

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

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| In the Matter of | : | |
| Modernizing the E-rate Program for Schools and Libraries | : | WC Docket No. 13-184 |
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| | : | |
| Notice of Proposed Rulemaking | : | CC Docket No. 02-6 |
| on Category Two Budgets, published July 17, 2019 | : | |

COMMENTS OF ARUBA, A HEWLETT PACKARD ENTERPRISE COMPANY

Aruba, a Hewlett Packard Enterprise company, appreciates the opportunity to file comments on Category Two budgets for E-rate, in response to the Commission’s Notice of Proposed Rulemaking (NPRM) published July 17, 2019.¹ We applaud the Commission and USAC for modernizing the E-rate program, increasing its funding, and targeting support for internal connections. As the Commission observed in the NPRM, the five-year budget approach adopted in the Second 2014 E-rate Modernization Order² has been a success. The budget approach has increased the number of schools and libraries that receive Category Two funding, made that funding more stable and equitable, and given schools and libraries more flexibility to address their own needs. Since the 2014 Modernization Orders took effect, the E-rate program has been able to fund all timely and eligible requests, not only for Category One services, but also for the historically-underfunded Category Two services.

In Section I below (pages 2-3), Aruba supports the Commission’s proposal to make the Category Two budget approach permanent.

In Section II (pages 3-5), we comment on Commission questions regarding eligible services. We agree with the proposal to continue support of basic maintenance of internal connections (BMIC) and encourage the Commission to allow the cost of multi-year BMIC contracts to be recovered in the first contract year. We also encourage the Commission to add advanced network security and self-provisioned network management to the Eligible Services

¹ *Modernizing the E-Rate Program for Schools and Libraries, Notice of Proposed Rulemaking*, 84 FR 34107 (FCC July 17, 2019).

² *Modernizing the E-Rate Program for Schools and Libraries, Second Report and Order and Order on Reconsideration*, 29 FCC Rcd 15538, 15571, ¶ 82 (2014).

List. These services are essential to keep networks secure and operating effectively, and are a top priority for school district technology leaders.

In Section III (pages 5-7), in response to the Commission’s invitation in the NPRM, we provide comments from a policy perspective on modifications that could improve the program and “speed the deployment of Wi-Fi in schools and libraries across the country.”³

I. Category Two Budgets

Category Two funding is crucial to schools and libraries for creating connections to the Internet, enabling student collaboration, and allowing students to learn in new styles through various teaching methods. Increased connectivity also allows more students to efficiently complete State testing requirements. Education is a building block to the success of our nation. With technology tightly integrated into everything we do today, Category Two services are fundamental to building the capabilities of the modern American workforce. Funding for technology is an ongoing challenge for schools and libraries, and they need strong Category Two support to improve their infrastructure.⁴ Applicants’ out of pocket costs continue to increase, and lack of sufficient resources may deter them from participating in the program. E-rate funding is particularly critical in enabling smaller and rural school districts to teach their students to adapt to the technologies they will encounter in the workplace. Without this funding, many students would fall farther behind in technological knowledge. The good news is that ever since the Commission adopted the Category Two budget approach, no requests have been denied due to insufficient funding.⁵ Based on these considerations, the Commission should make the Category Two budget approach permanent and ensure that funding is made available as quickly as possible to applicants.

³ NPRM, ¶ 3.

⁴ Funds for Learning reported based on its 2019 applicant survey that the vast majority of applicants consider E-rate funding vital to their organization’s connectivity goals and describe Wi-Fi as extremely or very important. *See Ex Parte Submission, Funds for Learning* (June 12, 2019), <https://www.fundsforlearning.com/docs/2019/07/FFL%20FY2019ApplicantSurvey-ExParte2019-06-10.pdf>. The Consortium for School Networking (CoSN) reported that nearly half of the districts responding to its annual survey cited “budget constraints” as extremely or very challenging. *CoSN’s 2018-2019 Annual Infrastructure Report*, p.18, https://www.cosn.org/sites/default/files/CoSNs%202018%202019%20Annual%20Infrastructure%20Survey%20Report%20final_0.pdf. Many K-12 schools facing financial difficulties could not have improved their infrastructure without E-rate funding. *See, for example,* <https://www.arubanetworks.com/resources/elk-grove-unified-school-district/>; <https://www.arubanetworks.com/resources/rcsd/>; <https://www.arubanetworks.com/resources/escambia-county-school-district/>.

⁵ NPRM, ¶ 6.

Among other things, the complexity of the application process may deter applicants from participating, particularly when they lack sufficient staffing resources.⁷ Though applicants have reported improvements in their experience with program administration and the EPC portal, continued improvements would likely encourage more participation. We also suggest that the Commission consider directing USAC to reach out to entities with BENs that have not used their Category Two budgets, since some entities – particularly those that are small or rural – may still be unaware of the funds available to them.⁸

In addition, as the Commission is aware, Wi-Fi will soon run out of spectrum.⁹ As the Commission makes additional spectrum available for Wi-Fi, we anticipate the broad need for 802.11ax wireless products, which are better performing and improve Wi-Fi speeds and spectrum efficiency. Adequate and predictable E-rate funding will help ensure that schools and libraries can pay for, and students can benefit from, these improvements.

II. Eligible Services

In NPRM paragraph 9, the Commission proposed extending the eligibility of managed internal broadband services, caching, and BMIC under the permanent Category Two budget approach, and asked if there are additional services it should make eligible for Category Two support. As the Commission noted in the context of assessing what services should be eligible, the budget approach “allay[s] concerns about wasteful spending and provide[s] applicants with greater flexibility to determine their own needs.”¹⁰

Aruba supports the Commission’s proposal to extend the eligibility of the services it added in 2014. With respect to BMIC, we propose that the Commission allow multi-year BMIC contracts, up to five consecutive years to coincide with the Category Two five-year budgets, eligible in full during the first funding year, comparable to how multi-year licenses of eligible software are handled.¹¹ This approach has many benefits for both applicants and the E-rate

⁷ Per Funds for Learning’s 2019 survey, while program administration has significantly improved since 2016, less than half of respondents considered EPC easy to use, and “there is clearly more work to be done to fully realize the goal of a fast, simple and efficient program.” <https://www.fundsforlearning.com/docs/2019/07/FFL%20FY2019ApplicantSurvey-ExParte2019-06-10.pdf>.

⁹ See *Comments of Hewlett Packard Enterprise Company*, GN Docket 17-183 (Oct. 2, 2017) [https://ecfsapi.fcc.gov/file/1003567229280/HPE%206%20GHz%20Comments%20\(final\).pdf](https://ecfsapi.fcc.gov/file/1003567229280/HPE%206%20GHz%20Comments%20(final).pdf).

¹⁰ NPRM, ¶ 9.

¹¹ <https://www.usac.org/sl/tools/news-briefs/preview.aspx?id=603>.

program. It will save money, since multi-year BMIC contracts often have a price advantage over single year support. It will reduce the number of annual applications and thereby reduce the administrative burden on both applicants and USAC, since applicants will only need to file a single application for the multiple years covered. And it will extend the life of E-rate funded equipment by ensuring proper maintenance.

Regarding the addition of eligible services, we ask the FCC to expand the Eligible Services List, starting with FY2020, to include advanced network security and self-provisioned network management. School districts around the country are increasingly becoming the targets of cyberattacks, as confirmed by recent headlines and government warnings.¹² CoSN recently reported that “[c]ybersecurity is a top-tier challenge for school district technology leaders,” and that “[d]espite concerns about a myriad of network security threats, only 12% of districts have a dedicated network security person to manage the challenges.”¹³ In a recent applicant survey conducted by Funds for Learning, 96% of the participants supported eligibility of network security and network management functions.¹⁴

Network security solutions are necessary to ensure that schools and libraries can offer students safe, secure and reliable network access and protect sensitive student information from unauthorized disclosure or tampering. Having a network security solution enabled will ensure

¹² In July 2019, Louisiana declared a state emergency after multiple malware attacks on several school systems in the state, describing the attacks as “severe, intentional cybersecurity breaches” that “may potentially compromise other public and private entities throughout” the state. <https://www.govtech.com/security/Louisiana-Declares-State-Emergency-After-Malware-Attack-on-Multiple-School-Systems.html>. In a March 2019 special report on K-12 cybersecurity challenges, Education Week described “the growing cyber threat facing America’s public-education sector,” illustrated by a “vicious malware attack that struck one-third of North Dakota’s schools. “In North Dakota alone, for example, the state network used by K-12 schools, state universities, and other public agencies experiences 5.7 million known cyberattacks every month, officials said.” <https://www.edweek.org/ew/articles/technology/2019/03/20/k-12-cybersecurity-lessons-learned-from-constant-barrage.html>. See also warnings from the U.S. Department of Education, <https://ifap.ed.gov/eannouncements/101617ALERTCyberAdvisoryNewTypeCyberExtortionThreat.html> [2017 - update?], and the Federal Bureau of Investigation, <https://info.publicintelligence.net/FBI-CyberCriminalsSchools.pdf>.

¹³ *CoSN’s 2018-2019 Annual Infrastructure Report*, p.4, https://www.cosn.org/sites/default/files/CoSNs%202018%202019%20Annual%20Infrastructure%20Survey%20Report%20final_0.pdf.

¹⁴ See <https://www.fundsforlearning.com/docs/2019/07/FFL%20FY2019ApplicantSurvey-ExParte2019-06-10.pdf>.

that only users and devices that meet the security requirements of the school will be allowed onto the E-rate supported network and granted appropriate access privileges, regardless of access method or device ownership, thus further protecting the eligible use of E-rate supported network resources. Securing the network access will also help to mitigate the unauthorized use of the infrastructure, including E-rate supported high-speed internet connections, reducing the demand for unnecessarily higher bandwidth. A network security incident can have many unexpected consequences, including delaying a school district's opening day.¹⁵

Network management is essential to ensure the continuous operation of school and library networks. The Commission currently supports network management as part of a managed internal broadband services contract, and encourages applicants to “compare the cost-effectiveness of bids for self-provisioned networks with those for managed Wi-Fi contracts.”¹⁶ (Para. 127). However, under the Draft FY2020 Eligible Services List¹⁷, network management is eligible only when it is provided by a third party, not when it is self-provisioned. To ensure that applicants can do a cost-effectiveness comparison and select solutions that fit their needs, we urge the FCC to provide Category Two E-rate support for both third-party network management and applicant purchases of hardware and software components that perform the same functions. Allowing the applicants to compare costs of third party versus self-provisioned network management and select the best price option will help save the program money.

III. Program Improvements

In response to the Commission's invitation to provide feedback on improvement of the E-rate process from a policy perspective, we respectfully submit the following suggestions to support the goals of ensuring a fair and open competitive bidding process while also helping ensure that E-rate funds are used as cost-effectively as possible.

First, the Commission has recognized that “technical assistance is critical to building an efficient internal network,” and that “such technical experience is often not available within a

¹⁵ See <https://www.al.com/news/2019/07/malware-attack-forces-alabama-school-system-to-push-back-start-date.html>.

¹⁶ *Modernizing the E-Rate Program for Schools and Libraries, Report and Order and Further Notice of Proposed Rulemaking*, 29 FCC Rcd 8870, ¶ 127 (2014).

¹⁷ *Wireline Competition Bureau Seeks Comment on Proposed Eligible Services List for the E-Rate Program* (Aug. 2, 2019) <https://docs.fcc.gov/public/attachments/DA-19-738A1.pdf>.

school district or library system, especially those located in rural areas.”¹⁸ E-rate applicants need help to determine the solutions that will meet their needs for a successful network deployment and even to determine a rough estimate of cost. Over the last several years, various stakeholders have urged the Commission to adopt procedures to allow E-rate applicants to obtain the technical information they need from technology providers to make informed planning and purchasing decisions and use their limited resources as effectively as possible. Clear guidance on permissible interactions between service providers and applicants would benefit applicants, service providers, and the program itself.¹⁹

Second, while the Commission has clarified that applicants that include specific manufacturers’ products or services in their Forms 470 must also request and consider proposals for “equivalent” products or services, additional guidance would be useful regarding how equivalent proposals should be considered. We have seen requests that require equivalent proposals to go through additional steps of review, steps that are not required for proposals including the manufacturer-specific products identified in the Form 470. We encourage the

¹⁸ *Second 2014 E-rate Order*, ¶ 127 (Dec. 11, 2014), https://apps.fcc.gov/edocs_public/attachmatch/FCC-14-189A1.pdf.

¹⁹ We encourage the Commission to review previously filed stakeholder comments, including: *Letter filed by multiple stakeholders*, <http://apps.fcc.gov/ecfs/document/view?id=7521310720> (June 12, 2014) (including a request to “[m]odify the procurement rules to allow vendors to provide technical advice on network design to applicants”); *Comments of Hewlett-Packard Co.*, <http://apps.fcc.gov/ecfs/document/view?id=7520943921> (Sept. 16, 2013), <http://apps.fcc.gov/ecfs/document/view?id=7521097141> (April 7, 2014), and <http://apps.fcc.gov/ecfs/document/view?id=7521364982> (July 2, 2014); *Comments of Verizon and Verizon Wireless*, at 22, <http://apps.fcc.gov/ecfs/document/view?id=7520944041> (Sept. 16, 2013) (“the Commission should clarify that it is not a violation of the gift rules for a service provider to undertake a short-term market or technology trial with schools or libraries that may involve free or discounted pricing”); *Comments of Comcast Corp.*, at 27-28, <http://apps.fcc.gov/ecfs/document/view?id=7520944020> (Sept. 16, 2013) (stating that competitive bidding rules deter service providers from giving valuable advice; recommending “steps to ensure schools and libraries have an adequate understanding of the network elements they need and encourage them to obtain as much information as possible from technology vendors and service providers to aid in choosing efficient, cost-effective broadband solutions that will provide all students with access to digital learning tools”); *Ex parte letter, Comcast Corp.*, <http://apps.fcc.gov/ecfs/comment/view?id=6017589813> (Feb. 20, 2014) (“many schools and libraries would benefit from access to templates that could assist them, as well as the ability to seek information from providers in a manner that is consistent with the competitive bidding process”); *Comments of Cisco*, at 13, <http://apps.fcc.gov/ecfs/document/view?id=7520944003> (Sept. 16, 2013) (“Cisco has numerous resources available to assist its commercial customers in assessing their networking needs and designing networks to meet them effectively. Protecting the competitive bidding process, however, makes it difficult to make such resources available to E-rate customers.”).

Commission to provide guidance on this issue to ensure applicants fully consider cost-effective alternative solutions.

IV. Closing

In closing, Aruba fully supports the Commission's proposal to make the Category Two budget approach permanent, and appreciates the Commission's consideration of its comments. As the Commission considers how to make the transition from the five-year test period to a permanent approach, Aruba encourages the Commission to adopt a plan that will ensure all applicants have a steady available flow of funding and can benefit from any additions to the Eligible Services List.

Respectfully submitted by:
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