

VIA ELECTRONIC FILING

July 1, 2015

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th St. SW
Washington, DC 20554
Re: WC Docket No. 13-184 Proposed Eligible Services List for the E-rate Program

Dear Ms. Dortch:

Education Partners Solutions, Inc. (**EPS, Inc.**) submits these Comments in response to DA15-615, the ***WIRELINE COMPETITION BUREAU SEEKS COMMENT ON PROPOSED ELIGIBLE SERVICES LIST FOR THE E-RATE PROGRAM.***

EPS, Inc. is an independent network architect and technology consulting firm for K12. EPS has been a leader in solutions for K12 networking for 20 years. EPS designed and managed the installation of a dark fiber based network for a K12 district in 1996 and has continued to work with our customers to build infrastructures to support both the near and long term needs and are cost effective, scalable, sustainable and reliable.

In response to the request for comments with the new ESL during FY 2015 application process and the invitation for commenters to suggest other changes to the organization of the ESL to make it a more useful tool during the E-rate application process.

Comments: The streamlined ESL and associated Eligible Broadband Internal Connections is overall efficient and effective to focus on the goals of the E-Rate funding to better tailor support towards high-capacity broadband and eliminated or phased down support for services that do not provide broadband; however, the following request and comments are presented for consideration for clarification of eligibility for services required for Broadband access for schools and libraries and support for the most fundamental services required for network access.

- I. Per the Eligible Service List; firewall, switching, routing, caching, wireless controller systems and software that supports the components on this list used to distribute high-

speed broadband are eligible. In addition, functionalities listed that can be virtualized in the cloud, and equipment that combines functionalities are also eligible. Therefore, a software-based solution for these eligible components and the equipment that supports this software and/or that combines these functionalities would be eligible. However, servers were eliminated from the ESL except in the case of caching. We request consideration for clarification that equipment - servers or X86 based hardware or other solutions such as multi-function appliances (which generally would be X86-based hardware) that provides the functionality listed above is eligible. In addition, the virtualization software that enables the virtualization of these functions and/or is supporting the software providing the functions on the eligible list and/or combines eligible functionalities on the list, including but not limited to routing, switching, firewall or wireless controller systems, is and should be eligible. These clarifications allow schools and libraries to select the most cost effective and technically effective solution - either dedicated hardware or a software defined network solution. This clarification also provides schools and libraries the ability to select open platform hardware and scale or add advanced features when needed.

- II. In conjunction with the above comments to clarify support for both hardware and software-based network solutions and in regards to the *ESL Note: (1) Functionalities listed above that can be virtualized in the cloud, and equipment that combines eligible functionalities, like routing and switching, are also eligible*; the equipment and software that provides virtualized network functions in the cloud are eligible. We recommend a clarification that “in the cloud” includes private or self-provisioned clouds (virtualized platforms) for components on the list used to distribute high-speed broadband as eligible. The ESL clear support for Software-defined Networking and Network Function Virtualization will allow schools and libraries to purchase open standards routing, switching, firewall and wireless systems that utilize both hardware and software to provide the most scalable and sustainable solutions and enable innovation both near and long term for their organizations. This also will encourage and support competition and cost effectiveness with open, non-proprietary, standards-based solutions.

- III. Authentication and Authorization (AAA) is fundamental for broadband access and Wi-Fi networks and meets the definition under the eligible service of “Software supporting the components on this list used to distribute high-speed broadband.” The Network Access Services of DNS and DHCP were eliminated from the ESL although these services are the most fundamental requirements for access to the Broadband Access and to the basic network. EPS, Inc. recommends re-consideration that DNS, DHCP and the authoritative user directory are supported along with continued support for AAA. In this support and clarification, both an appliance solution or a virtualized software and associated hardware solution would be eligible. The requirement to build a manageable, secure, scalable and reliable network access solution that is sized appropriately for the demands of increased mobile devices and the increased and changing security levels is a fundamental requirement for Broadband Access. These components will become increasingly more important to support a future ready network for IPv4 and IPv6 devices. DNS, DHCP and Directory integration are a significant design component for medium, large and mega size districts for both scale and security.
- IV. Based on needs of schools and libraries to choose the most cost effective, open standards and scalable solutions; we recommend a clarification that equipment, server or X86 based hardware or others, that supports software supporting the components on this list and/or combines eligible functionalities is eligible. This eligibility which would extend to Software Defined Networking (SDN) and Network Function Virtualization (NFV) hardware and software components when it is the most cost effective, scalable solution to meet the near and long term needs of the district.

Eligible Broadband Internal Connections Components

- Access points used in a local area network (LAN) or wireless local area network (WLAN) environment (such as wireless access points)
- Antennas, cabling, connectors, and related components used for internal broadband connections
- Caching
- Firewall services and components
- Switches
- Routers
- Racks
- Uninterruptible Power Supply (UPS)/Battery Backup
- Wireless controller systems
- Software supporting each of the components on this list used to distribute high-speed broadband throughout school buildings and libraries

Notes: (1) Functionalities listed above that can be virtualized in the cloud, and equipment that combines eligible functionalities, like routing and switching, are also eligible.

Respectfully Submitted by:

/s/ Ed Gifford

Ed Gifford
President
Education Partners Solution, Inc.
16107 Kensington Drive; Suite 254
Sugar Land, Texas 77479-4224
Gifford@EPS4.com

**WIRELINE COMPETITION BUREAU SEEKS COMMENT ON PROPOSED
ELIGIBLE SERVICES LIST FOR THE E-RATE PROGRAM**

WC Docket No. 13-184

Comment Date: June 22, 2015

Reply Comment Date: July 6, 2015

The Wireline Competition Bureau (Bureau) seeks comment on the attached proposed eligible services list (ESL) for the schools and libraries universal support mechanism (more commonly known as the E-rate program) for funding year 2016.¹ We invite stakeholders to comment on any aspect of the proposed ESL, and particularly welcome comments based on applicants' and other interested parties' experience with using the ESLs for recent funding years. Below, we identify the more significant changes between the funding year 2015 ESL and the proposed funding year 2016 ESL, and seek comment on whether we should adopt or modify those changes:²

- In the *Second E-rate Modernization Order*, the Commission expanded the options available for purchasing affordable high-speed connectivity by equalizing the treatment of lit and dark fiber and allowing applicants to self-provision high-speed broadband networks if the applicant is able to demonstrate that self-provisioning is the most cost-effective option and is able to satisfy certain other conditions.³ The proposed ESL reflects the changes in eligibility for dark fiber, and adds explanatory "notes" regarding leased lit and dark fiber and self-provisioned broadband networks in the "Digital transmission and Internet access" entry of the Category One section. The notes explain that applicants must seek competitive bids for network maintenance and operation, and all other eligible services and equipment, in order to receive E-rate support. The proposed ESL also adds a description of eligible special construction or installation charges for Category One services. We seek comment on these proposed revisions.
- The proposed ESL adds equipment necessary to make a broadband service functional to the list of eligible costs for leased lit fiber, dark fiber, and self-

¹ See 47 C.F.R. § 54.502 (detailing the procedures for seeking comment on a draft ESL for the E-rate program for the upcoming funding year); Attachment, Draft Schools and Libraries Eligible Services List for Funding Year 2016.

² Petitions for reconsideration of the Commission's Second E-rate Modernization Order are pending before the Commission, but we do not invite requests for reconsideration of the E-rate Modernization Orders as part of this notice seeking comment on the proposed funding year 2016 ESL. See *Modernizing the E-rate Program for Schools and Libraries*, WC Docket No. 13-184, Order and Further Notice of Proposed Rulemaking, 29 FCC Rcd 8870 (2014) (*E-rate Modernization Order*); *Modernizing the E-rate Program for Schools and Libraries, Connect America Fund*, WC Docket Nos. 13-184, 10-90, Second Report and Order and Order on Reconsideration, 29 FCC Rcd 15538 (2014) (*Second E-rate Modernization Order*).

³ *Second E-rate Modernization Order*, 29 FCC Rcd at 15549, paras. 30-54.

provisioned broadband networks. This clarification is necessary to fully equalize the treatment of lit and dark fiber and to support self-provisioned broadband networks.⁴ We seek comment on this proposed clarification.

- In the *Second E-rate Modernization Order*, the Commission clarified its cost allocation requirements for circuits that carry both voice and data services.⁵ The full cost of circuits dedicated solely to voice service, including PRIs, SIP trunks, and VoIP provider circuits are subject to the voice services phase down, while the costs for bundled voice and data services provided over a single circuit, must be cost allocated.⁶ Because Integrated Services Digital Network (ISDN) is typically provisioned as a voice service, and the Bureau has referred to ISDN synonymously with PRI circuits in the ESL,⁷ the proposed ESL adds ISDN to the list of eligible voice services. However, for applicants that may be receiving ISDN as bundled voice and data service, ISDN also remains listed in the ESL as an eligible digital transmission service so that a cost allocation can be sought for the data portion of the service that is not subject to the voice phase down. We seek comment on this proposed clarification.
- In the *Sixth Report and Order*, the Commission decided that basic firewall protection that is included as part of an Internet access service would continue to be an eligible feature of Internet access service.⁸ The Bureau subsequently clarified that firewall components separate from basic firewall protection provided as a standard component of Internet access service are eligible internal connections.⁹ The proposed ESL clarifies the eligibility of firewall services and components consistent with this precedent. We seek comment on these proposed clarifications.
- Last year, the Bureau restructured the ESL into Category One and Category Two services as directed in the *E-rate Modernization Order*.¹⁰ The Bureau also streamlined the list of supported services in the ESL to better tailor support towards high-capacity broadband and eliminated or phased down support for services that do not provide broadband. We seek comment on applicants' and

⁴ See *Second E-rate Modernization Order*, 29 FCC Rcd at 15552, para. 35 (citing *Rural Health Care Support Mechanism*, WC Docket No. 02-60, Report and Order, 27 FCC Rcd 16678, 16738, para. 131 (2012)).

⁵ *Id.* at 15602, para. 162.

⁶ *Id.*

⁷ *Schools and Libraries Universal Service Support Mechanism*, CC Docket No. 02-6, Order, 28 FCC Rcd 14583, App. B – Eligible Services List (Wireline Comp. Bur. 2013) (explaining that ISDN is synonymous with BRI and PRI).

⁸ See *Schools and Libraries Universal Service Support Mechanism, A National Broadband Plan for Our Future*, CC Docket No. 02-6, GN Docket No. 09-51, Sixth Report and Order, 25 FCC Rcd 18762, 18808-18809, para. 105 (2010) (*Sixth Report and Order*).

⁹ *Schools and Libraries Universal Service Support Mechanism*, CC Docket No. 02-6, Order, 26 FCC Rcd 13280, 13284, para. 14 (Wireline Comp. Bur. 2011).

¹⁰ See *Schools and Libraries Universal Service Support Mechanism et al.*, CC Docket No. 02-6 et al., Order, 29 FCC Rcd 13404 (Wireline Comp. Bur. 2014).

other stakeholders' experience with the new ESL during FY 2015 application process and invite commenters to suggest other changes to the organization of the ESL to make it a more useful tool during the E-rate application process.

Pursuant to sections 1.415 and 1.419 of the Commission's rules,¹¹ interested parties may file comments on or before **June 22, 2015** and reply comments on or before **July 6, 2015**. All comments are to reference **WC Docket No. 13-184** and may be filed by paper or by using the Commission's Electronic Comment Filing System (ECFS).

- Electronic Filers: Comments may be filed electronically using the Internet by accessing the ECFS: <http://fjallfoss.fcc.gov/ecfs2/>.
- Paper Filers: Parties who choose to file by paper must file an original and one copy of each filing. If more than one docket or rulemaking number appears in the caption of this proceeding, filers must submit two additional copies for each additional docket or rulemaking number.

¹¹ 47 C.F.R. §§ 1.415, 1.419.