is now eligible and review and enforcement activity to protect the program from the fringe elements who would attempt to abuse the new standards. At a minimum, the FCC should propose a specific set of new standards for education purpose eligibility and allow comment and

discussion on those specific standards including discussions of the FCC treatment of numerous real world examples. Among the possible issues to address would be – (1) can schools increase their bandwidth and to what extent without the increase being considered solely for the non-school usage; (2) what additional documentation must be maintained by schools to support the eligibility of community usage; (3) what CIPA standards apply to community usage; (4) are funds contributed by other eligible local programs considered part of the school's local funds and if so, does the FCC need to adjust any rules related to resale of E-Rate supported services; (5) does afterhours bandwidth usage require on-premise usage or can remote access be supported – this could represent a move into home access which is currently ineligible; and (6) do any security standards need to be required to protect student information or other school data and is that an FCC matter or a local matter.

d. We seek comment on any legislative changes that would expand the classes of eligible users. For example, the statute currently limits E-rate support to elementary schools and secondary schools, which are defined by each individual state. What would the impact of modifying the statute to permit colleges, community colleges, pre-kindergarten, Headstart, or other entities to participate in the E-rate program?

ENA Comment – ENA is in favor of an expansion of the E-Rate program to the extent that additional funding is provided in order to protect existing users from loss of funding or acquiring increasing levels of connectivity as needs demand. College participation would create a dramatic new dynamic and need for funding including evaluation of residential dormitory usage vs classroom usage. Full evaluation of such participation may require incremental NPRM or other discussion mechanisms. Evaluation of existing funding sources for college bandwidth, determination of appropriate discount mechanisms and evaluation of public versus private institution treatment would have to be performed.
Pre-K and Headstart are currently treated in a different manner based on state law (along with juvenile justice and adult education). Ultimately the demand for broadband services in these programs is smaller than other possible applicants (due to age of student for pre-k and head start and due to type of program for adults and justice students). Therefore, we would be in favor of rule changes to allow these types of entities eligibility regardless of state law. As a vendor, we note significant review efforts placed on pre-k and adult education eligibility during PIA review, well in excess of the potential program dollars that might be spent on those ancillary educational programs.

f. Currently, WANs are not eligible for support "to the extent that states, schools, or libraries build or purchase a wide area network to provide telecommunications services. Would modifications to this rule regarding WANs, which link schools and libraries within a district or link several school districts together, result in greater broadband deployment?

ENA Comment – We do not believe that modification to the rules regarding WAN ownership would result in greater broadband deployment. Today's program allows numerous methods for states, schools and libraries to cost effectively acquire telecommunications services. Numerous vendors and connectivity options exist typically with significant competition during procurement cycles. Many issues would arise including funding for related ongoing operations staff, availability of qualified technology staff to operate single purpose, government owned WANs, and availability of funding to provide proper maintenance on owned WANs (maintenance of school property tends to be an area that is neglected when budgets become tighter). We believe that such issues would likely contribute to a less cost effective solution.

h. We seek comment on these ideas and on other suggestions for changing E-rate eligibility to improve broadband deployment.

ENA Comment – One area that has not been touched by the NPRM is home access for students and teachers. This is another area where the E-Rate program and the universal services fund methodology could provide great value. If the FCC does not address this portion of the overall broadband need, an important part of the broadband puzzle will be left open.

While determining the proper funding ratio and mechanism could be difficult, the various universal service programs could be expanded to consider Internet Access/broadband as a covered service to all populations. One method to do this would be to add broadband access to the universal service fund programs that impact residential service (high cost, low income and perhaps rural healthcare). The E-Rate program is not designed to impact residential users but the other programs are expected to make such an impact. Allowing high cost program to help expand broadband into communities would improve access to residences as well as schools. Expanding the low income program to broadband would allow more to afford the available services. The low income program could include an extra incentive to households with K-12 students and could be promoted through the SLD and local schools and libraries.

**E-RATE DISBURSEMENT**

12. We seek comment on how changing the E-rate disbursement and discount methodology might maximize the deployment of broadband.

a. One possible modification would be to create a new priority level for schools and libraries that do not have broadband or that have extremely slow Internet speeds to permit those entities to receive funding in advance of other eligible requests, which could enable such entities to "catch up." An alternative would be to provide increased E-rate discounts for entities that wish to implement certain levels of connectivity. We seek comment on other methods by which the Commission could implement such changes, if they were proposed.

b. Currently, the program's funding varies for applicants based on the number of their students who qualify for free or reduced lunch and based on their geographic location. Using this measure, discounts range from 90 percent to 20 percent of the pre-discount price for eligible services, with the poorest schools receiving funding to pay for 90 percent of eligible services.

Some rural schools receive additional discounts. The Commission could recalculate these Erate discount levels to factor in not just poverty and whether the school is located in a rural area, but also whether the entity lacks broadband services. In addition, the Commission could change its priority structure to give preference for those schools that have not received funding for internal connections in several years. We seek comment on the extent to which schools that have not received funding for internal connections (Priority 2 funding) need to improve their internal connections in order to most efficiently use their broadband connections now and in the future.

ENA Comment – It has been ENA's experience that school systems from all segments, rich or poor, rural or urban, have been able to use the E-Rate program as currently structured to invest in high capacity broadband. We believe that the program does not need to structure new incentives to the detriment of other applicants related to Priority One funding. The structure is there to get the service in place. The desire of applicant and vendor community to make it a priority is typically the barrier to those still at less than high capacity broadband.

Regarding Priority 2 Internal Connections, our opinion is different. Due to the growth in higher capacity broadband and the lack of increase in overall E-Rate funds available, the amount of funds for P2 has steadily decreased creating a scenario where late adopters of broadband have less access

to such funds to upgrade their internal networks than early adopters. Additional P2 funding availability for sites without higher capacity broadband would be valuable and potentially create a more equitable funding landscape due to the increasing shortage of P2 dollars.
Another way of addressing the P2 allocation is to reevaluate the 2 out of 5 rule, which does not seem to have impacted the use of such funds as the same large urban systems seem to continue to get the majority of the P2 dollars at 90% each year. One possible mechanism is to require P2 filings to be made based on the district average discount rate rather than the site specific discount rate eliminating the potential for larger districts to file substantial applications for just their 90% schools even though their overall district discount rate is much lower. More study on the efficiency and equitable allocation of P2 funds might be valuable to reach the FCC's goals related to equitable funding and broadband.

c. To what extent have current rules inhibited the development of or expansion of existing state, regional or local broadband networks? Are there changes to the Commission's rules that would facilitate these types of networks?

ENA Comment – State, regional and local broadband networks continue to grow across the country. Geography and population distribution tend to be the largest factors impacting where fiber is deployed and not current FCC rules. Other than general simplification of E-Rate rules designed to encourage even broader participation by vendors, ENA does not have any specific suggested changes that would facilitate these types of networks. Expansion of education purpose definition, increased E-Rate funding levels and other suggestions made in these comments would have the biggest impact on broadband expansion.

d. If the Commission established a national broadband goal for schools or libraries, what effect would that have on demand for E-rate funding?

ENA Comment – While ENA cannot predict specifics on E-Rate funding demand, history has shown that the demand for higher capacity broadband is growing as indicated in the continuing growth of Priority One funding requests. ENA expects that establishing a national broadband goal would provide reason for late adopters of broadband to move forward and further grow the need for Priority One funding. Other programs such as BTOP will have more of an impact on funding demand as the BTOP program buildout of infrastructure will directly increase broadband availability to schools and libraries at affordable recurring service prices supported by E-Rate funding.
The E-Rate funding limit must increase at least at the pace of inflation as recommended by Congress and most likely to higher levels to reach national broadband goals.

e. We seek comment on these issues as well as other ideas to modify E-rate disbursements and discounts to maximize the deployment of broadband.

ENA Comment – The FCC should continue to evaluate the efficiency of its program rules. Significant funding is being spent on administration and audit programs which appear to be excessive and potentially wasteful. The lack of information available to applicants and vendors in the name of program security leads to inefficient reviews and delays that could be resolved with involvement of the applicable applicant or vendor. The SLD has implemented the HATS program designed to allow SLD and applicant or vendor to meet and address mutual concerns. Such

programs are laudable and should be expanded. Greater transparency and due process in the program would contribute to increased success.

We recommend that the FCC evaluate the due process aspects of program compliance with an emphasis on making the program more accessible to applicants and vendors. Unpublished additional administrative processes to gain E-Rate approval and E-Rate payment are a burden to applicants and vendors may create waste in the name of protecting the program. Such processes need to be reviewed and modified or eliminated.

**E-RATE FUNDING**

13. We seek comment on the implications of modifying E-rate funding to support additional broadband deployment and how changes to the E-rate program would improve the ability of the program to meet applicant needs for broadband.
a. To what extent does the annual E-rate funding cap of $2.25 billion limit the extent of broadband deployment by eligible schools and libraries? What are the financial or programmatic implications of increasing the cap to fund additional services not currently covered by E-rate? What are the implications of indexing the cap to inflation? Would there be specific implementation issues that would arise related to such changes?

ENA Comments – The continuing rise of P1 funding requirements due to higher capacity broadband deployment to date coupled with the lack of funding cap increase has stretched the E-Rate program to the point where Priority 2 funding will vanish and Priority 1 funding will be rationed in the next few years. If the $2.25 billion cap is not raised, universal deployment and adoption of broadband will most likely not occur especially given the percentage of hard to reach, higher cost locations that remain without broadband and the demand for increased services as schools continue to integrate broadband usage into classroom instruction and administrative functions.
Indexing the cap to inflation is one mechanism to gain an increase and could be a retroactive starting point; however, the rate of growth in Priority One funding demand should also be considered as a measure for indexing the fund. One implementation issue that is readily apparent is the very low inflation we have seen over the past two years during the slow economy.

e. Would eliminating some of the services currently eligible and expanding eligibility to other services result in greater levels of broadband connectivity? Commenters should specifically articulate how proposed changes in the eligible services list would enable greater broadband deployment.

ENA Comment – Broadband access includes both access outside the school district and library system and access across WANs between schools and libraries. Currently, the E-Rate system allows unregulated Internet Access providers to deliver only broadband access that meets the definition of basic internet access while restricting provision of broadband “data” circuits between schools to telecommunications providers. The physical circuit providing either “data” or internet is exactly the same. The original E-Rate order appears to indicate that only telecom providers are allowed to provide “data” circuits as the ruling considered there to be enough competition between telecoms for the data services to satisfy program competition rules.
ENA asserts that competition for broadband access delivery would be increased and service costs decreased if both regulated and unregulated providers were allowed to provide “data” circuits under the E-Rate program. The ISPs can provide the exact same “data” circuit legally to any customer;

however, if they try to sell that circuit to a school or library, the E-Rate program will consider the service ineligible and effectively eliminate the ISP from providing those services cost effectively. This artificial barrier to competition existing only in the E-Rate program should be removed to provide applicants with more options for broadband service whether “data” or internet.

## CONCLUSION

ENA appreciates the opportunity to comment on the matters raised by this NPRM. This NPRM, centering around broadband needs in education, provides the opportunity to make tremendous improvements in the program. ENA strongly believes that the FCC can make positive changes to increase funding available under the E-Rate program, maximize value of E-Rate funding through modification of education purpose rules and therefore, expand access to broadband. ENA further believes that the current program funding structure has allowed a large segment of all types of schools and libraries to obtain higher capacity broadband and, with the exception of access to Priority 2 funds, does not require significant modification.

Respectfully submitted,

ENA
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