Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of

Focused Comment on
E-Rate Modernization

WC Docket No. 13-184

COMMENTS OF
THE TELECOMMUNICATIONS INDUSTRY ASSOCIATION

I.   INTRODUCTION AND SUMMARY

The Telecommunications Industry Association ("TIA")[1] files these comments in support

of the Commission's proposed goals for updating its E-rate program for schools and libraries, as

discussed in the above-captioned notice of proposed rulemaking ("*NPRM*").[2]

Consistent with the policy of the Administration's ConnectED initiative,[3] now is the time

to modernize E-rate, to make sure that America's students and library users receive the benefits

of a modern digital connected learning environment.[4]   The ConnectED initiative seeks to

connect schools and libraries serving 99 percent of U.S. students to next-generation high-

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[1]   TIA represents the global information and communications technology ("ICT") industry
through standards development, advocacy, tradeshows, business opportunities, market
intelligence and world- wide environmental regulatory analysis. Its hundreds of member
companies manufacture or supply the products and services used in the provision of broadband
and broadband-enabled applications. Since 1924, TIA has enhanced the business environment
for broadband, mobile wireless, information technology, networks, cable, satellite and unified
communications. TIA's standards committees create consensus-based voluntary standards for
numerous facets of the ICT industry.

[2]   *See* Focused Comment on E-Rate Modernization Notice of Proposed Rulemaking, WC Docket No. 13-184
(rel. March 6, 2014) ("*NPRM*").

[3]   *See* Press Release, White House, President Obama Unveils ConnectED Initiative to Bring America's
Students into Digital Age (Jun. 6, 2013), *available at* http://www.whitehouse.gov/the-press-
office/2013/06/06/president-obama-unveils-connected-initiative-bring-america-s-students-di.

[4]   *See NPRM*, 28 FCC Rcd at 11307-09, ¶¶ 7-8.

capacity broadband (with speeds of no less than 100 Mbps and a target speed of 1 Gbps) and to provide high-capacity wireless connectivity within those schools and libraries within five years.[5]

TIA and its members in the information and communications technology industry recognize the importance of ensuring that schools and libraries have the tools needed to access the Internet at speeds that allow state-of-the-art learning through the use of advanced applications and content. The E-rate program is the Commission's major tool for helping to connect these institutions to the Internet.

To make certain that schools and libraries can benefit from the dynamic technological developments associated with telecommunications generally and broadband specifically, the Commission should provide these institutions flexibility in the E-rate program to select the solutions they need, consistent with a general principle of technological neutrality. At the same time, the Commission should provide incentives for these institutions to proceed efficiently in designing and implementing broadband connections for students and library users, while simplifying and increasing the transparency of the E-rate application process.

II.   TIA SUPPORTS A "WHOLE NETWORK" APPROACH TO ENSURE THAT SCHOOLS AND LIBRARIES HAVE AFFORDABLE ACCESS TO 21ST CENTURY BROADBAND .

It is critical for the U.S. economy that schools and libraries have access to the broadband networks necessary to provide today's digital connected learning applications to students, teachers, and library users. Consistent with the policy approach of the ConnectED initiative, an updated E-rate program can help these institutions harness private-sector initiative and

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[5]   *See* The White House, Office of the Press Secretary, *ConnectED: President Obama's Plan for Connecting All Schools to the Digital Age*, at 2, *available at* http://www.whitehouse.gov/sites/default/files/docs/connected_fact_sheet.pdf (last visited Sept. 5, 2013) ("ConnectED Fact Sheet").

innovation.[6] If the Commission's efforts are successful, schools and libraries will have economical access to networks that:

- Provide feature-rich individualized educational devices for students. Such devices are increasingly price-competitive with basic textbooks;
- Expose students to global opportunities using new technology. Distance learning opportunities avails students to resources outside their school;;
- Provide support for digital educational content through the educational software market, which is a source of innovative teaching and learning techniques; and
- Restore U.S. leadership in educational achievement and competitiveness.[7]

For schools and libraries to reap these benefits, such networks must be deployed in a forward-looking and cost-effective manner.[8] To ensure that schools have access to digital learning tools, E-rate should similarly support cohesive, cost-effective, end-to-end networks. Schools and libraries must have high bandwidth connections coming into the school as well as within the school, and these connections must be sufficiently reliable for schools to depend on them as an integral part of their educational mission. The Commission therefore should replace the Priority 1/Priority 2.

TIA concurs with the recommendation made by Cisco for a "Whole Network" funding model that allows schools to place their own priorities on the services they receive.[9] As part of this "Whole Network" funding approach, the Commission should continue to provide sufficient support for basic maintenance of internal connections, including the industry-standard service contracts that enterprise customers purchase to ensure reliable networks and reduce the need for costly equipment replacement.

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[6]   *See* ConnectED Fact Sheet at 3-4.

[7]   *See id*.

[8]   *See NPRM*, 28 FCC Rcd at 11313, ¶¶ 17-18.

[9]   *See* Comments of Cisco Systems, Inc. ("Cisco Comments"), WC Docket No. 13-184, at 6-8 (filed Sept. 16, 2013) at 6-8.;

E-Rate's current E-Priority 1/Priority 2 categories rely on obsolete distinctions creating unnecessary hurdles for schools and libraries seeking to deploy digital learning services. These categories can artificially constrain investment and network management decisions by limiting support to a subset of eligible network components. Compliance with these categories significantly adds to the E-Rate program's administrative complexity. Schools and libraries need the long-term flexibility and control to design the most efficient networks to serve their students.

By giving all eligible services equal priority, the Commission will be able to implement a "whole networks" approach, under which connectivity to schools and internal connections are funded together.[10] This approach will encourage more cohesive network design, which, in turn, will eliminate uneconomic investment incentives and permit E-rate applicants to make better use of available funding. This approach would give schools the flexibility to focus E-rate funding on those portions of their network where upgrades are most needed, whether connection to the schools or internal connections.

As Cisco has noted: "The density of devices and users per square foot in schools today is among the highest found in any environment – higher than hotels, enterprise businesses, or restaurants. In a 1,000- square-foot classroom, there likely will be 25 laptops or tablets and 10-20 smartphones or similar connected learning devices, with all users simultaneously requesting videos, applications, and other assets. School auditoriums see similar demand but on a larger scale. School administrators stress the importance of internal networks because students arrive

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[10]   *See NPRM*, 28 FCC Rcd at 11345, ¶¶ 146-147.

early or stay after school to access the school network in hallways and common areas, and often do the same during breaks and recess."[11]

TIA notes that this new "density of devices and users" reflects a significant change from the environment at the outset of the E-Rate program. These bandwidth-intensive applications, including video, collaboration, and other software services may be resident on school networks or located in the cloud. However the intense demands on their internal networks that these applications require schools and libraries to have access to high-bandwidth networks both *into* the school and *within* the school.

Consequently TIA supports changes to the E-rate rules that recognize the importance of broadband connections and connectivity within schools and libraries ("internal connections") and that provide incentives to deploy or upgrade such connections effectively. High-capacity internal connections are critical to linking classrooms and libraries to the modern Internet. Both wired and wireless solutions are possible solutions for upgrading schools' and libraries' internal connections. Observing the principle of technology neutrality in this regard will help ensure that E-rate recipients choose the most efficient technological solution to meet their internal connection needs.

Similarly, mobile broadband solutions will be of increasing importance as educators and students seek to work flexibly and in environments outside traditional school and library structures.

In addition, TIA believes that schools and libraries should be able to purchase or build wide area networks ("WANs"), in addition to leasing them, under the E-rate rules.[12] The *NPRM* recognizes schools and libraries' current extensive use of WANs, which for many school districts

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[11]   *See,* Cisco Comments at 6.
[12]   *See id*. at 11328-39, ¶¶ 80-81.

and library systems are necessities for a digital connected learning environment.[13] The

Commission took such an approach in the *Healthcare Connect Fund Order*,[14] which could serve

as a guide to similar rules for the E-rate program.

Modern forms of internal connections, mobile broadband, and WANs are current

examples of connective technologies that undoubtedly will evolve in the future. Flexibility in

technological choice for schools and libraries will allow them to participate in and benefit from

the development of a modern broadband network that operates seamlessly.[15]

III. TIA SUPPORTS MAXIMIZING THE COST-EFFECTIVENESS OF THE E-RATE PROGRAM

Along with increased flexibility for technological choice, E-rate policies should provide

incentives for schools and libraries to make efficient, sound investments in telecommunications

and broadband technologies. TIA supports the *NPRM*'s emphasis on modifying the current rules

to improve these incentives.

In particular, TIA acknowledges the Commission's approach of proposing several

alternatives for increasing the cost effectiveness of the program, including modifying the

discount matrix, basing support on district-wide eligibility and applications by school districts,

more equitable funding for rural institutions, setting budgets or limits, more equitable funding for

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[13]   *Id*. at 11328, ¶¶ 79-80.

[14]   *See Rural Health Care Support Mechanism*, Report and Order, 27 FCC Rcd 16678, 16712 -16713, ¶¶ 73-75 (2012) ("*Healthcare Connect Fund Order*").

[15]   *See NPRM*, 28 FCC Rcd at 11310, ¶ 18.

broadband internal connections, and simplifying allocation of E-rate funds.[16] The Commission

correctly notes that these alternatives are not mutually exclusive.[17]

An Efficient Matching Requirement: A way to improve cost effectiveness that the

Commission could adopt for several of these alternatives is to set a meaningful matching

requirement for participating schools and libraries.[18] Matching is a time-tested means of

motivating program applicants to better define their investment priorities. For example, if the

Commission retains the present approach based on a discount matrix for eligible participants, the

NPRM makes a strong case that increasing the matching requirement will improve efficiency and

accountability.[19]

Similarly, if the Commission revises its rules for deriving the discount matrix on a school

district-wide basis,[20] changing the matrix to reflect a reasonable matching requirement will help

ensure that the applications are made on a sound economic basis. If the Commission decides to

set budgets or limits for funding,[21] matching can and should be an integral part of any such

reform. If necessary, the Commission should phase in any increase to avoid surprise to program

participants.[22]

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16   *See id.* at 11337-48, ¶¶ 117-156.

17   *See id*. at 11337, ¶ 116.

18   *See id*. at 11338, ¶¶ 119-121, 11347, ¶ 156.

19   *See id*. at 11338, ¶ 119 & n.171 (citing USAC, Recommendations of the Task Force on the Prevention of Waste, Fraud and Abuse, at 3-4 (Sept. 22, 2003) (submitted with letter from Cheryl Parrino, USAC, to Marlene Dortch, Secretary, FCC (filed Nov. 26, 2003)); New York State Depart. Of Education Comments in CC Docket No. 02-6 at 8-9 (filed July 9, 2010); Funds for Learning Comments in CC Docket No. 02-6 at 6-9 (filed July 9, 2010); E-Rate Central Reply Comments in CC Docket No. 02-6 at 7 (filed July 24, 2010); E-Rate Management Professionals Assoc. Comments in CC Docket No. 02-6 at 18 (filed July 8, 2010); Kellogg & Sovereign Comments in CC Docket No. 02-6 at 19-23 (filed July 9, 2012)).

20   *See NPRM*, 28 FCC Rcd at 11339-41, ¶¶ 126-129.

21   *See id*. at 11342-43, ¶¶ 135-138.

22   *See id*. at 11339, ¶ 123.

Using Per-Pupil Broadband Metrics: TIA is supportive of using "per-school and per-student bandwidth target goals." [23]   In a few short years, every school in America will require connections of at least 1 Gigabit per second, and larger schools will require speeds faster than that. As technology advances and schools use applications such as high-definition video more intensively, they will need to grow their capacity over time. The E-rate program should set bold goals for current and future connectivity to ensure that schools can meet future demands for Internet access.

Eliminating Subsidies for Legacy Services: TIA supports the Commission's proposal to phase out support for legacy services that are currently being subsidized.   Voice services, paging services and cellular data plans and air cards are among the services that do not (or do not efficiently) support the primary goal of high capacity broadband connectivity to and within schools. Given the limited resources of the Schools and Libraries Fund, the Commission can no longer afford to expend money on last century's telecommunications services.

IV.   STREAMLINING THE ADMINISTRATION OF THE E-RATE PROGRAM WILL BENEFIT SCHOOLS AND LIBRARIES.

Simplifying the application process and the guidance provided by the Commission on eligible services will help schools and libraries to proceed with much-needed broadband modernization and expansion.[24] The E-rate program would be both fairer and more efficient if the administrative process were simpler. The Commission's proposals to streamline the

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[23]   *See* Cisco Comments at 16, Cisco estimates that by 2014, all schools in America will need Internet access of 0.5 Gbps per 1,000 students (or 0.5 Mbps per student) and by 2018 increase that number four-fold, to 4 Gbps per 2,000 students (or 2 Mbps per student). In addition, in geographies in which last mile fiber infrastructure is already built, schools should double the goals to 2 Gbps per 2,000 students in 2014 and 8 Gbps per 2,000 students by 2018.   *See* also Comments of ADTRAN, WC Docket No. 13-184, at 6-8 (filed Sept. 16, 2013) for a 1Mbps per student standard at page 12.

[24]   *See id*. at 11362-63, ¶¶ 224-26.

application process are a good start. However the Commission should more closely consider the

benefits of existing procurement processes and, rather than attempting to reinvent entirely new

procedures, allow E-Rate processes to be aligned with them.

Moreover, the Commission should simplify the Eligible Services List ("ESL") to remove

the regulatory classifications of telecommunications services and Internet access to allow

applicants to seek eligible services from entities regardless of their regulatory labels.[25] This is

consistent with the *Healthcare Connect Fund Order*, in which the Commission determined that it

should support broadband Internet access services and also high-capacity transmission services

offered on a common carrier and a non-common carrier basis to allow applicants to choose from

a wide range of connectivity solutions using any technology from any provider.[26]

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[25]   *See id*. at 11369-70, ¶¶ 248-250.

[26]   *See id*. at 11370, ¶ 250 (citing *Healthcare Connect Fund Order*, 27 FCC Rcd at 16729-30, ¶ 111).

V.   CONCLUSION

For the foregoing reasons, TIA urges the Commission to act consistently with the recommendations above. Increased technological flexibility for E-rate program participants, coupled with greater incentives for efficient, economical investment decisions, will help schools and libraries realize the benefits of advanced broadband connectivity for students and library users throughout the United States.

Respectfully submitted,

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