

November 20, 2009

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**Comments – NPB Public Notice #15
GN Docket Nos. 09-47, 09-51, 09-137
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WC Docket No. 05-195**

Comments By Texas Education Telecommunication Network

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I. Initial Comments

Please accept these comments of Texas Education Telecommunications Network (TETN) in response to questions posed in the Public Notice DA 09-2376. TETN intends to respond on behalf of its “TETN Plus” members and in regards to various issues related to broadband access in education and to the schools and libraries universal service support mechanism (E-rate). TETN applauds the comprehensive list of issues covered by this Public Notice but will only comment on Issues 1, 2, 11 – 13 in this response.

II. Introduction and Background

TETN membership is a consortium of twenty-one (21) entities; the Texas Education Agency (TEA) and the twenty Texas Education Service Centers (ESCs). TETN performs dual roles by providing a data and video network among the 21 members as well as providing statewide and Internet2¹ transport services for Texas school districts via their ESC’s network.

¹ Internet2 is a not-for-profit advanced networking consortium comprising more than 200 U.S. universities in cooperation with 70 leading corporations, 45 government agencies, laboratories and other institutions of higher learning as well as over 50 international partner organizations.

The ESCs' regional networks provide Internet access and/or other networking services such as videoconferencing to 917 school districts and charter schools in the State. ESC networks also support connections to local community colleges and universities for distance learning classes. Some ESC networks also support connections to local museums and cultural institutions for delivery of enriched content to their schools.

III. Questions, November 2, 2009 Public Notice DA 09-2376

Issue 1 – Broadband Deployment Data

The “TETN Plus” broadband deployment project is in progress. This middle-mile network supports gigabit connections among strategic cities in Texas using services from the Texas Lonestar Education and Research Network (LEARN)². See map of the TETN Plus Network in Attachment 1. The deployment project intends to leverage economy-of-scale pricing for internet access that can be passed to school districts, and to build more bandwidth to support distance learning and collaborative projects among schools districts in Texas. Since TETN Plus implemented the gigabit backbone and began offering shared internet access, several ESCs have reconfigured their regional networks and doubled the amount of internet access to school districts.

Several of the ESCs not on the TETN Plus network are unable to find affordable, 100 Mbps middle-mile transport to one of the TETN hub cities. For example, an ESC located in Abilene must pay anywhere from \$3,250 a month to \$4,500 for 100 Mbps to reach a hub city. An ESC located in a metropolitan area will pay \$600 for 400 Mbps to go across town. Finding affordable middle-mile transport is critical to deploying broadband to all the ESCs.

The major barriers that prohibit us from expanding our infrastructure include:
**lack of wide-spread Ethernet deployment by carriers, especially middle-mile and last mile in rural areas
**lack of affordable middle mile and last mile Ethernet even with E-rate subsidies
**E-rate rules that discourage the adoption of alternative solutions to obtain broadband, such as lease-to-own fiber
**lack of E-rate support for middle-mile transport provided by state education networks

Issue 2 – Broadband and Digital Content

The Texas ESCs and their schools would not have a broadband backbone with access to statewide, national and international education networks without using the transport services of the higher education research network in Texas, LEARN. After exhaustive searching, talking with providers and issuing an RFI, no entity could offer gigabit, middle mile connections across the State for less

² LEARN is a consortium of 35 organizations throughout Texas that includes public and private institutions of higher education, community colleges, and K-12 public schools. The Consortium, organized as a 501(c)(3), connects these organizations, and over 400 affiliated organizations, together with high performance optical network services to support their research, education, healthcare and public service missions.

cost than LEARN. Based upon information received in the RFI, using LEARN middle-mile connectivity cost approximately 27% less than using a carrier and filing for E-rate reimbursements.

Currently eleven (11) ESCs out of 20 have joined the TETN Plus project, which is funded solely by local funds. The ESCs that have joined are expanding their use of our statewide videoconferencing program, and are sharing internet access to reduce costs or provide additional internet access to school districts for the same costs. Other benefits of the project include opportunities to share services such as disaster recovery solutions and shared content programs. The ESCs that have not joined the new network either do not have affordable middle-mile connections to reach a TETN hub city and/or do not have the funds required to join the network.

Issue 11 – E-Rate Modifications

Currently the TETN legacy network applies for Priority 1 funding for T1s and one OC3. These are slowly being replaced with gigabit connections from LEARN which are not currently eligible for E-rate funding.

For Priority 1 services, E-rate rules should:

Broaden the definition of “eligible use.” Specifically, rules should not regulate who uses a school network and should not limit the use of broadband to “conduit to the Internet.” These current restrictions inhibit school districts from offering the use of their resources to local community programs including higher education, health care and economic development programs.

Broaden eligibility to two-year higher education institutions and non-research higher education institutions. The division between K-12 and higher education is merging as a result of distance learning and dual-credit classes. High school students are graduating with 20-plus hours of college credit and even some high school programs are physically operating in community colleges. Broadening the definition of “eligible user and eligible site” would support expansion of state education networks and further the economy-of-scale opportunities.

Broaden the definition of a WAN to encourage state education networks. States, including Texas, have invested in education and research networks because they offer economy-of-scale pricing for middle and last miles and for internet access. State education networks drive the demand for broadband by expanding distance learning opportunities for teacher sharing, dual-credit and college courses.

Broaden the definition of telecommunication services to be technology-neutral, and eliminate the restriction that only “telecommunication carriers” can provide telecommunication services. Funding should support the most-affordable solution, which in parts of the country may be lease-to-own fiber, dark fiber or wireless purchased by the applicant. Schools should have the choice of obtaining telecommunication and internet services from the most

affordable provider, which may or may not come from one source. For example in Texas TETN Plus buys telecommunications transport from LEARN and internet access from a Tier 1 carrier to arrive at the most cost-efficient solution.

Broaden “eligible sites” to include not-for-profit museums, science and cultural centers, and other organizations that are engaged in providing distance learning program for students. Many already are connected to state and national education networks for distance-learning purposes.

Issue 12 – E-rate Disbursement

Consider a new approach for funding schools that do not have affordable access to broadband. Many times lack of broadband is due to the telecommunications carrier not having the infrastructure in place. One option is to fund infrastructure improvement projects to help the carrier pay upfront costs, thereby reducing the monthly recurring charges and the duration of the contract. This could be a simplified extension of NTIA’s broadband grants.

Consider creating a short-form application for broadband and internet access with simple reporting requirements. Fund at only 2 pre-determined levels based upon giving a higher percentage to schools located in areas that don’t have affordable broadband. Fund middle mile networks at a certain percentage to encourage expansion and adoption programs.

Simplify consortium applications for Priority 1 services, especially middle-mile education networks. Consider streamlining the process by automatically funding reimbursements at a certain percentage that is pre-determined for each State.

Issue 13 – E-Rate Funding

The use of the Universal Service Fund mechanism is outdated and doesn’t produce the necessary funds. A new source of funding must be identified. Prioritize funding Telecommunication Services over Internal Connection services or expanding to new services until anchor institutions in the U.S. have access to affordable broadband.

IV. ATTACHMENT A

