

Before the
Federal Communications Commission

In the Matter of)
)
Broadband Needs in Education, Including) GN Docket Nos. 09-47, 09-51, 09-137; CC
Changes to E-rate Program to Improve) Docket No. 02-6; and WC Docket No. 05-195
Broadband Deployment)
)

Reply Comments RE: NPB Public Notice #15

Submitted by:
The Software & Information Industry Association (SIIA)

December 11, 2009

On behalf of the Software & Information Industry Association (SIIA), I write in response to the Federal Communications Commission's NBP Public Notice #15 seeking reply comments on "Broadband Needs in Education, Including Changes to E-rate Program to Improve Broadband Deployment" (GN Docket Nos. 09-47, 09-51, 09-137; CC Docket No. 02-6; and WC Docket No. 05-195). We appreciate this opportunity to comment on these important issues.

The Software & Information Industry Association (SIIA) is the principal trade group of the software and digital content industry, representing more than 500 high-tech companies. Many SIIA members develop and deliver digital content, software applications and related services over the Internet, and therefore rely on robust and reliable user Internet connectivity necessary to access those products and services. This includes the many SIIA members partnering with K-12 schools, colleges and universities, and other educational institutions to provide educational software, digital curriculum, online services and related technologies. For further information about SIIA, visit www.siaa.net.

SIIA views high-speed broadband access and connectivity as critical to a 21st century education system, and to providing educators and students with access to the technology-based tools and resources needed for teaching and learning in today's digital age. These online tools and resources include assessment, data systems, distance learning, digital content, instructional software, communication and collaboration tools, professional development communities, and other software applications hosted and delivered online. Our K-12 education system has made important strides toward a technology-rich teaching and learning environment, including through the help of the critical and effective federal E-rate, but much progress remains to be made in our practices and technology infrastructure and access.

Following are SIIA's specific responses to many of the questions posed by the Commission in its Notice.

BROADBAND DEPLOYMENT DATA

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

FCC 1a: We seek statistics on the current state of network connectivity as well as information on technology deployment projects that address connectivity, access, and adoption.

SIIA does not have formal statistics on broadband connectivity and technology adoption in U.S. schools and classrooms, but SIIA does have significant anecdotal information from the point of view of SIIA member providers of educational software, digital content, online learning and related electronic education products and services. While the nation has made significant progress, due in large part to the E-rate and other federal investments, student (and educator) connectivity and access remains very inadequate to meet our educational needs. SIIA members find most school districts, schools and classrooms without sufficient broadband connectivity to support robust implementation of their online products and services, such as data applications, online assessment, video and courseware. Unfortunately, device availability is also inadequate to provide ubiquitous student access to these online applications and resources, somewhat masking what would otherwise be an even greater gap in connectivity.

Most SIIA member providers of applications and services have been forced to take one or more of the following steps to compensate for inadequate school connectivity and device availability:

- modify their instructional model to one based on shared and limited device access, including those that are less than ideally based around computer labs and group learning;
- modify their instructional and technical design, including reduced use of multi-media and reliance on plug-ins that limit display and interactivity; and/or
- install caching devices and other technologies in the district or school to limit reliance on connectivity.

In most cases, these remedies reduce quality and effectiveness, and often increase installation and support costs for vendors and the education system. In some cases, school officials restrict or reject applications that require high-speed bandwidth such as video streaming.

FCC 1b: 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.

SIIA believes that the time has passed to ask “if” technology in education, and now the question is “how.” Technology is no longer a nice-to-have supplement, but instead a must-have platform for teaching and learning, for curriculum and instruction. SIIA believes the time has come for all school agencies and educational institutions to move aggressively to ensure ubiquitous student and staff access to a robust, web-based platform of applications, content, tools, data, training and other resources and services, including high speed broadband.

SIIA recommends that the Commission (and the Universal Services Access Board – USAC) – especially for purposes of measuring impact and effectiveness of the E-rate program and related

federal broadband initiatives – should remain focused on access and connectivity metrics that are most directly related to its expertise and regulatory authority, including the size and quality of that connection to the classroom, device and student.

SIIA recognizes and supports consideration of an array of metrics to measure the impact of technology in education, but recommends that the Commission and USAC not measure other metrics related to educational goals. Instead, those metrics and benchmarks of progress should be determined by and left to educational agencies and institutions based on their unique local goals and needs.

Further, SIIA urges against using educational achievement or other student educational outcomes as a metrics for connectivity and technology infrastructure. Doing so would be akin to using student test scores to measure availability and quality of the school building, chalkboard or pencil. Internet access is a prerequisite baseline, but impact depends on how that access is leveraged. Educational metrics are best used to measure technology-based applications, including software and services delivered online.

In addition, SIIA recommends against the Commission using other technology related measures such as devices per students or application deployment, as these are not generally funded by E-rate and broadband, are beyond the scope of the Commission’s expertise and jurisdiction, and are far more subjective. For example, students-per-device fails to appreciate the growing diversity of device types and their varying functionality.

As a side note, SIIA notes that “application development” is not an appropriate metric in any case, and suggests perhaps the intent was application “deployment,” assuming application is broadly defined to include the full range of technology-based resources such as software, digital content, online learning, etc.

SIIA makes the following additional observations and recommendations:

- Broadband, at least with regard to K-12 educational institutions, is best measured in kilobits per person (students and staff), and the goal should be an external Internet connection of at least 10 Mbps per 1,000 students/staff and an internal WAN connection of 100 Mbps per 1,000 students/staff, growing in the next 5 years to at least 100 Mbps for external connection and a minimum of 1 Gbps per 1,000 students/staff for internal WAN connections. SIIA previously made this recommendation to the Commission in comments filed on September 4, 2009 in the matter of “A National Broadband Plan for Our Future,” GN Docket Nos. 09-47, 09-51, and 09-137, along with the Consortium of School Networking (CoSN) and the International Society of Technology in Education (ISTE). SIIA is concerned with the broadband definition proposed in the recent first-round Notice of Funds Availability (NOFA) by the National Telecommunications and Information Administration (NTIA) to implement the Broadband technologies Opportunities Program (BTOP). The NTIA adopts a single definition of broadband (768 kbps download) that is inadequate for multiple user environments such as schools and libraries and to support the bandwidth intensive educational content and services they seek and use.

- In SIIA's Vision K-20 (<http://www.siiia.net/visionk20/>), SIIA has identified several key metrics to measure progress toward meeting the goals that technology can help all education institutions: meet the needs of all students; support accountability and inform instruction; deepen learning and motivate students; facilitate communication, connectivity and collaboration; manage the education enterprise effectively and economically; enable students to learn from any place at any time; and nurture creativity and self-expression.

SIIA provides these as background information, but would strongly urge against the Commission or USAC employing these as E-rate or broadband access metrics for the reasons stated above. Instead, these are best used to provide a rough snapshot of our national progress and for individual agencies, institutions and educators to benchmark their progress.

The SIIA Vision K-20 metrics are built around the following benchmarks, and measure to what degree the following exists in an educational institution for educators and students:

1. 21st Century Tools
 - ✓ Educational content is delivered flexibly in digital formats, media and platforms
 - ✓ Interactive, adaptive, multimedia courseware and simulations are used in teaching and learning
 - ✓ Information systems provide digital student and achievement data that support instructional decisions by educators and administrators
 - ✓ High-speed broadband access is available for robust communication, administrative and instructional needs
2. Anytime/Anywhere Access
 - ✓ High-speed broadband access enables instructional uses that include collaborative learning, video-based communication and other multimedia-rich interactions
 - ✓ An institution website/portal provides the education community with access to applications, resources and collaboration tools
 - ✓ Ubiquitous, reliable access to resources and services is available through a multitude of mobile devices and access points
 - ✓ Online courses ensure all students have access to high-quality instruction, no matter their location or schedule
 - ✓ Access to online professional development resources, courses and peer collaborative communities is provided
3. Differentiated Learning
 - ✓ Students have access to courseware and technology-based curriculum
 - ✓ Electronic instructional resources and online tutoring are accessible to all students
 - ✓ Courseware and learning management systems differentiate instruction
4. Assessment Tools
 - ✓ Personal ePortfolios travel with students to demonstrate a wide range of skills and knowledge
 - ✓ Computer-based or online assessments are used to inform instruction
 - ✓ Technology-based assessments measure a full range of 21st Century skills and knowledge

5. Enterprise Support

- ✓ Information systems track performance and institutional data for educational accountability and decision making
- ✓ Educators have access to the level of technology resources, training and support common to other professionals
- ✓ Robust enterprise applications and systems are in place to support institutional management and business activities
- ✓ Institution leaders use technology tools for planning, budgeting and decision making
- ✓ Security tools are used to protect student data and privacy

FCC 1c: What are the specific barriers to increased broadband deployment and usage for schools and libraries? Is lack of physical facilities, including, e.g., complete wireless coverage for a school district, a problem for some schools and libraries? Is cost of the monthly service or installation too expensive, even with the E-rate discounts? Is funding for services and equipment not supported by E-rate, such as computers or teacher and staff training, too expensive for schools and libraries to purchase additional bandwidth? Are internal networks insufficient to handle increased usage?

SIIA detects a number of barriers to increased broadband deployment and usage among schools and libraries, including the following:

- Educators do not have adequate ability to employ technology and Internet resources in their curriculum and instruction, largely due to insufficient pre-service education as well as due to insufficient ongoing professional development.
- Many institutions have insufficient access to broadband access and/or insufficient resources for installation, service fees, technical support, etc. E-rate discounts are critical, but actual demand far exceeds the annual cap, while we believe real demand is significantly higher as many choose simply to not apply, or to apply for lesser amounts, in realistic anticipation of the annual insufficiency of E-rate funds to meet all requests.
- SIIA does not necessarily view any single component – bandwidth, computers, training, etc. – as too expensive for the education system, but rather that education budgets in all but the wealthiest communities are challenged to pay for any new costs and are slow to repurpose resources from one function to another. As such, until our schools budget differently and better account for the operational cost savings that can come from shifting to online and technology-based delivery models, broadband and other technology access and infrastructure costs (including training) will continue to require supplemental funding like the E-rate. In any case, bandwidth is insufficient without hardware access, staff development, applications, etc., and so it is inappropriate to weigh one against the other as all must move together.

BROADBAND IMPLEMENTATION

2. We seek comment on school and school system broadband initiatives including infrastructure and large-scale application deployment.

FCC 2a. What projects have been considered successful and not successful? What were the success criteria?

SIIA does not have details, but we would point to Virginia's online state assessment deployment as an example of a successful model for a broadband initiative. The state determined there were various educational, operational and cost savings benefits from moving its state testing system from paper and pencil to one delivered online. It then worked with its school systems to both determine the technical requirements needed to deploy this system, including bandwidth and related infrastructure, and then to acquire and implement this infrastructure. The broadband initiative was therefore appropriately driven by educational goals and needs. At the same time, once put in place, that bandwidth and infrastructure is now being employed not just for assessment, but is also leveraged for many other purposes.

FCC 2b. What have been the barriers to entry and barriers to adoption?

SIIA, as noted below, believes barriers to adoption include lack of school leadership and vision to innovate (including within policies, budgets and practices), insufficient professional development, inadequate resources, lack of technical support, and lack of broadband access at home.

FCC 2c. What are the most common needs heard from classrooms and instructional leaders with regard to using broadband for instructional or other purposes?

SIIA observes that classroom and instructional leaders seek broadband to help meet virtually every educational purpose, including in the areas of curriculum, instruction, assessment and learning management. In many cases, the initial need is for a technology-based solution, but in many cases and increasingly in all cases, that technology is the Internet and broadband. Examples of those not always requiring bandwidth are installed educational software, computer-based assessments, and technology and media literacy curriculum. Examples of those always requiring bandwidth are web-hosted educational software, virtual online courses, online assessment, and the vast array of communications technologies including virtual field trips and learning collaboration.

FCC 2d. What creates demand for using broadband in education?

SIIA observes that demand for using broadband in education comes from educators, students, parents and other stakeholders seeking to address educational needs through the use of technology and broadband delivered resources and services.

These needs and goals in the areas of instruction, curriculum, assessment, professional development, education administration, etc. include:

- Achieve equity in teacher distribution and quality: Online learning provides the opportunity to deliver high quality instruction to students isolated by geography or underserved by high quality programs. Online professional development and professional learning communities enable educators to improve their knowledge, skills and effectiveness.

- Establish longitudinal data systems: Data systems are, by their very nature, comprised of technologies such as software applications and data storage servers. These local and state data systems enable the collection and monitoring of real-time student data (including from formative assessment) to improve classroom instruction, decision making and accountability.
- Enhance the quality of academic assessments and improve State academic standards: Computer-based and online assessment provide real-time data, adapt to individual student responses, enable alternative test-items for special populations, and are necessary for robust assessment of the knowledge/skills required for success in the changing global economy.
- Support struggling schools: Technology is the engine for a continuous improvement model for students, teachers and institutions. Technology enables personalized learning through real-time assessment, adaptive software, expanded virtual learning opportunities, online professional development, and benchmarking of performance data for program improvement.

Perhaps most importantly from SIIA's perspective, the need is for use of technology and broadband to move the nation's education system from a seat-time, assembly-line education model to a more flexible, student-centered model built around individual learning needs and pace, anytime-anywhere learning, and differentiated instruction (i.e., a shift from mass production to mass customization).

However, in many school systems, this demand is significantly dampened by such factors as lack of school leadership and vision, insufficient professional development, inadequate resources, lack of technical support, and lack of broadband access at home.

BROADBAND AND DIGITAL CONTENT

3. We seek comment on schools' and school systems' online and digital content needs and uses, including content for student instruction (e.g., whole or partial textbooks or supplemental resources) as well as professional development content for educators.

FCC 3a. What sets of instructional and operational problems are schools and school systems attempting to solve with online content solutions?

SIIA observes that online and digital content takes many forms, and includes digitized static text and images as well as interactive and adaptive instructional software applications, online courses and multimedia. The shift from print to digital content can solve one set of instructional and operational needs, while delivery of that digital content online can help address additional needs.

Quality online and digital content – in addition to being learner appropriate, aligned to state standards, and built around effective pedagogy and instructional design – can provide the following educational benefits:

- engage students through multi-media, interactive content;
- adapt to support differentiated or personalized learning for students with alternative learning style, pace or needs;
- keep knowledge current and information accurate;

- enhance accessibility for physical or learning disabled students through assistive technologies and presentation of content in alternative modalities;
- support accountability needs through integration of assessment, content management and alignment, classroom management and other courseware tools;
- expedite delivery and access; and
- increase portability (size, weight, etc.).

In addition to these instructional and practical benefits, education technology is increasingly important in light of the changed learning needs and styles of today's students. Today's students matured in a digital world and are masters of technology. They seamlessly integrate multiple technology tools and digital resources into their daily lives, but are too often forced to leave these skills and aptitudes at the classroom door. As a result, students are increasingly disengaged in school, forced to adapt to a learning process and medium that stands in contrast to that which is most comfortable and successful for them.

Secondly, moving digital content online can address a number of other needs, including increasing education flexibility and reducing infrastructure and support costs. In the first case, many online materials are provided through subscription, thus giving educators the option to more easily use different or additional materials according to their needs. And content can be accessed from anywhere, and from a variety of Internet-enabled devices. In the latter case, digital content such as instructional software, hosted by a third party provider and delivered online, shifts the technical support burden from the school to the provider and reduces the need to update and expand client and network computer infrastructure.

FCC 3b. Of the typical set of online content tools (e.g.: content creation, content publishing, content indexing, content management, content search) what have schools and school districts experienced when making purchasing decisions about the quality and availability of tools that meet their needs? Are there areas where needs are consistently unmet or under-served?

SIIA observes that there are a plethora of quality digital content tools (e.g.: content creation, content publishing, content indexing, content management, content search), including those hosted online and those installed locally. As demand for digital content increases, the quality and options of these tools will continue to improve in response to education's needs. Most importantly, it is critical that our education system advance in its technology infrastructure, access, professional development and vision. Only then will educators, students and other stakeholders be able to fully leverage these tools, and be in position to better understand their needs and make those needs known to tool developers and providers.

FCC 3c. How is digital content being integrated with traditional textbooks and other materials? Are there issues preventing this integration?

SIIA discerns that teachers have long integrated traditional textbooks with other print and digital materials. Integration between and among print materials can be labor intensive, and is often carried out by individual teachers to meet their instructional needs. Digital tools and the navigation and integration functionalities inherent in digital content can ease this challenge. For example, some digital resources reference textbook pages and chapters, while textbook pages

link to websites aligned to that content. Digital content has historically been supplemental due to limited student access, school infrastructure, and teacher capacity, etc. But that is changing, and digital content is increasingly becoming the core material. Integration among and between digital resources is much easier as the technology and content management systems ease practical management and navigation challenges for teacher and student.

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.

FCC 10a. What are the opportunities for government to support technology literacy, access to devices, and adoption through school-based programs for students, their families, and their communities?

SIIA notes that the federal government currently supports technology literacy, access, and adoption in education, but increased investment and leadership is needed to support further and full modernization of our educational system through technology.

For example, SIIA encourages increased federal funding for the E-rate program and the Enhancing Education through Technology (EETT) program, administered by the U.S. Department of Education as Title II-D of the No Child Left Behind Act. E-rate and EETT resources are targeted to economically disadvantaged communities most in need of government support to ensure equity, while EETT also supports teacher professional development, access to devices, and acquisition and integration of digital content, data systems and other applications. EETT also includes a competitive grant component that drives innovation and identification of best practices. As a result, the E-rate and EETT programs are complimentary, and together provide an effective federal mechanism for modernizing education through technology.

Further, SIIA encourages that all U.S. Department of Education programs, and other federal community-based programs as appropriate, allow for and encourage the use of technology and broadband for addressing program goals, needs and requirements. This should include requirement that all U.S. Department of Education grant applications identify if and how technology and the Internet will be used to meet education program goals and requirements. As another example, SIIA encourages strengthening of current EETT provisions around student technology literacy. EETT includes a goal that students be technology literate by the end of the eighth grade, but the Department only recently began collecting data, and states are still not required to measure performance or progress. SIIA supports the “Achievement through Technology and Innovation Act” (S.818 and HR.558) to update the EETT program, including requiring states to assess “assess, not less than once by the end of 8th grade, student performance in gaining technology literacy.”

FCC 10b. What are the opportunities for government in setting technology standards?

SIIA, in general, urges against the federal government setting technology standards, especially where that means technical product standards. Government imposed standards often create a ceiling, rather than a floor, and so limit innovation and competition. Government standards are also most often too slow to be developed, and even slower to be updated and improved, and thus fail to keep pace with the nation's needs and changing technologies. SIIA urges that the government step back and enable market forces and the technology sector to determine technology standards. In many cases, multiple standards can drive improved quality and innovation, and reduce prices. If there are cases where the federal government identifies a compelling area where it believes technology standards should be set, it should first seek formal public comment to inform that decision, and if the evidence points toward a need, should first seek to support the technology sector and the given vertical sector (e.g., education stakeholders) in setting such standards.

FCC 10c. What are the opportunities for government to drive innovation in schools and school systems?

SIIA believes that supporting technology literacy, access to devices, and adoption through school-based programs will help drive innovation in schools and school systems, and SIIA points to its recommendations in response to question 10a as specific means to this end.

In addition, SIIA further encourages that federal education policies and programs (though likely not including the E-rate and Commission) provide incentives and support for transformative innovation in education through a reengineering of our education system through technology and broadband. This innovation is centered around a shift in our education system from a seat-time, assembly-line education model to a more flexible, student-centered and outcomes-based model built around individual learning needs and pace, anytime-anywhere learning, and differentiated instruction (i.e., a shift from a mass production to a mass personalization model that is necessary in this global, knowledge economy and that is only now made possible through the advent of educational technologies and the Internet).

FCC 10d. What are the opportunities for the government to support research and development to drive innovation to the education technology market?

SIIA believes the federal government (though again, likely not the Commission) has a critical role to play in supporting research and development to drive innovation in the education technology market.

First, again as noted above, investment in technology-centered programs like EETT and the E-rate will help schools and school systems put in place the technological infrastructure and educational platforms necessary to innovate, and therefore to drive the market for development of more innovative technology-based and online products and services, such as immersive learning games and simulations.

Second, the federal government can fund basic, pre-competitive research in the areas of cognitive science and learning theory, multi-media instructional design, and technology that can provide the basis for development of educational technologies. These would be primarily

long-term, high-risk research undertakings that are prohibitively costly for any single educational entity, whether educational agency or software publisher. To be most effective, such a research agenda should be developed with full input from these stakeholders, and its findings should be disseminated in a manner that allows for their application by educators and developers, and not just for other academic researchers.

The federal government can also support innovation by providing additional investment to for-profit and non-profit developers of educational software and related educational technologies, allowing them to develop, evaluate and improve various interventions.

In all cases, SIIA encourages against the federal government developing, owning license to, and distributing digital content, educational software, online courses, etc. If the federal government identifies a unique, dramatically underserved niche market that public policy determines must be addressed, it should address those needs through partnership with a non-governmental entity that, with federal support, can fill that gap.

Finally, SIIA encourages research support for schools and educational agencies to develop, implement and evaluate innovative educational practices, policies and programs built around the role of technology and broadband. More specifically, SIIA encourages federal support for the creation of vertically integrated systemic innovation zones that reform, leverage and align federal-state-local policy, practice and budgets to create the conditions needed for innovation success, including the participation of struggling and other schools and local agencies, and a coordinated research and evaluation strategy focused on capturing the pathways to success as a model for others.

E-RATE MODIFICATIONS

FCC11. As part of the national broadband plan, we seek comment on how the Commission can modify the E-rate 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.

FCC 11c. 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?

SIIA believes that the E-rate rules can and should be modified to enable the use of E-Rate supported services in schools by community members during non-school hours, thus better leveraging the investment to support community educational needs, and also stimulating demand for broadband and online learning among those currently without access. However, the E-rate rules now make it difficult for schools to allow the public to use E-rate supported services, because schools must engage in a time consuming, and therefore costly, process to cost allocate E-rate services if such services are used for non-educational purposes. But SIIA believes that cost allocation is a needless activity that merely serves to further complicate the e-rate program. SIIA therefore recommends the Commission allow schools to open to the public its E-rate supported telecommunications and Internet services during non-school hours without requiring schools to engage in the cost allocation process. This is not a request for additional capacity and/or services, or additional funding.

Similarly, modified rules could better allow for E-rate enabled school connectivity to serve students outside the school before or after school hours, or even in some cases during. SIIA also encourages the Commission to explore alternative scenarios whereby schools and libraries might use E-rate funds to access Internet and telecommunications networks available in the community. Such cost-sharing might better leverage limited collective funds and technology infrastructure.

FCC 11d. 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 be of modifying the statute to permit colleges, community colleges, pre-kindergarten, Headstart, or other entities to participate in the E-rate program?

SIIA lauds the goal of expanding Internet and telecommunications access to other needy educational entities not currently eligible under the E-rate, but SIIA is concerned that E-rate funds are not currently adequate to do so. SIIA also notes that such an expansion may contradict Congressional intent, and would require a change by Congress in the authorizing statute.

As the Commission knows, almost 40,000 applications are submitted each year to the Schools and Libraries program, and annual demand routinely exceeds the programs \$2.25 billion spending cap. A March 2009 study by the Government Accountability Office found that: “From 1998 through 2007, applicants requested a total of about \$41 billion in E-rate funding—174 percent of the \$23.4 billion in program funding available during that time.” For Funding Year 2009, total estimated E-rate demand equaled \$3.99 billion, approximately \$1.75 billion over its funding limit. Moreover, due to the increasing demand for Priority One services – estimated to grow to \$2 billion in 2009 – there is insufficient funding for Priority Two services, and it is generally understood that many eligible entities do not apply as a result, thus masking demand that is actually much higher. The evidence therefore suggests that the E-rate program, under its current \$2.25 billion cap, cannot support new classes of eligible users.

SIIA therefore recommends that the Commission increase the E-rate cap to meet Congressional intent in authorizing the Schools and Libraries program to close the digital divide for all schools

and libraries, and their students and patrons, and address their backlog of demand for Priority Two services, and then for Congress to expand the list of eligibility entities as funds allow.

FCC 11e. To what extent does the fact that the E-rate program does not currently fund computers and other end user equipment inhibit the use of broadband by schools and libraries? Likewise, to what extent does the fact that the E-rate program does not currently fund training for teachers or librarians in the use of technology inhibit the use of broadband by schools and libraries? We seek specific information regarding what types of services are not available to teachers, students and library patrons due to lack of funding for end user equipment and training. If the E-rate program were to fund computers and training, what would the projected demand be? From a policy perspective, what are the potential negative consequences if such a change were adopted?

The fact that the E-rate does not currently fund computers, training, etc. does not inhibit the use of broadband by schools and libraries. It is understood and supported that the E-rate funds connectivity and internal connections. As noted above, E-rate funding is already insufficient to meet those purposes and needs, and so expanding the list of eligible services would serve little purpose under the current \$2.25 billion cap. Schools and libraries know to budget for end user equipment, professional development, instructional software, etc. using other funding, including the federal EETT program.

In addition, SIIA is concerned that adding computers and training, along with other purposes, to the E-rate – while appealing – would move the program away from its intended connectivity (not adoption) goals and beyond the considerable ambit of the Commission and USAC, which do not necessarily have the explicit authority or expertise to regulate computing devices and educational training services, not to mention courseware, instructor-mediated virtual courses and other learning applications.

E-RATE DISBURSEMENT

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

FCC 12d. If the Commission established a national broadband goal for schools or libraries, what effect would that have on demand for E-rate funding?

SIIA supports the notion of establishing a national broadband goal for schools. As SIIA noted above, broadband, at least with regard to K-12 educational institutions, is best measured in kilobits per person (students and staff), and the goal should be an external Internet connection of at least 10 Mbps per 1,000 students/staff and an internal WAN connection of 100 Mbps per 1,000 students/staff, growing in the next 5 years to at least 100 Mbps for external connection and a minimum of 1 Gbps per 1,000 students/staff for internal WAN connections. SIIA previously made this recommendation to the Commission in comments filed on September 4, 2009 in the matter of “A National Broadband Plan for Our Future,” GN Docket Nos. 09-47, 09-51, and 09-137, along with the Consortium of School Networking (CoSN) and the International Society of Technology in Education (ISTE). SIIA is concerned with the broadband definition proposed in

the recent first-round Notice of Funds Availability (NOFA) by the National Telecommunications and Information Administration (NTIA) to implement the Broadband technologies Opportunities Program (BTOP). The NTIA adopts a single definition of broadband (768 kbps download) that is inadequate for multiple user environments such as schools and libraries and to support the bandwidth intensive educational content and services they seek and use.

E-RATE FUNDING

FCC 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.

FCC 13a. 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?

SIIA noted above in response to question 11d that the long-standing \$2.25 billion annual cap does not meet current, or future, demand, and it is therefore greatly limiting broadband deployment by eligible schools and libraries. SIIA urges that the Commission increase the program's annual cap to keep pace with inflation from over the last decade and moving forward, and to meet the back-log in Priority Two needs and overall increased demand. This increase is long overdue, and is necessary to meet the original Congressional intent to ensure the modernization and improvement of our educational system through Internet and telecommunications access for the nation's most disadvantaged communities and students. In general, other options included by the Commission in this Notice to modify existing eligibility, discount and other rules would largely only serve to shift resources from one existing entity or purpose to another new one, but would not increase total access, and should therefore not be undertaken without a commensurate increase in the cap.

FCC 13g. Additionally, we seek comment on suggestions for coordinating with federal or state agencies on grant programs that could supplement the Commission's E-rate program. For example, the United States Department of Education's Enhancing Education Through Technology State Program (Ed Tech) provides grants to state educational agencies to improve student achievement through the use of technology in elementary and secondary schools. Money from grants such as this, in combination with E-rate funds, could greatly increase a school's broadband connectivity.

SIIA supports the coordination between federal and state agencies and programs. Most notably, SIIA encourages federal, state and local governments to support technology and broadband needs through other, non-technology programs. And certainly the E-rate provides a platform for meeting all educational needs, and so enhances implementation of federal and other education programs. SIIA does believe that the E-rate and the Enhancing Education Through Technology (EETT) program are currently well coordinated at the state and local levels.

The E-rate and the EETT serve critical and complementary roles, and SIIA urges that each be maintained separately, each expanded (by raising the E-rate cap and increasing the EETT appropriations), and that they should not be viewed as duplicative or unnecessary. State and local education agencies plan and budget for their technology and broadband needs by coordinating both federal programs, along with other programs and funding. The most successful do so by identifying their educational goals, mapping how technology can support those goals, identifying what technologies are needed, and then looking to E-rate to support their Internet and telecommunications access and to EETT to help support the related professional development, computer access, software applications and online learning, etc.

In addition, the programs are funded in completely different ways – E-rate funding comes from assessments on telecommunications companies who support telecommunications services, while EETT is funded through federal tax dollars. Requiring E-rate to support computers and training would lead to telecommunications companies incurring costs for products and services that they do not provide. More significant changes could destabilize these important funding sources and undermine the goal of improving broadband access and technology-based educational improvement. With E-rate applications often built off EETT technology plans, SIIA concludes that money from EETT grants are already coordinated with E-rate funds to maximize broadband connectivity, and further improvements in connectivity would require additional funding for EETT and an increased cap for the E-rate.

FCC 13h. Alternatively, E-rate funds could be used in conjunction with funds from other entities to support broadband projects. For example, upon a state's recommendation, a particular project might be funded by having the state pay for the computers and training, and providing E-rate discounts for the broadband connection. Are there other specific ways the Commission could better leverage the benefits of E-rate funding through coordination with other federal, state, local or non-profit programs that seek to advance broadband deployment?

SIIA encourages that all U.S. Department of Education programs require state and local educational agency grant applicants to identify how they would use technology to address program (and educational) goals and requirements. This would not be a requirement that technology be used, but instead encouragement that educators consider how technology and the Internet can be used to support their efforts. SIIA would encourage the Commission and U.S. Department of Education, working with Congress, to add this component to all grants, and potentially to specifically reference the E-rate.

Respectfully Submitted,

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