

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of Modernizing the E-Rate Program for Schools and Libraries

WC Docket No. 13-184

Schools and Libraries Universal Service Support Mechanism
--

CC Docket No. 02-6

COMMENTS OF HEWLETT-PACKARD COMPANY

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Introduction and Summary

Hewlett-Packard Company (“HP”) applauds the efforts of President Obama and the Federal Communications Commission to build upon the success of the E-Rate program, and appreciates the opportunity to file comments in response to the Commission’s Notice of Proposed Rulemaking (NPRM). As set forth in the NPRM, the “first goal” of program reform should be to bring 21st Century technology to teachers and students, to allow them “to take advantage of the rapidly expanding opportunities for interactive digital learning.”¹ The President has called upon the Commission to “make better use of existing funds to get this technology into classrooms, and into the hands of teachers trained on its advantages.”² Through the ConnectEd initiative, the President seeks to “unleash[] private-sector innovation,” noting that “[e]ducational devices supported by high-speed networks are the portal to the world of online learning and

¹ *Modernizing the E-rate Program for Schools and Libraries*, Notice of Proposed Rulemaking, at ¶ 17, published in the *Federal Register*, 78 FR 51597 (2013) (“NPRM”).

² White House Fact Sheet, *ConnectED: President Obama’s Plan for Connecting All Schools to the Digital Age*, http://www.whitehouse.gov/sites/default/files/docs/connected_fact_sheet.pdf (last accessed Sept. 10, 2013).

interactive content, to personalized education software that adapts to students' needs, and to breakthrough advances in assessing understanding and mastery.”³

As the President, the Commission, and individual Commissioners have recognized, public-private partnerships are integral to accomplishing these goals.⁴ In Commissioner Rosenworcel's words, “new and creative public-private partnerships” are needed

[b]ecause increasing capacity alone is not enough to make digital learning a reality. Students and teachers need access to content and devices. So let's look to the private sector and challenge technology companies to invest in the future of America's workforce by investing in the creation of cost-effective technologies, educational applications, and devices. Our capacity goals will yield greater scale for new services and teaching tools everywhere. We can use them to facilitate partnership opportunities that will bring education-enhancing technology to classrooms in communities across the country.⁵

HP, the world's largest IT company and a networking technology innovator for over forty years, strongly supports E-Rate reform and the ConnectEd initiative. HP brings proven solutions to schools and libraries, focusing on cost effectiveness, performance, and energy conscious

³ *Id.*; see also Prepared Remarks of Acting Chairwoman Mignon L. Clyburn, “Connected in the Digital Age: Improving American Education through Technology” (Sept. 10, 2013) (“As educators increasingly integrate digital content into their lesson plans, faster speeds, and additional capacity to *and within* schools are needed to accommodate all of today's and tomorrow's interactive, digital learning”) (emphasis added), <http://www.fcc.gov/document/clyburn-remarks-education-technology-annenberg-event> (last accessed Sept. 12, 2013); Remarks of Commissioner Ajit Pai, “Connecting the American Classroom: A Student-Centered E-Rate Program,” American Enterprise Institute, Washington, DC (July 16, 2013) (noting need to “redirect spending away from outdated services and toward next-generation technologies that directly benefit students”), <http://www.fcc.gov/document/commissioner-pai-speech-student-centered-e-rate-program> (last accessed Sept. 10, 2013).

⁴ See NPRM, ¶ 166 (seeking comment on how “to encourage public-private partnerships to promote our proposed E-rate goals”).

⁵ Remarks of Commissioner Jessica Rosenworcel, Washington Education Technology Policy Summit (Apr. 11, 2013), http://transition.fcc.gov/Daily_Releases/Daily_Business/2013/db0411/DOC-320122A1.pdf (last accessed Sept. 10, 2013).

design. To advance the Commission’s agenda and promote public-private partnerships, HP offers the following comments and recommendations.

In Part 1, HP briefly reviews a sampling of “next-generation” technology trends which will affect schools and libraries going into the future, since this sets the stage for the recommendations that follow. In Part 2, HP offers specific recommendations on the following points:

- Technical Considerations – HP proposes high-level connectivity targets.
- Dissolve the Priority 1/Priority 2 Distinction – As many stakeholders have proposed, telecommunications or Internet access services should not be prioritized over the infrastructure needed to bring those services into the classroom.
- Phase Out Outdated Services – HP agrees with proposals to phase out support for outdated services.
- Improve Transparency – HP recommends that details regarding winning bids be made publicly available and that the Commission facilitate access to consultants to assist schools and libraries in scoping their technology needs and finding cost-effective solutions.
- Benefits of Financing – HP suggests the Commission allow and encourage financing over time of E-Rate eligible services, thereby allowing E-Rate funds to be spread over the product lifecycle and reducing the up-front capital investment.
- Simplify USAC Processes – HP supports proposals to simplify USAC processes.

Part 3 asks the Commission to clarify the E-Rate gift rule in order to accomplish the Commission’s desire to “encourage public-private partnerships to promote our proposed E-rate goals” and “allow schools and libraries to take greater advantage of private philanthropy while still allowing the Commission to maintain appropriate control over E-rate expenditures and to prevent improper influence over E-rate service provider selections.”⁶

⁶ NPRM, ¶ 166.

I. Significant Technology Trends that Will Shape Educational IT in Years Ahead

Schools face unique and increasingly complex IT challenges. To illustrate, over the next two years, schools across the nation will need to be prepared to implement Common Core State Standards online testing requirements.⁷ To implement these requirements, schools will need to connect test-taking students through individual devices. The vast majority of schools will need to make significant infrastructure changes. High-density wireless deployments create challenges for any organization, but schools face special challenges, including the massive number of devices, mobility of devices, variety of applications on those devices, and increased security requirements. Each school's planning must cover a multitude of issues, for instance: the wired network core design and its resiliency; wired and wireless security; the number of students and testing proctors per room; the electrical power to the room and to the devices; the features and locations of students' personal wireless devices, which impact power/wireless signal considerations; ensuring that students cannot communicate with each other or access other information during testing; design of access point coverage models; and testing the environment for performance prior to the live test day.

The challenges of implementing Common Core and other one-to-one technology initiatives clearly demonstrate the need for the Commission to allow schools flexibility in

⁷ See <http://www.corestandards.org/>. "The Common Core State Standards Initiative is a state-led effort that established a single set of clear educational standards for kindergarten through 12th grade in English language arts and mathematics that states voluntarily adopt. The standards are designed to ensure that students graduating from high school are prepared to enter credit bearing entry courses in two or four year college programs or enter the workforce. The standards are clear and concise to ensure that parents, teachers, and students have a clear understanding of the expectations in reading, writing, speaking and listening, language and mathematics in school." <http://www.corestandards.org/resources/frequently-asked-questions> (last accessed Sept. 10, 2013).

designating where E-Rate funds should be allocated. In addition, schools would benefit from expert planning assistance to choose cost-effective solutions that will work for the long term, and to avoid a number of pitfalls into which even experienced IT staff commonly fall.

HP provides a full lifecycle of consulting services to implement wired and wireless environments per the requirements, goals, and specifications regarding a secure and effective testing environment. These services are based on a standard HP integrated approach for survey, design, deployment and verification. Based on its broad and deep experience in designing and implementing this integrated approach, HP encourages the Commission to consider several significant changes in the IT landscape that will affect schools and libraries in coming years.

A. Open Standards Technologies

Open standards technology is characterized by multivendor interoperability resulting in less complexity, better economics, and greater network agility. HP encourages the Commission to give preference to technologies with open industry standard protocols in determining E-Rate eligibility. These technologies are defined by standards committees such as IEEE Standards Association, the Internet Engineering Task Force (IETF), and the International Electrotechnical Commission (IEC). Open standards help schools/libraries by creating a flexible, secure, cost-effective network designed to meet business demands. Open standards allow customers a choice of products and solutions with each purchase.

CoSN, the Consortium for School Networking, supports the use of open technologies (including open source software, open standards, and open hardware) in K-12 schools. According to CoSN, “[m]any district technology leaders are working on planning, evaluation, decision-making, and implementation processes associated with adopting open technologies in K-12 education.” CoSN identifies the benefits as including lower costs, data integrity and

operability, independence and flexibility, stability and reliability, broader access to information, community support, and student engagement.⁸

HP Networking (HPN) products support all standards-based protocols, thereby giving customers choice and ease of migration when upgrading to the next generation of technology. HPN protocols are ratified by three main standards bodies: IEEE, IETF and IEC.

B. Software-Defined Networking (SDN)

Networking recently has become an area of tremendous innovation. Software-defined networking (SDN), concretely realized in the OpenFlow standard, significantly improves the agility of the network via programmability, as well as reducing the price of switching equipment. Although SDN is a young technology, it is maturing rapidly and network designers must consider it in their network strategies. Adoption of these approaches has been occurring more prevalently in the higher education space, but these approaches may become the *de facto* standard for the K-12 education market in coming years.

OpenFlow enables network administrators to have programmable networks where the control and data planes are separated. This flexibility moves network control away from proprietary switches and into control software that is open source. HP offers full commercial support for OpenFlow on its switching platforms and has enabled over 10 million switching ports deployed in the field to OpenFlow.

HP is a leading sponsor of a number of SDN projects, including US Ignite and GENI, described below. Results from these projects are improving efficiencies in networking worldwide.

⁸ “Designing Education Networks,” CoSN, <http://www.cosn.org/open-technologies> (last accessed Sept. 10, 2013).

1. US Ignite (<http://us-ignite.org/>)

HP is a proud sponsor of US Ignite, an organization inspired by the White House Office of Science and Technology Policy and the National Science Foundation, with the objective of developing the next generation of Internet applications that provide transformative public benefit. US Ignite brings OpenFlow-enabled, distributed cloud services to high-performance network applications in the public interest. Education is an important use case.

HP is supporting US Ignite's efforts to develop 60 next-generation applications over the next five years, leveraging software-defined, programmable networking. In addition, US Ignite is developing and supporting a forum for collaboration between a diverse array of higher education institutions and research communities.

HP's InstaGENI rack (6 HP ProLiant servers running ProtoGENI, an open-source cloud management system, plus an HP 5406 switch with OpenFlow native) is the workhorse architecture for US Ignite.

2. Global Environment for Network Innovation (GENI) (<http://www.geni.net/>)

HP is actively engaged with GENI and has been contracted to develop the HP InstaGENI system to help the GENI Project Office (GPO) build a unique virtual laboratory for at-scale networking experimentation. HP's contribution of the InstaGENI rack and software has helped the GPO "support at-scale experimentation on shared, heterogeneous, highly-instrumented infrastructure; enable deep programmability throughout the network, promoting innovations in network science, security technologies, services and applications; providing collaborative and exploratory environments for academia, industry, and to the public to catalyze ground-breaking discoveries and innovation."⁹ As of today, HP's GENI rack is being deployed at 30+ of the top

⁹ "About GENI," http://www.geni.net/?page_id=2 (last accessed Sept. 10, 2013).

research colleges and universities in the US and in academic research communities globally. Deployment and adoption of the HP GENI rack continues to increase, with deployments expected to grow by orders of magnitude in the next 5 years.

C. Data Center Efficiency

Traditional IT infrastructure simply cannot keep up with the acceleration of technological innovation without deploying thousands of new datacenters and requiring billions of dollars in power. Efficient, low power data centers, designed to meet social, cloud, mobile, and large data needs, are being developed to address these issues. The HP Moonshot software-defined server is an innovative, ultra-low-power server infrastructure that delivers dramatic breakthroughs in efficiency and scale. It shares management, power, cooling, networking, and storage, uses up to 89% less energy and 80% less space, and costs 77% less cost than traditional servers.¹⁰

Moonshot helps address congressional environmental legislation including the Energy Efficient Government Technology Act and the Energy Savings and Industrial Competitiveness Act of 2013. HP encourages the Commission to give preference to technologies that satisfy these federal energy efficiency guidelines.

D. Networking As A Service (NAAS)

Schools that have a wealth of bandwidth but insufficient internal connection points for students are no better positioned to support 21st Century learning than schools with little bandwidth. Yet the scope of capital outlays needed to connect students effectively to the Internet can be daunting and includes devices to access educational applications via the Internet.

¹⁰ Based on HP internal research that compares HP Moonshot servers with traditional x86 server technology; cost comparison based on estimated total cost to operate.

In the past year, HP has seen a rising appetite among states and school districts for a “network-as-a-service” approach. This model bundles the needs of a given school or district (*e.g.*, broadband access, the hardware for internal connection, *and the endpoint device* required by a student for access to the network) along with financing. Under this model, schools take title to the equipment they purchase, but financially they pay as they would for a service – as an operating expense versus a capital outlay. This speeds up a school’s ability to connect students, without sacrificing other critical budgetary needs. HP recommends that the Commission consider these innovative and holistic models when determining eligible services.

II. HP Recommendations for E-Rate Modernization

A. Technical Considerations

Below are proposed high level connectivity targets based on HP’s experience, relating to specific paragraphs of the NPRM.

Paragraph 23. A 10 Gbps connection between schools requires single mode fiber or a reasonably priced service from a service provider.

Paragraph 24. Compared with comments to paragraph 23 above, schools with 500 students should have at least 5 Gbps bandwidth, and schools with 100 students should have at least 1 Gbps.

Paragraph 25. Unless libraries use multimedia such as streaming video or have a large number of patrons concurrently, 1G bps by 2020 should be sufficient for most libraries. Libraries that offer real time video conferencing for meetings, seminars, interviews, and other research projects would require either a dedicated line for this technology or more Internet bandwidth.

Paragraph 27. A WLAN network is a shared medium. It works well for Internet browsing with some oversubscription; however, when voice/video applications become ubiquitous, users expect the same quality they receive on their LAN connection. Schools will be expected to provide more bandwidth per user, more access points, and a denser wireless environment. This level of wireless offering also requires careful network engineering to reduce interference while supporting the user density. Achieving successful deployment is a very complex proposition, and a good design up front is critical. In this shared environment and given schools' needs for more advanced future applications, HP expects schools will need at least 1Mbps per 1 student per coverage area (multiple access points operating as an access method), and preferably more if real-time multimedia applications like voice and video conferencing are being used.

Paragraph 28. Latency is acceptable at 200ms round trip. In addition, a network must be able to prioritize real time traffic (voice, video) with Quality of Service guarantees to make sure no other traffic is interfering with these applications.

Paragraphs 30-35. All schools must implement a technology that can measure utilization on their Internet link. This technology is readily available and can be integrated in the network hardware. Adding a software collector, a network administrator can quickly determine how much of the available bandwidth is being used, and plan for capacity increase over time. Software collectors also measure peak durations to make sure quality connectivity is constantly available. On the Internet link, one can use Netflow/Netstream to measure utilization. On LAN links, one can use sFlow to measure host utilization. Capacity increase planning should start as soon as a school/library reaches 50% peak and 20% average utilization.

In Paragraph 40 of the NPRM, the Commission asks if there is “a way to measure how success in the classroom is affected by access to E-rate funding or services supported by E-rate.” It is HP’s experience that technology has a positive effect on educational outcomes. Below is a sampling of HP’s research correlating use of technology to digital learning opportunities and improvements in teaching effectiveness, at significant cost savings.

- In Mississippi, a BYOD implementation and successful network upgrade in Clinton Public Schools has prepared the district for national online testing standards. The new network is capable of simultaneously delivering online testing to the entire student population vs. a 4.5 week continuous testing period which would have led to unfair conditions for students. The district now has a flexible, secure VLAN profile to accommodate special events including a visit from First Lady Michelle Obama. The network is prepared for up to 10,000 devices, and teachers and students have devices preinstalled with applications and software keyed to the schools’ curriculum. The upgrade improves campus security because local police have access to the network. It eliminates Scantron forms and the manual labor involved with their use. Parents can register their students online in half the time it used to take to fill out the 20 pages of paper forms. Teachers are uploading and streaming videos of lectures so that students can re-watch them from home. Students are learning in an immersive technology environment full of new possibilities as digital learning and technology skills are infused throughout the daily teaching and learning process.
- In Massachusetts, Cape Cod Academy deployed a BYOD solution revolutionizing the way students learn by creating an anywhere/anytime learning environment.

With the “flipped classroom” capability, students spend classroom time working on assignments and homework time attending lectures. The wireless capacity has been tripled allowing students to connect devices of their choice to the network. Personalized learning with the choice and flexibility that comes with it is preparing the students for the real world. The BYOD solution opens the door to innovative learning. An example is that students collaborate on writing their own textbooks. Virtualization shrank the IT infrastructure footprint, saving the district money on power and cooling.

- In New York, Rush-Henrietta Central School District lost six IT staff positions due to budget cuts in two years and its network infrastructure was crumbling. HP helped find a cost-effective solution to include a scalable network which will allow for future network growth. There is increased security with self-monitoring IP video surveillance. The robust new network is prepared for online testing requirements and a BYOD implementation.
- In Arizona, Gilbert Public Schools installed a new network allowing students, teachers and administrators to use the Internet and digital communications to their potential. Students and teachers can easily view multimedia course material online, listen to podcasts, or video-conference with scientists or students around the globe. High school teachers are looking into developing “flat classrooms” that make use of Web 2.0 technologies to integrate courses with classrooms in other countries. The district can easily “broadcast” video programs and podcasts throughout the district or run videoconferences, such as providing administrative updates to teachers and staff or explaining new policies to students. The district

has been able to upgrade its student information system from an aged command-line “green screen” application to one with a graphical user interface and modern database design, making it much faster and easier to process and access student records.

- Thompson School District in Colorado implemented a network upgrade that demonstrates the positive effects of technology. Primary among them is the way the network supports new educational opportunities. Digital video in classrooms is now possible, and Thompson first put this option to use for teaching Spanish in the district’s 20 elementary schools. The program has been so successful that Thompson is now offering online Spanish classes to homeschooled students. This addition allowed the district to increase its enrollment and bring in new revenue without having to add infrastructure or suffer from overcrowding. As part of the upgrade, the district also implemented a student information system that provides a secure connection and displays current grades, attendance, and homework assignments. Students, parents, and teachers can access the system from school or home computers. These educational benefits are being delivered on a much improved financial foundation. From 2007 to 2011, Thompson School District achieved estimated average annual benefits of \$632,000 across four categories: cost reduction, increased IT staff productivity, increased end-user productivity, and revenue benefits.¹¹

¹¹ See IDC Insights ExpertROI Spotlight, sponsored by HP, *Thompson School District Leverages HP FlexCampus to Launch New Educational Initiatives* (Nov. 2011), <http://h17007.www1.hp.com/docs/education/6289.pdf>.

- The Colorado School of Mines developed InkSurvey, a free, web-based polling tool that measures student comprehension during science instruction. Using HP tablet PCs and digital pens, students input answers to open-format questions posed by the instructor. The real-time survey results helped teachers adjust instructions to enhance student learning. An additional research study of InkSurvey showed that student understanding of chemical engineering topics was enhanced beyond what can be learned by simulations alone. From a pretest average score of 45%, student understanding increased to 58% with simulations alone, but rose to 78% when real-time polling was also used to support an interactive teaching approach.

B. Dissolve the Priority 1/Priority 2 Distinction

The Commission seeks comment on how to update the E-Rate program's funding priorities.¹² The current Priority 1/Priority 2 system is not meeting the need to connect *students* to the Internet and online resources, as opposed to *schools*. As the Commission observed in the NPRM:

In voicing his support for President Obama's ConnectED initiative, Senator John D. Rockefeller IV, one of the original supporters of the E-rate program, explained: "[I]n its almost two decades, the E-Rate program has fundamentally transformed education in this country—we have connected our most remote schools and libraries to the world. But as impressive and important as the E-Rate program has been, basic Internet connectivity is no longer sufficient to meet our 21st Century educational needs." Even more recently, the bipartisan Leading Education by Advancing Digital (LEAD) Commission has taken up the call and released a blue print for paving a path to digital learning in the United States which highlights "inadequate high-speed Internet connectivity in the classrooms" as "the

¹² See NPRM, ¶¶ 65, 143, 146-50, 158, 215.

most immediate and expensive barrier to implementing technology in education,” and calls modernizing E-rate the “centerpiece of solving the infrastructure challenge.”¹³

Without internal network connections, E-Rate funding for broadband risks tremendous inefficiency by funding broadband services for schools that are not able to make those services available to students. As schools move to deploy assessment systems for Common Core State Standards and one-to-one computing initiatives, for example, they should be given the latitude to determine where their gaps exist and close them using the full menu of eligible services.

According to E-Rate consultant Funds for Learning, “[i]nternal connections are one of the most cost-effective mechanisms for delivering bandwidth to students,” but the lack of funding for Priority 2 “has forced schools/libraries to push more and more of their connectivity solutions into the more expensive telecommunications and Internet access categories.”¹⁴

C. Phase Out Outdated Services

HP supports phasing out services that do not directly support digital learning.¹⁵ Examples include paging services, directory assistance, custom calling features, inside wiring maintenance plans, call blocking, 800 number services, text messaging, and cellular data plans and air cards that are not used directly for student education. HP also recommends that the Commission tighten the definitions of email and web hosting services to assure that funding is going explicitly to eligible services, and not bundling components such as content management

¹³ NPRM, ¶ 8; *see also id.* at ¶ 143 (“[h]igh bandwidth connectivity to a school or library serves little purpose if students and patrons inside are not able to use it effectively because internal wired and wireless connections are missing or insufficient.”).

¹⁴ Funds for Learning, “E-rate Myths” (June 10, 2013), <http://www.fundsforlearning.com/blog/2013/06/e-rate-myths> (last accessed Sept. 10, 2013).

¹⁵ *See* NPRM, ¶¶ 66, 90, 102, 105-06.

and portals. The Commission should also consider that many no-cost options for email and web hosting are available for schools.

D. Improve Transparency

The Commission seeks comment on ways to maximize the cost-effectiveness of E-Rate purchasing, increase transparency, and prevent waste, fraud and abuse.¹⁶ State laws, court orders, and contracts permitting, HP believes that winning bids should be disclosed online at the won price along with the solution purchased. USAC and taxpayers should be able to discover if, for example, a premium was spent on a solution over other existing alternatives in the marketplace. HP believes the increased accountability should help reduce fraud and abuse.

HP supports the provision of greater assistance to schools and libraries, as discussed in paragraph 198 of the NRPM. It is HP's experience that most schools/libraries need assistance with both scoping their technology needs (for example, a high level of technical competence is required to successfully implement one-to-one initiatives) and finding cost-effective solutions. Consultants with expertise in configurations of educational technologies who also have access to marketplace prices would provide tremendous service to E-Rate applicants. The use of consultants in this manner would address questions that have arisen around past bidding activity, such as whether the competitive bidding process was open and fair and whether applicants have followed competitive bidding rules;¹⁷ whether the Lowest Corresponding Price rule was followed;¹⁸ and questions regarding efficient use of funding.¹⁹

¹⁶ See NPRM, ¶¶ 178, 191-98, 294, 298, 309.

¹⁷ See NPRM, ¶ 298.

¹⁸ See NPRM, ¶ 309.

¹⁹ See NPRM, ¶¶ 211-16.

E. Benefits of Financing Technology

The Commission requests additional suggestions to maximize cost-effective purchasing.²⁰ HP suggests the Commission consider allowing and encouraging financing of E-Rate eligible services. This would allow schools and libraries latitude for purchasing more equipment for less money up front, and allow payment for eligible services to be aligned with actual usage. With financing arrangements, schools/libraries can maximize their entire IT lifecycle – from planning and acquiring technology all the way to replacing and retiring it in an environmentally friendly process. HP also requests that clarification be provided as to whether service providers can finance solutions for schools/libraries for which they have been awarded a Form 471. From the standpoint of the Commission, financing may provide an opportunity for E-Rate funds to be spread over the product lifecycle, allowing more schools and students to become connected faster by reducing the up-front capital investment.

F. Simplify USAC Processes

HP supports the Commission's proposals to simplify USAC processes.²¹ For example, the review of global service substitution requests should be streamlined to reduce long delays. A way to accomplish this would be to establish an escalation procedure to be utilized if reasonable service level agreement deadlines are not met. In addition, annually recurring window dates should be set for Forms 470 and 471. This will assist all E-Rate stakeholders with planning, consistency and better organization around E-Rate cycles.

²⁰ See NPRM, ¶¶ 220-23.

²¹ See NPRM, ¶¶ 45, 224-26.

III. The E-Rate Gift Rule Should Be Clarified to Encourage Public-Private Partnerships

A. The Need for Public-Private Partnerships

The Commission seeks comment on ways to lower costs and identify additional sources of funding. Specifically, the Commission asks how it could encourage potential public or private sources of funding to meet school and library needs, whether there are other steps the Commission could take “to encourage public-private partnerships to promote our proposed E-rate goals,” and “whether there are ways that E-rate could allow schools and libraries to take greater advantage of private philanthropy while still allowing the Commission to maintain appropriate control over E-rate expenditures and to prevent improper influence over E-rate service provider selections.”²² As noted above, President Obama and individual Commissioners have likewise recognized the need for public-private partnerships in the education arena.

B. The Need for Clarification of the Gift Rule

The Commission’s E-Rate gift rule must be clarified if the goal of encouraging public-private partnerships and private philanthropy to educational institutions is to be realized. HP unconditionally supports the Commission’s goal of ensuring fair and open competition for the provision of E-Rate products and services. As the Commission has made clear, however, the gift rule was not intended to “discourage companies from making charitable donations to E-rate eligible entities in the support of schools – including, for example, literacy programs, scholarships, and capital improvements – as long as such contributions are not directly or indirectly related to E-rate procurement activities or decisions” and “are not given by service

²² See NPRM, ¶¶ 163-66.

providers to circumvent our rules.”²³ Yet in practical terms there is evidence that the rule as currently written and understood is having precisely that negative effect on charitable donations.

In addition to the questions it raises concerning charitable donations, the gift rule also poses a hurdle to marketing and research/development initiatives which are standard practice in the commercial world. For instance, the current rule leads companies to ask: May a service provider loan demonstration equipment to allow a school to assess its needs and determine if the equipment is compatible with its existing systems? May it offer a school or library a “proof of concept” analysis at no charge? May it fund a research and development project in which teachers and students use equipment or services and provide feedback, thus facilitating the equipment vendor’s ability to provide products and services that meet customer needs? May it allow teachers to participate in free technology training seminars?

Applicants, service providers, and USAC itself have posed questions to the Commission on these and similar thorny questions, which have yet to be answered, and the resultant uncertainty has suppressed both charitable donations and collaborative activities which would help ensure that school and libraries receive the technology they need. Following are representative examples of questions and concerns that have been raised on the public record over the last three years:

- On July 5 and 11, 2013, in submissions cited in the NPRM, Verizon described its Verizon Foundation Innovative Learning Schools program, which focuses on teacher training and professional development, and stated that “this program complements E-rate and . . . could be expanded but sometimes faces challenges with respect to the Erate gift rules.” Verizon suggested that “the Commission seek comment on ways that schools could take

²³ *Schools and Libraries Universal Service Support Mechanism and A National Broadband Plan for Our Future*, Sixth Report and Order, CC Docket 02-6, FCC 10-175 at ¶ 90 (rel. Sept. 28, 2010), http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-10-175A1.pdf; *see also Clarification Order*, ¶¶ 10-12 (Dec. 15, 2010), http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-10-2355A1.pdf.

greater advantage of private philanthropy while still allowing the Commission to maintain appropriate control over E-rate expenditures.”²⁴

- On August 5, 2011, USAC requested guidance from the Commission on its rules governing gifts in the E-Rate program. Among other things, USAC asked “when equipment (for example, netbooks, cell phones or distance learning equipment) received by a school or library participating in the E-rate program is considered an acceptable charitable donation and when it is considered free equipment in violation of the E-rate gift rules;” “when might free equipment be considered an acceptable charitable donation versus when the free equipment is not allowed because it leads to an increase in the demand for service from the service provider;” whether a raffled gift can be considered a charitable donation if it is accepted for a school or library as a whole rather than for an individual’s personal use; and “when the obligation to comply with the gift rules begins.”²⁵
- On August 22, 2011, E-Rate Central, which offers consulting and compliance services to E-Rate applicants, filed an *ex parte* notice commenting on USAC’s request for guidance and noting that, in addition to the issues USAC raised, more specific guidance is needed to distinguish between acceptable charitable donations and unacceptable gifts. The letter noted that the E-Rate gift rules “raise particularly important and thorny issues” because “[t]hey represent an attempt to extend federal gift rules, applying to multi-billion dollar government procurement activities, to much smaller public and private entities, many of whom are dependent upon the technical expertise of their suppliers;” and “COMAD procedures subject E-rate applicants to potentially serious financial penalties (equivalent to large fines) for even minor, non-fraudulent, violations of these rules.” E-Rate Central suggested requiring public disclosure of service provider donations, and specifically:
 - (1) Any donation should be formally accepted by the school or library board, and publicly disclosed. Formal acceptance should include a clear statement that there is no explicit or implicit advantage to be gained by the donor as to future business.
 - (2) A donor should be asked to formally certify that the donation: (a) is being made without any explicit or implicit expectations of being awarded business; and (b) is consistent with a company-sponsored program of donations to educational institutions independent of customer status.²⁶

²⁴ See <https://prodnet.www.neca.org/publicationsdocs/wwpdf/71113verizon.pdf>; <http://apps.fcc.gov/ecfs/document/view?id=7520928254>.

²⁵ See <http://apps.fcc.gov/ecfs/document/view?id=7021700625>.

²⁶ See <http://apps.fcc.gov/ecfs/comment/view?id=6016837987>.

- In a post dated July 1, 2011, E-Rate consultant Funds for Learning stated that due to ambiguity in the gift rules, “many applicants and service providers are apprehensive to make contributions or participate in fundraising activities. The risk and potential loss is simply too high.”²⁷
- In two *ex parte* letters dated May 4, 2011, representatives of the Washington Independent Telecommunications Association and the Montana Telecommunications Association reported that “the gift ban provisions in the Commission’s 6th Report and Order . . . effectively [have] put a stop to any charitable contributions by service providers, or even potential service providers—regardless of their relationship with any schools and libraries—[to] schools and libraries. . . . The most relevant and effective contributions are for services or technology related to distance education, both because distance learning can enhance the quality and effectiveness of rural schools and because rural schools rarely can afford distance learning technology. However, the gift ban has put a stop to such constructive contribution practices.”²⁸
- On March 11, 2011 the Education & Libraries Networks Coalition filed an *ex parte* letter with the Commission seeking further clarification on the application of the federal gift rules to the E-Rate program, stating that uncertainty regarding the rules has caused “some E-Rate vendors to suspend sponsorships of non-profit organization events and activities and some E-Rate applicants to reconsider attending non-profit professional conferences.”²⁹
- On April 21, 2011, HP filed an *ex parte* letter asking the Commission to clarify that the E-Rate gift rules do not preclude programs under which company products may be loaned to customers for demonstration, test and evaluation purposes, whether or not the loaned products are E-Rate eligible or part of an E-Rate transaction. HP noted that with such “demo programs” the products are provided as part of the sales process, much as potential customers routinely test drive a car, to foster informed decision making and allow existing and potential customers to evaluate whether products meet their needs and are compatible with their existing equipment or systems. HP proposed the following safeguards:

²⁷ See <http://www.fundsforlearning.com/blog/2011/07/happy-new-funding-year-2011>.

²⁸ See <http://apps.fcc.gov/ecfs/document/view?id=7021345382>;
<http://apps.fcc.gov/ecfs/comment/view?id=6016482480>.

²⁹ See <http://fjallfoss.fcc.gov/ecfs/document/view?id=7021034262>.

- (1) Products are loaned pursuant to a clearly defined demo/loan program;
- (2) The program is applicable or available regardless of the class of customer, i.e., education, commercial, government, etc.;
- (3) Products are loaned for a specified and reasonable period of time, with the length of time determined by the complexity of the product and its expense, but generally not exceeding 180 days;
- (4) At the end of the defined loan period, customers must return the products or may purchase them;
- (5) If a discount is applied either to the purchase price of the demo products and/or to purchases of the type of products tested/evaluated pursuant to the demo program, the process for approving and applying discounts is the same as that generally used outside of the education context as well as within; and
- (6) If a School or Library purchases products at a reduced price in an E-Rate transaction, the price reduction is properly accounted for in the pre-discount price.³⁰

- On October 25, 2011 HP filed a second *ex parte* letter again asking the Commission to clarify that the gift rules do not preclude normal sales activities that foster informed decision making and help schools and libraries make their limited dollars go further. The focus of this letter was the provision of consulting and related services to schools and libraries for no charge, as part of a typical sales process, to enable a customer to evaluate whether a vendor's products and services meet the customer's needs and are compatible with existing equipment or systems. HP asked the Commission to clarify that consulting services provided at no charge are consistent with the gift rule if the following conditions are met:

- (1) Consulting services are provided pursuant to a defined program;
- (2) The program is applicable or available to a variety of public sector customers, i.e., not just schools and libraries;
- (3) The consulting services are provided for a reasonable period of time, agreed to by the parties; and
- (4) The process or factors for determining that services will be provided at no charge (or at a substantial discount) are the same for educational institutions as those generally used outside of the education context.

HP suggested that a consulting arrangement that complies with these conditions should be allowed without regard to whether it leads to a transaction involving E-Rate

³⁰ See <http://apps.fcc.gov/ecfs/comment/view?id=6016377849>.

dollars, though if an E-Rate transaction ensues, price reductions should be properly accounted for in the pre-discount price.³¹

C. HP's Recommendations

HP respectfully requests that the Commission consider these concerns and clarify the gift rule so as to encourage legitimate charitable donations, sales activities that help schools and libraries make informed decisions, and research and development efforts that enable service providers to assess the needs of schools and libraries and develop products to meet those needs. Specifically, HP suggests the following:

1. **The Commission should clarify the factors which would lead it to conclude that a charitable donation was inappropriate.**

The December 15, 2010 *Clarification Order*, ¶¶ 10-11, states that gift rules are “not intended to discourage charitable donations to E-rate eligible entities as long as those donations are not directly or indirectly related to E-rate procurement activities or decisions and provided the donation is not given with the intention of circumventing the competitive bidding or other E-rate program rules,” and do not “reduce the applicant’s share of the payment for its services, or . . . otherwise serve to increase the demand for an existing donor’s services.” HP urges the Commission to clarify what factors would lead the Commission to conclude that a donation was inappropriate under these standards.³²

³¹ See <http://apps.fcc.gov/ecfs/comment/view?id=6016848589>.

³² The Commission could also consider providing a process which would allow applicants or service providers to obtain approval for prospective gifts. See *Sixth Report & Order*, ¶ 90 (“[i]f applicants or service providers are unclear about a particular anticipated gift, they should seek guidance from USAC or the FCC”), http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-10-175A1.pdf.

2. The E-Rate gift rule should distinguish between gifts to individuals and gifts to entities.

As set forth in the *Sixth Report and Order*, the Commission intended the E-Rate gift rule to be “consistent with the gift rules applicable to federal agencies.”³³ As the Commission acknowledged, the federal agency gift rules apply to agency *employees*.³⁴ In contrast, the E-Rate gift rule prohibits gifts to E-Rate eligible *entities* as well as to their personnel.³⁵

As to employees of E-Rate eligible entities, modeling the E-Rate gift rule after the rules for federal employees makes sense. But for the entities themselves, clarification is needed so as to avoid deterring the valuable and legitimate activities discussed above. HP urges the Commission to consider adopting a procedure and set of conditions under which E-Rate eligible entities can accept gifts or donations. HP further suggests that the procedure and conditions the Commission has adopted to determine whether the Commission itself should accept gifts from regulated entities provide a useful framework.

The Telecommunications Authorization Act of 1992 specifically gave the Commission the authority, “in furtherance of its functions,” to “accept, hold, administer, and use unconditional gifts, donations, and bequests of real, personal, and other property (including voluntary and uncompensated services, as authorized by section 3109 of Title 5).”³⁶ In 1994, the

³³ *Sixth Report & Order*, ¶ 88.

³⁴ *See id.* (“[g]enerally, the federal rules prohibit *a federal employee* from directly or indirectly soliciting or accepting a gift (i.e., anything of value) from someone who does business with his or her agency or accepting a gift given as a result of the employee’s official position”) (emphasis added; citing 5 C.F.R. § 2635.201-205 and 48 C.F.R. § 3.101-2).

³⁵ *Compare, e.g.,* 5 C.F.R. § 2635.202(a), *with* 47 C.F.R. § 54.503(d).

³⁶ 47 U.S.C. § 154(g)(3).

Commission adopted regulations to implement its new gift acceptance authority.³⁷ These regulations apply to “gifts, donations and bequests made to the Commission itself;” gifts to Commission employees are governed by the federal agency gift rules in 5 C.F.R. Part 2635, which was adopted in 1992.³⁸

With respect to gifts to itself, the Commission decided to “reject an absolute ban on gifts from regulated entities and to construe section 4(g)(3) in a flexible manner that will better achieve its statutory objective and promote the performance of the Commission’s regulatory functions.”³⁹ The Commission’s regulations allow it to accept gifts on a case by case basis, subject to the following procedure and conditions:

(1) Gifts must be unconditional, i.e., not contingent on official action.⁴⁰

(2) Agency employees may not directly or indirectly solicit gifts and may not accept cash.⁴¹

(3) Proposed gifts must be referred to a designated agency ethics official, who must determine that acceptance “would not create a conflict of interest or the appearance of a conflict of interest,” considering the following factors: whether the gift would benefit an individual and, if so, that individual’s role in matters affecting the potential donor; the nature and sensitivity of any pending matters affecting the donor; the timing and value; frequency of other gifts; and “[t]he reason underlying the intended gift given in a written statement from the proposed donor.”⁴²

³⁷ 47 C.F.R. § 1.3000 *et seq.*

³⁸ 47 C.F.R. § 1.3000; *see Standards of Ethical Conduct for Employees of the Executive Branch*, 57 FR 35006 (1992) (adopting 5 C.F.R. Part 2635).

³⁹ *Conflict of Interest*, FCC 94-177, 59 FR 38127-01, ¶ 2 (1994).

⁴⁰ 47 C.F.R. § 1.3001.

⁴¹ *Id.* § 1.3002.

⁴² *Id.* § 1.3002-1.3003. “Agency ethics officials may also advise potential donors and their representatives of the types of equipment, property or services that may be of use to the Commission and the procedures for effectuating gifts set forth in this subpart.” *Id.* § 1.3002.

(4) Gifts must be publicly disclosed and records must be maintained including: source, description, market value, reason for gift, date of acceptance, and “[a] signed statement of verification from the prohibited source that the gift is unconditional and is not contingent on any promise or expectation that the Commission’s receipt of the gift will benefit the proposed donor in any regulatory matter.”⁴³

(5) The Commission must file a semi-annual report to Congress listing gifts, donors and value.⁴⁴

⁴³ *Id.* § 1.3004(a).

⁴⁴ *Id.* § 1.3004(b). In proposing these regulations, the Commission expressly acknowledged that gifts to individuals raise different concerns than gifts to agencies. With respect to gifts to the agency, the Commission stated that overly restrictive gift acceptance regulations could prevent the Commission from receiving donations which would be useful in performing its regulatory functions and could inhibit development of new technology:

One means of avoiding any possible conflicts of interest or ‘appearance’ concerns would be to preclude altogether gifts that are made by Commission regulatees and persons who have an interest in the outcome of Commission decisions. . . . We note, however, that adopting such restrictive regulations would greatly reduce the usefulness of the Commission’s gift acceptance authority. The Commission’s jurisdiction is expansive and affects the activities and financial interests of a great many commercial and other entities. Thus, under this approach, a vast number of potential donors would be precluded from providing gifts. Moreover, regulated entities may be the most likely donors of equipment or other services that would be useful to the Commission in achieving more efficient performance of its regulatory functions. We note, for example, that regulated entities may benefit considerably from such efficiencies and therefore have the most incentive to offer gifts such as equipment. Furthermore, in some instances that involve the development of new technologies, the regulated entity is the only source for prototype equipment that should be tested prior to the development of technical standards or other applicable regulations. Restrictive gift acceptance regulations could seriously inhibit the introduction of new technologies into the marketplace in a timely manner. Because agency gift acceptance statutes are generally intended as revenue enhancing measures, we are therefore reluctant to construe section 4(g)(3) in a manner that largely defeats that statutory objective.

In the Matter of Amendment of the Comm’n’s Rules to Implement Section 4(g)(3) of the Communications Act of 1934, As Amended, 8 F.C.C.R. 4154, ¶¶ 23-24 (1993).

The procedure and conditions set forth in 47 C.F.R. §§ 1.3000- 1.3004 could readily be adapted to regulate gifts from service providers to E-Rate eligible entities. Doing so would enable the Commission to “allow schools and libraries to take greater advantage of private philanthropy while still allowing the Commission to maintain appropriate control over E-rate expenditures and to prevent improper influence over E-rate service provider selections.”⁴⁵

3. The Commission should establish a procedure and conditions to ensure that the gift rule does not inhibit standard-practice marketing, consumer education, or research and development activities.

To encourage “private-sector innovation” and “new and creative public-private partnerships,” HP urges the Commission also to adopt a procedure and conditions under which service providers could partner with E-Rate eligible entities to assess and meet their technology needs. Such a procedure could be modeled after those suggested in HP’s *ex parte* notices and the Commission’s procedure for accepting gifts, both discussed above.

Conclusion

“We are in a unique position to help solve social challenges by uniting the power of people and technology, but we cannot do it alone. We need to leverage the power of our partnerships and networks. Effective collaboration among all relevant stakeholders - companies, governments and NGOs - is the only way to make a real social impact.”

—Gabi Zedlmayer, Vice President, Sustainability and Social Innovation, Hewlett-Packard⁴⁶

HP stands ready to answer the Commission’s call for new and creative public-private partnerships. To help shape effective technology and educational policies, HP is pleased to share its deep industry knowledge and experience with the Commission and other government

⁴⁵ See NPRM, ¶ 166.

⁴⁶ “HP 2102 Global Citizenship Report,” *Hp.com*, <http://h20195.www2.hp.com/V2/GetPDF.aspx/c03742928.pdf> (last accessed Sept. 10, 2013).

agencies. HP respectfully requests that Commission consider its comments and recommendations set forth above.

Respectfully submitted by:

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