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**Justification for Funding Items on 471 Application 161010318**  
**Appeal Number 36611**

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This white paper explains the necessity of funding two key items (Items 1100EDUM200160 and 1100EDUM23060) that were not included in the Funding Commitment Decision Letter and provides justifications to demonstrate that the items in question provide the vital cloud-based control system employed by district IT employees on a daily basis to configure, operate, and manage the networking equipment.

**PART 1**

The published request for proposals (RFP), in FCC Form 470 Number 161010318 titled “Federal Hocking Local Schools’ *Request for Proposal - Wireless Infrastructure and Power Protection*, under **Technical Requirements** (Part 1. Wireless Network Equipment, Subsection c. Management), states, “Access points, routers and switches shall be cloud managed.” The USAC RFP’s requirement for cloud-based management of the network is derived from pragmatic considerations and industry standards discussed below.

In smaller, rural school districts, such as The Federal Hocking Local School District (FHLSD), Instructional Technology staff are commonly compelled to perform many duties simultaneously and on an as-needed basis. FHLSD employs one and three-fifths (1-3/5) FTE employees who are charged with, among other IT duties:

- designing, procuring, maintaining, and managing all district technology devices, networks, and resources
- creating and managing district integrated communication and collaboration systems
- procuring, managing, and maintaining items such as district HVAC systems, school lunch software and systems, library automation, & etc.
- developing, managing, and supporting district one-to-one, mobile-device, and other educational technology programs
- supporting end users

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FHLSD is comprised of several school locations spread across a geographic footprint covering over two-hundred square miles. As a result of the many demands placed on IT staff across multiple locations and a large area, to the maximum extent possible systems must be capable of being remotely managed on a 24/7 basis. Cloud-based management makes this possible in ways unimagined even a decade earlier, leveraging great benefit for learners who happen to live and go to school in technology poor environs.

For 20 years [Techtarget](#)<sup>i</sup> has been providing research and advice to and for technology sector providers and users. In one of their papers [Cloud-managed wireless: Why network engineers love it](#)<sup>ii</sup> IT professionals polled reported better network performance using cloud-based management, with the number one benefit being the “Ability to remotely manage WLAN.” Other advantages include activating new features and updates in a more timely fashion, improving scalability, and supporting mobile device management. It is clear that cloud-based network management is obviously a better solution than a place-bound software system that could be subject to local equipment failures and more difficult methods of connecting to the control system.

### **PART TWO**

It has been shown above that a modern wireless local area network providing educational access to internet-based resources - particularly in multiple locations across large distances - is best managed via a cloud-based solution, as required in the FHLSD RFP and provided by the vendor. The cloud-based management system is absolutely necessary to all operation and every function of the installed WLAN. Simply put, the WLAN will not work without the cloud-based management systems.

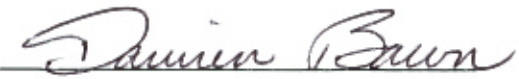
Item 1100EDUM200160 provides cloud-based management for each Access Point (AP) across all locations. Item 1100EDUM23060 provides cloud-based management for each network switch in the WLAN, which are required to provide power and network signal to Access Points at all locations. These items, in fact, comprise the operating software and none of the other products we purchased provides the licensing for the software. Together the items and their respective cloud-based management systems are the sole means of configuring, managing, troubleshooting, and maintaining the wireless local area network.

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**CONCLUSION**

Per the 2016 Eligible Services List, Eligible Broadband Internal Connections includes, "Software supporting the component on this list used to distribute high-speed broadband throughout school buildings and libraries." Note 1 of this section states, "Functionalities listed above that can be virtualized in the cloud, and equipment that combines eligible functionalities, like routing and switching, are also eligible." Based on this and information provided above, the funding items 1100EDUM200160 and 1100EDUM23060 should be reinstated.

Completed by:   
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**ENDNOTES**

<sup>i</sup> <http://www.techtarget.com/about-us/>

<sup>ii</sup> <http://searchnetworking.techtarget.com/feature/Cloud-managed-wireless-Why-network-engineers-love-it>