

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

In the Matter of)	
)	
Modernizing the E-rate)	WC Docket No. 13-184
Program for Schools and Libraries)	

**INITIAL COMMENTS OF THE STATE OF NEBRASKA, OFFICE OF THE CHIEF
INFORMATION OFFICER, REGARDING FURTHER NOTICE OF PROPOSED RULEMAKING
SET FORTH IN FCC ORDER 14-99 (RELEASED 7/23/2014)**

TABLE OF CONTENTS

Heading

- I. EXECUTIVE SUMMARY
- II. NETWORK NEBRASKA SUMMARY
- III. MEETING FUTURE FUNDING NEEDS (¶268-270)
- IV. ENSURING THAT MULTI-YEAR CONTRACTS ARE EFFICIENT (¶271-278)
- V. STANDARDIZING THE COLLECTION OF NSLP DATA (¶279-284)
- VI. ENCOURAGING CONSORTIUM PARTICIPATION (¶285-297)
- VII. ENSURING SUPPORT FOR LIBRARIES IS SUFFICIENT (¶298-300)

I. EXECUTIVE SUMMARY

The Nebraska Office of the Chief Information Officer (hereafter referred to as “Nebraska OCIO”) commends the Federal Communications Commission (hereafter referred to as “Commission”) for taking up the very important task of modernizing the E-rate program to further increase the availability and adoption of high-capacity broadband for the nation’s schools and libraries. The Nebraska OCIO welcomes the opportunity to provide comment on the Further Notice of Proposed Rulemaking.

The Nebraska OCIO recommends to the Commission that it:

- A. Focus on helping under-served entities to achieve affordable, scalable transport infrastructure and allow the entity, itself, to determine how much Internet is used over that infrastructure rather than embrace the 1,000Mbps per 1,000 students and staff metric;
- B. Refrain from imposing contract duration limits of any kind on state contracts that are procured through state agency procurement;
- C. Consider defining and financially incentivizing *network consortia* to attract new members and save costs for the E-rate program;
- D. Delay the implementation of weighted consortium averages until the 2016-17 program year;
- E. Focus on the capacity and existence of external fiber connectivity for underserved libraries in parallel with increased funding for internal connections.

II. NETWORK NEBRASKA SUMMARY

- A. The Nebraska OCIO was given administrative and management responsibility by the Nebraska State Legislature in 2006 to work in partnership with the University of Nebraska to develop and maintain a statewide, multipurpose, high capacity, scalable telecommunications network to be called **Network Nebraska**. “The network shall consist of contractual arrangements with providers to meet the demand of educational entities. The network shall provide access to a reliable and affordable infrastructure capable of carrying a spectrum of services and applications, including distance education, across the state. The Chief Information Officer shall aggregate demand for those state agencies and educational entities choosing to participate and shall reduce costs for participants whenever feasible. The Chief Information Officer shall establish a cost structure based on actual costs and shall charge participants according to such cost structure. The Chief Information Officer shall annually provide a detailed report of such costs to each participant and to the Legislative Fiscal Analyst.” (Neb. Rev. Stat. 86-5,100)
- B. Since 2006, the Nebraska OCIO and the University of Nebraska have worked together to carry out the vision of the Legislature to create a single, statewide, IP-based network that interconnects K-12 school districts, educational service units, and higher education. On July 1, 2014, Network Nebraska marked its 275th participant in this statewide consortium. Participation includes:
1. 231 of 246 public school districts (94%)
 2. 17 of 17 Educational Service Units (100%)
 3. 8 of 8 community colleges [including 2 tribal colleges] (100%)
 4. 3 of 3 state colleges (100%)
 5. 1 of 1 University of Nebraska (100%)
 6. 7 of 14 private colleges (50%)
 7. 6 of 213 private, denominational schools (3%)
 8. 1 of 270 public libraries (.3%)

Network Nebraska-Education daily serves approximately 375,000 K-12 and higher education students, or about 95% of the state's public student population.

- C. The Nebraska OCIO is responsible for the E-rate filing on the statewide backbone and statewide Internet access for all of the eligible education entities, and based on the poverty and 'rurality' of the participants, has received an annual E-rate discount ranging from 68-70% on those services. The entities, themselves, are responsible for the E-rate filing on the Wide Area Network (WAN) circuits needed to reach the Network Nebraska-Education aggregation points.
- D. The Nebraska OCIO is also responsible for the aggregation of demand and procurement of the WAN circuits, statewide backbone circuits, and statewide Internet.
- E. Since the Nebraska OCIO began managing Network Nebraska-Education in 2006, an additional 24 school districts have been connected with terrestrial optical fiber for the first time, so that an estimated total of 99.2% of Nebraska's 246 public school districts now are connected with scalable fiber telecommunications circuits. Actual building-level WAN data is currently being collected.
- F. Network Nebraska-Education is a Sponsored Education Group Participant (SEGP) of Internet2, and enjoys preferential Intranet routing and peering through the Great Plains Network (GPN) Gigapop in Kansas City. The cost for Commercial Peering Service Internet through the GPN is \$.25/Mbps/month but is non-E-rate eligible.

III. MEETING FUTURE FUNDING NEEDS (¶¶268-270)

- A. (FNPRM ¶269) On the matter of submitting data regarding the gap between schools' and libraries' current connectivity and the connectivity targets adopted in the Order, the Nebraska OCIO finds that the 100Mbps per 1,000 students and staff is a reasonable target for schools, but that the 1,000Mbps per 1,000 students and staff is an

unreasonable target. Network Nebraska currently purchases about 25Gbps of commodity Internet for 350,000 K-12 and higher education users (~ 71Mbps per 1,000). To reach the 1Gbps per 1,000 users would require Nebraska education community to increase from 25Gbps to 350Gbps in a matter of three years, which does not seem likely.

- B. A much more meaningful measure of school and library readiness for digital education, content distribution and patron Internet access is to determine the percentage of schools and libraries that have **scalable fiber infrastructure** to their premise. Nebraska public school DISTRICTS = 99.2% fiber (246 out of 248) and for public LIBRARIES = 13% fiber (estimated as 36 out of 268). The Commission's focus should be on helping under-connected entities to achieve affordable, scalable transport infrastructure and allow the entity, itself, to determine how much Internet is used over that infrastructure.
- C. On the matter of determining the funding required for schools and libraries to attain the external bandwidth targets adopted by the Commission, here is an gross estimate of the Nebraska connectivity costs needed to connect 2 school districts and 232 libraries to fiber, assuming that each entity is located an *average* of 1 mile from the nearest telecommunications central office and that fiber connectivity charges for underground and/or overhead fiber *average* about \$12 per linear foot.
- i. 234 entities x Ave. 5,280 feet x \$12/linear foot = \$14.83 million total costs
 - ii. \$14.83 million x Ave. Statewide E-rate Discount of 66% = \$9.78 million
 - iii. \$14.83 million x Ave. Non-Discount Portion of 34% = \$5.05 million
- D. While school districts may have the ability to pay the non-discounted portion of the total connectivity (non-recurring) Category 1 costs, rural public libraries do not. So, while the newly allocated Category 2 funding aims to relieve a pent up demand for WiFi and internal connections wiring, it does nothing to improve the speed and connectivity

through Category 1 incentives, and only exacerbates the problem for libraries over the currently overloaded DSL and cable modem infrastructure.

- E. (¶270) If the Commission wishes to increase the broadband capacity of schools and libraries both inside and outside the building walls, then an increase in the E-rate cap will be necessary to meet future funding demands. By indexing to inflation, the \$2.25 billion cap would be in excess of \$3.4 billion for 2015-16.

IV. ENSURING THAT MULTI-YEAR CONTRACTS ARE EFFICIENT (¶271-278)

- A. (¶271-278) On the matter of the Commission placing a limit of five years (including extensions) duration for telecommunications contracts, the Nebraska OCIO has been very successful in decreasing the cost of WAN transport circuits and commodity Internet rates through the State Purchasing Bureau. Since 2006, Nebraska has decreased its unit cost of commodity Internet by 98% and its average per Mbps/month WAN transport costs by 37% with 8-year and 6-year total contract durations, respectively.
- B. State purchasing agencies are dedicated to achieving the fastest speeds, best service levels at the lowest price, and are quite capable of determining the optimal contract lengths to reach this objective, on a state-by-state basis, with significant administrative oversight (See Table 1.1).
- C. (¶275) As an alternative to shorter contract durations, many states have successfully employed “Technology Refreshment” clauses and/or periodic price reviews and adjustments as part of the procurement process. This includes Nebraska OCIO. A typical Technology Refresh clause from a Nebraska state RFP appears below:
 - i. *The State and the Contractor will work in partnership to ensure the services provided under this contract will be continuously refreshed as technologies evolve and user needs grow. The Chief Information Officer, in conjunction with, or on behalf of, all other participants, will assume the primary role in seeking and proposing new technologies and enhancements. This technology refreshment clause will be a required condition of the contract. The State and the Contractor*

will conduct periodic reviews of the contract at specific milestones during the term of the contract to review service offerings and pricing. These reviews may result in expanding the services offered by the Contractor to include new pricing elements or pricing modifications associated with improved economies of scale and/or technological innovations. Changes in the industry related to regulation and/or pricing mechanisms may also result in modification of rates identified in the services offered by the Contractor. These review periods will commence when the State feels an improvement in economies of scale or technological innovation has occurred.

State	WAN Transport Circuits	Internet Access	IRU Dark Fiber	Procurement conducted by:	Procurement oversight by:	Contract pricing subject to periodic price review and adjustment?
Nebraska (d.b.a. Network Nebraska Statewide Consortium)	4 yrs* + 4 one-year extensions; Total = 8 years	3 yrs + 3 one-year extensions; Total = 6 years	20-25 years	State Purchasing Division	Governor, Legislature, State Auditor, Head of Admin Services, General Counsel	YES

Table 1.1 Typical Telecommunications Contract Terms for Statewide Master Contracts

V. STANDARDIZING THE COLLECTION OF NSLP DATA (§279-284)

A. (§281, 284) On the matter of requiring NSLP data for determining the school and library E-rate discounts, the Nebraska OCIO strongly supports such an action. The Nebraska Department of Education Nutrition Services is already set up to share NSLP data with USAC, the Nebraska OCIO, and also verifies data with Nebraska schools. Consequently, Network Nebraska-Education has had very few problems with inconsistencies in NSLP data.

VI. ENCOURAGING CONSORTIUM PARTICIPATION (§285-297)

A. (§290) On the matter of requiring use of the weighted average to determine the consortium’s discount rate, the Nebraska OCIO agrees with the State E-rate Coordinators Alliance (SECA) to not change the discount methodology at this time. The introduction of a new approach for computing consortium discounts will unduly complicate the program at a time when there are numerous other changes occurring with

respect to the manner of computing discounts: Moving districts to the simple average approach and changing the rural/urban designation process. SECA members are studying this issue and will address the merits of it at a later time, possibly for the 2016-17 program year.

B. (§294) Network Nebraska meets or exceeds all five criteria and sub-criteria for a *network consortium* proposed by the Council of Chief State School Officers (CCSSO):

- i. The group of eligible entities must meet at least one of the following conditions:
 - (a) serve at least 30 percent of the total number of students enrolled in public, private and charter schools in a state (unless a single LEA constitutes 30 percent or more of the student population in which case the group of eligible entities must also satisfy (i)(b));
 - (b) Include schools from at least 30 percent of the local education agencies (LEAs) in the state (a charter schools shall be deemed a school within the LEA that authorized the charter unless the charter school is treated as an LEA under state law); OR
 - (c) Be designated as a “consortium” through a process created by a state education agency, state statute, or other state-established criteria for a consortium; and
- ii. The group of eligible entities must document the participation of individual entities with a letter of agency, memorandum of agreement, memorandum of understanding, service level agreement, or other equivalent document; and
- iii. The group of eligible entities must maintain some level of governance or sponsorship such as a board, council, advisory body, state agency, intermediate service agency, or university; and
- iv. The group of eligible entities must perform large-scale, centralized procurement that results in state master contracts or master agreements for equipment, Wide Area Network circuits, statewide backbone circuits, Internet access, or other E-rate eligible services or equipment; and
- v. Membership in the consortium must be open to all eligible schools and libraries, including public charter schools and private schools.

C. (§295) On the matter of granting an additional 5% discount rate for consortia meeting certain criteria, the Nebraska OCIO strongly supports such an action for consortia that perform network management functions. *Network consortia* not only use aggregation of demand to leverage better buying power, but *network consortia* also provide the added advantage of “bandwidth avoidance” through a statewide Intranet, thereby reducing the average daily commodity Internet usage by 20-35%. This helps reduce the bandwidth purchase of commodity Internet, and thus, reduces the overall costs and reimbursement claims to the E-rate program.

D. (§295) Another type of consortium exists in the E-rate program—that of a *filing consortium*. A *Filing Consortium* greatly reduces the administrative burden on individual entities by filing for WAN circuits and Internet purchases *en masse*, so that economies of scale can be achieved and expertise developed around the intricate and complex E-rate filing process. Other USAC filing benefits for consortia, as of late, include an expedited review and approval of applications and possible future streamlining of form submission for Years 2-X of a multiyear contract. For discussion purposes, perhaps the FCC could consider a +3% discount rate for *Filing Consortia*, not to exceed 90% for Category 1 funding, and not to exceed 85% for Category 2 funding.

VII. ENSURING SUPPORT FOR LIBRARIES IS SUFFICIENT (§298-300)

A. (§298-300) On the matter of determining the proper formula for public library E-rate support of internal connections, please keep in mind that there are thousands of small, rural libraries across the U.S. that are confined to inadequate DSL and cable modem Internet access. While Network Nebraska-Education stands ready to serve them with a statewide backbone and offering one of the lowest Internet rates in the country, most of the small rural libraries cannot afford the costs to install a scalable, high bandwidth transport circuit to reach Network Nebraska-Education, or the nominal costs of participation in Network Nebraska-Education. Without a hybrid local-state-USF augmented funding approach, Nebraska rural public libraries will be relegated to insufficient external bandwidth at a time when their patrons are demanding faster Internet connectivity.

The Nebraska OCIO applauds the Commission for its efforts to ensure our nation's students receive access to the high-speed broadband connectivity and technology necessary for 21st century digital learning, and appreciates the Commission's review of our comments on this matter. If you have any questions, please contact Tom Rolfes, Education I.T. Manager at (402) 471-7969, tom.rolfes@nebraska.gov or SuAnn Witt, State E-rate Coordinator at (402) 471-2085, suann.witt@nebraska.gov.

Respectfully Submitted,

/s/ Brenda L. Decker

Brenda L. Decker
Chief Information Officer
State of Nebraska
501 S. 14th Street, P.O. Box 95045
Lincoln, NE 68509-5045
brenda.decker@nebraska.gov
(402) 471-3717