State of Nebraska

**Pete Ricketts**
Governor

**Office of the Chief Information Officer**
***Ed Toner***
Chief Information Officer
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402-471-3560

July 22, 2016

Greetings from the State of Nebraska--Office of the Chief Information Officer (OCIO). My name is Ed Toner and I am just finishing my first year of employment as State CIO, helping oversee Network Nebraska and interconnecting almost all schools and colleges throughout the State of Nebraska.

Within this memo, the OCIO will announce the 2016-17 Network Nebraska-Education fees and also update you on a number of exciting developments relative to this statewide education network.

I am pleased to report that 6 new entities will be joining Network Nebraska during summer 2016, bringing our total membership to 291. Public K-12 and public higher education participation is now 100%, as we welcome South Platte Public Schools and private K-12 is over 20% and private higher education is at 50%. A Participant Report Summary appears at the end of this memo as we pass the ninth anniversary of the inception of this amazing statewide network consortium.

The Network Nebraska Advisory Group (NNAG) is now in its seventh year of existence—comprised of 8 individuals from K-12 and 8 from higher education. These members usually meet every other month and indirectly represent the interests of all 291 education entities presently on the K-20 network. Their job is to provide strategic vision and operational recommendations to the Office of the Chief Information Officer as we manage and grow the network. If you are interested in serving on the NNAG, you may contact co-chairs Scott Jones, scott.jones@esusixteen.org if you are with K-12, or Debbie Schroeder, schroederd@unk.edu, if you are with higher education.

We have two backbone circuit changes scheduled for implementation during summer 2016 as well as many fiber circuit upgrades. The UNCSN project team is working with 13 different providers and education staff to make sure the conversions go smoothly.

A couple of positive changes happened with statewide Internet access, effective 7/1/2016. Windstream Internet unit costs were voluntarily reduced and an Omaha InterExchange Carrier was hired to provide the network more bandwidth for Google applications. The blended (averaged) unit rate for 2016-17 decreased by 16% (to $.79/Mbps/month). For the fifth year in a row, the Office of the CIO has assumed the E-rate filing on the eligible portion of the statewide Internet purchase and will be billing the K-12 and library entities the post-E-rate amounts ($.24/Mbps/month) after a 67% discount.

At the recommendation of the NNAG, a line item was added to the Participation Fee Budget to allow for funding and deployment of hardware to prevent Distributed Denial of Service (DDoS) threats, which plague many of our network Participants. This service will be thoroughly researched before purchase.

The Network Nebraska-Education backbone circuit capacity will range from 2Gbps up to 10Gbps. Three aggregation circuits are being used to serve ESUs 3, 4, 5, 6 and this aggregation topology will likely terminate on 6/30/2018, and be replaced by provider infrastructure.

The Participation Fee budget for 2016-17 includes a line item called "Network Upgrade Project" which will be used to help pay for a share of a University of Nebraska dark fiber project, which will provide increased capacity in the Lincoln-to-Omaha transport segment at the start of the 2016-17 school year. There will be a 6% increase in Participation Fees for 2016-17 to pay for the Traffic Shaper upgrade and the DDoS prevention services.

The NNAG, the OCIO financial solutions team, and the Collaborative Aggregation Partnership (CAP) have been reviewing the network revenue and expenses for the coming year and are prepared to announce the 2016-17 rates, which will take effect with the August 2016 billing:

| Performance Year | Network Nebraska **Participation Fee** | Number of Entities |
|---|---|---|
| **2016-17** | **$217.47/month/entity** | **291 entities** |
| 2015-16 | $205.35/month/entity | 285 entities |
| 2014-15 | $218.30/month/entity | 274 entities |
| 2013-14 | $215.83/month/entity | 261 entities |
| 2012-13 | $203.48/month/entity | 253 entities |
| 2011-12 | $190.21/month/entity | 244 entities |
| 2010-11 | $195.13/month/entity | 226 entities |
| 2009-10 | $192.47/month/entity | 232 entities |
| 2008-09 | $197.80/month/entity | 182 entities |
| 2007-08 | $200.00/month/entity | 94 entities |

| Performance Year | Network Nebraska **Interregional Transport Fee** | Number of Entities |
|---|---|---|
| 2016-17 | $21.49/month/K-12 entity ($ 67.16/month/college) | 291entities |
| 2015-16 | $22.12/month/K-12 entity ($ 70.39/month/college) | 285 entities |
| 2014-15 | $18.49/month/K-12 entity ($ 57.79/month/college) | 274 entities |
| 2013-14 | $17.38/month/K-12 entity ($ 53.80/month/college) | 261 entities |
| 2012-13 | $18.67/month/K-12 entity ($ 61.28/month/college) | 253 entities |
| 2011-12 | $31.69/month/K-12 entity ($101.09/month/college) | 244 entities |
| 2010-11 | $36.45/month/K-12 entity ($115.78/month/college) | 226 entities |
| 2009-10 | $34.48/month/K-12 entity ($ 92.72/month/college) | 232 entities |
| 2008-09 | $34.21/month/K-12 entity ($ 93.35/month/college) | 182 entities |
| 2007-08 | $ 0.00/month/K-12 entity [no backbone in service] | 94 entities |

| Performance Year | Network Nebraska **Internet Access Unit Charge** | Number of Entities |
|---|---|---|
| **2016-17** | **$.2432/Mbps/month for K-12 ($ .79/Mbps/month for colleges)** | **41 entities** |
| **2016-17** | **$.0349/Mbps/month surcharge for K-12 and colleges for Peering Services** | |
| 2015-16 | $.3024/Mbps/month for K-12 ($ .945/Mbps/month for colleges) | 34 entities |
| 2015-16 | $.0231/Mbps/month surcharge for K-12 and colleges for 3Gbps CPS | |
| 2014-15 | $.3982/Mbps/month for K-12 ($1.28/Mbps/month for colleges) | 32 entities |
| 2014-15 | $.047/Mbps/month surcharge for K-12 and colleges for 3Gbps CPS | |
| 2013-14 | $.7750/Mbps/month for K-12 ($2.50/Mbps/month for colleges) | 15 entities |
| 2013-14 | $.070/Mbps/month surcharge for K-12 and colleges for 3Gbps CPS | |

As CIO for the State of Nebraska, I am very proud to be involved in this public-private project. Network Nebraska-Education has become one of the top networks of its type in the country.

If you have questions or comments about the contents of this memorandum, please contact me at ed.toner@nebraska.gov or you can reach me at 402-471-3717. You may also visit the Network Nebraska-Education website for more info and submit your comments: www.networknebraska.net .

Sincerely,

Ed Toner
Chief Information Officer
Attachments

# Network Nebraska Cost Recovery Rates for 2016-17

The NNAG, OCIO, UNCSN and the Collaborative Aggregation Partnership (CAP) have reviewed the network revenue and expenses for the coming year and are prepared to announce the 2016-17 rates, which will take effect with the August 2016 billing:

REQUIRED

| Network Nebraska **1.0 Participation Fee** | Number of Entities |
|---|---|
| **$217.47/month/entity (≥ 41Mbps)** | 290 entities |

| Network Nebraska **.25 Participation Fee** | Number of Entities |
|---|---|
| **$54.37/month/entity (≤ 40Mbps)** | 4 entities |

REQUIRED

| Network Nebraska **1.0 Interregional Transport Fee** | Number of Entities |
|---|---|
| **$22.16/month/E-rate entity** | 270 entities |
| **$67.16/month/non E-rate entity** | 20 entities |

| Network Nebraska **.25 Interregional Transport Fee** | Number of Entities |
|---|---|
| **$ 5.54/month/E-rate entity** | 3 entities |
| **$16.79/month/non E-rate entity** | 1 entity |

SUBSCRIPTION SERVICES

| Network Nebraska **Internet Access Unit Charge** | Number of Entities |
|---|---|
| **$.2459/Mbps/month for blended Internet (E-rate entities)** | 17 entities |
| **$.8600/Mbps/month for Windstream Internet (non E-rate entities)** | 22 entities |
| **$.6900/Mbps/month for Cogent Internet (non E-rate entities)** | 23 entities |
| **$.0349/Mbps/month surcharge for all entities for Peering Services** | 40 entities |

| **UNCSN Rack Hosting Charge** | Number of Entities |
|---|---|
| **$628.00/month/Full Rack (42U)** | TBD |
| **$314.00/month/Half Rack (21U)** | TBD |
| **$ 15.00/month/Slot (1U)** | TBD |

| **Zoom Videoconferencing Statewide Contract** | Number of Entities |
|---|---|
| **$ 2.00/user/year** | TBD |
| **$499.00/Zoom CRC Port/year** | TBD |
| **$499.00/Zoom Room/year** | TBD |

**Comprehensive Listing of Network Nebraska—Education Services and Benefits (7/1/2016)**

## Student Learning Opportunities

- Statewide Clearinghouse and Videoconferencing Scheduling Software (www.nvis.esucc.org)
- High quality exchange of Nebraska K-12 and college video distance learning classes
- High bandwidth Internet2 access to over 90,000 education partners and content providers
- Internet2 programming and virtual museum trips from across the U.S./world
- Transport for the ESUCC/NDE statewide learning object repository and other applications
- Participant in the Internet2 InCommon national pilot project for federated identity services
- New State contract pricing for Zoom videoconferencing

## Connectivity/Transport

- Intranet Ethernet connectivity to all 291 Network Nebraska participants and Nebraska Dept of Ed
- Interregional (high bandwidth backbone) Transport between Grand Island, Lincoln, Omaha, and Scottsbluff
- Access to commodity Internet1 service with one of the lowest rates in the U.S.
- 3Gbps Internet2 Commercial Peering Service and prioritized routing to over 60,000 companies
- 20Gbps InterExchange Routing out of Omaha
- Co-location rack space at Lincoln core location as a subscription service
- Core router and core infrastructure cost avoidance through the University of Nebraska partnership
- Increased backbone transport through UNCSN dark fiber projects
- Dynamic provisioning of statewide Internet access

## Network Management/Monitoring

- 24/7 network monitoring and call center
- Toll-free Network Nebraska number, 1-888-NET-NEBR (638-6327)
- Automated Notification System services
- Network abuse and nefarious activity monitoring, including DDoS prevention for 2016-17
- Fortinet enterprise Intrusion Prevention Service
- Bandwidth measuring and assistance
- Level 1 network troubleshooting and support on Network Nebraska-Education backbone, core network devices and State Contract and University of Nebraska contracts for Internet access
- Level 2 network troubleshooting and support on wide area networking and other participant routing and DNS issues
- Level 2 video/scheduling troubleshooting and support
- Traffic shaping of Network Nebraska Internet bandwidth at Omaha and Lincoln
- Onsite and/or remote technician assistance, upon request

## Administrative/E-rate

- RFP development and State Master Contract negotiations
- E-rate filing on the K-12 eligible portion of the Interregional Transport and statewide Internet
- Sponsored Education Group Participation (SEGP 8 6 8&$1) Membership for Internet2
- Management of the statewide purchase contracts for statewide scheduling, WAN services, Internet access, Cisco equipment, and videoconferencing equipment.
- E-rate archiving of bid documents, invoices, correspondence
- Continual Management of Consortium Letters of Agency to maintain E-rate eligibility
- OCIO Financial Solutions Services for budget development and vendor service orders
- State Billing services for Network Nebraska Participation Fee and Interregional Transport
- Network Nebraska website (www.networknebraska.net) development and support

## Network Nebraska—Education Participant Report (Part 1- PUBLIC Entities) July 1, 2016

**Neb. Rev. Stat. 86-5,100 (excerpt) Network Nebraska; development and maintenance; access; Chief Information Officer; duties; cost; report.**

*The Chief Information Officer shall provide access* to each school district, each educational service unit, each community college, each state college, and the University of Nebraska at the earliest feasible date and no later than July 1, 2012. Access may be provided through educational service units or other aggregation points. Participation in Network Nebraska shall not be required for any educational entity.*

*Note "Access" was defined by the Chief Information Officer as the ability to connect via Ethernet to one of the Network Nebraska—Education core aggregation points.

**SUMMARY: Network Nebraska—Education PUBLIC K-20 Participants, as of 7/1/2015:**

| | |
|---|---|
| **245 of 245 public school districts** | **(100%)** |
| **17* of 17 Educational Service Units** (*LPS and OPS counted as school districts) | **(100%)** |
| **8 of 8 community colleges** (including 2 tribal colleges) | **(100%)** |
| **3 of 3 state colleges** | **(100%)** |
| **1 of 1 University of Nebraska** | **(100%)** |

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## Network Nebraska—Education Participant Report (Part 2- NON-PUBLIC Entities) July 1, 2016

**Neb. Rev. Stat. 86-5,100 (excerpt) Network Nebraska; development and maintenance; access; Chief Information Officer; duties; cost; report.**

*The network shall consist of contractual arrangements with providers to meet the demand of state agencies, local governments,* ***and educational entities*** *as defined in section 79-1201.01.*

**Neb. Rev.Stat. 79-1201.01 (excerpt) Terms, defined.**

*3)* ***Educational entity*** *means a school district, a private, denominational, or parochial school, an educational service unit, a community college, a state college, the University of Nebraska, or a nonprofit private postsecondary educational institution;*

**SUMMARY: Network Nebraska—Education NON-PUBLIC K-20 Schools, as of 7/1/2016:**

| | |
|---|---|
| **42 of 215 private, denominational or parochial schools** | **(20%)** |
| **7 of 14 nonprofit private postsecondary educational institutions** | **(50%)** |

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**Appendices available upon request from the Office of the CIO, 402-471-7969, tom.rolfes@nebraska.gov :**

Appendix A—PUBLIC K-12 Entity Participant List (districts and ESUs)
Appendix B—PUBLIC Higher Education Entity Participant List
Appendix C—PUBLIC K-12 Non-Participant List (districts and ESUs)
Appendix D—PUBLIC Higher Education Non-Participant list

Appendix E—NON-PUBLIC K-12 Participant List
Appendix F—NON-PUBLIC Higher Education Participant List
Appendix G—NON-PUBLIC K-12 Non-Participant list
Appendix H—NON-PUBLIC Higher Education Non-Participant list

| Network Nebraska Participation Fee FY2016-17 | | | | Cost Recovery Period | | | | |
|---|---|---|---|---|---|---|---|---|
| Date of Last Revision: July 1, 2016 | Units | # of Payments Per Year | Price | Cost | Life Cycle | Annualized Cost | FY2016-17 Subtotals | |
| master lease interest rate | | | | | | 2.0% | | |
| **Equipment:** | | | | | | | | |
| Traffic Shaper Upgrade Year (1 of 5) | 1 | 1 | $ 162,500 | $ 162,500 | 5 | $ 34,179 | $ 34,179 | NU |
| Network Upgrade Project (10G MPC3 Line cards, LNK, UNMC, FARNAM, Year 1 of 4 | 1 | 1 | $ 99,000 | $ 99,000 | 5 | $ 20,823 | $ 20,823 | NU |
| Arista Core 52port 10Gbps | 2 | 1 | $ 15,283 | $ 30,566 | 5 | $ 6,429 | $ 6,429 | NU |
| Upgrade kearney MX10 to MX80 | 1 | 1 | $ 2,960 | $ 2,960 | 1 | $ 2,960 | $ 2,960 | NU |
| DDoS Appliance-budgeted | 1 | 1 | $ 84,795 | $ 84,795 | 5 | $ 17,835 | $ 17,835 | |
| Procera Networks PL-1640 Statistics/Reporting/Storage (Year 1 of 3) | 1 | 1 | $ 10,670 | $ 10,670 | 3 | $ 3,667 | $ 3,667 | NU |
| Router -- Grand Island (Year 5 of 5) | 0.85 | 1 | $ 126,727 | $ 107,718 | 5 | $ 22,657 | $ 22,657 | NU |
| Router -- Lincoln (Year 5 of 5) | 0.00 | 1 | $ 157,059 | $ - | 5 | $ - | $ - | NU |
| Router -- Omaha UNMC (Year 5 of 5) | 0.80 | 1 | $ 104,515 | $ 83,612 | 5 | $ 17,586 | $ 17,586 | NU |
| Router -- Omaha 1623 Farnam (Year 5 of 5) | 0.85 | 1 | $ 121,208 | $ 103,027 | 5 | $ 21,670 | $ 21,670 | NU |
| Router -- Omaha UNO/PKI (Year 5 of 5) | 0.85 | 1 | $ 99,749 | $ 84,787 | 5 | $ 17,834 | $ 17,834 | NU |
| Router -- Scottsbluff (Year 5 of 5) | 0.50 | 1 | $ 30,628 | $ 15,314 | 5 | $ 3,221 | $ 3,221 | NU |
| Procera Traffic Shaper - OMA/1623 Farnam (Year 5 of 5) | 1 | 1 | $ 51,370 | $ 51,370 | 5 | $ 10,805 | $ 10,805 | NU |
| Procera Traffic Shaper - LNK (Year 4 of 5) | 1 | 1 | $ 89,795 | $ 89,795 | 5 | $ 18,887 | $ 18,887 | NU |
| Procera Networks PL-1225 Statistics/Reporting/Storage (Year 2 of 3) | 1 | 1 | $ 22,880 | $ 22,880 | 3 | $ 7,864 | $ 7,864 | NU |
| SOLIDserver 500 hardware appliance IPAM-DNS-DHCP-NTP-TFTP | 1 | 1 | $ 4,997 | $ 4,997 | 3 | $ 1,718 | $ 1,718 | NU |
| SOLIDserver 250 hardware appliance IPAM-DNS-DHCP-NTP-TFTP | 1 | 1 | $ 3,437 | $ 3,437 | 3 | $ 1,181 | $ 1,181 | NU |
| Fortinet FG-800C (Year 3 of 5) | 4 | 1 | $ 8,700 | $ 34,800 | 5 | $ 7,320 | $ 7,320 | NU |
| Fortinet FA-1000C (Year 3 of 5) | 1 | 1 | $ 6,900 | $ 6,900 | 5 | $ 1,451 | $ 1,451 | NU |
| Network Time Server (Year 2 of 5) | 1 | 1 | $ 2,500 | $ 2,500 | 5 | $ 526 | $ 526 | NU |
| Arista Core 10Gbps Aggregation Switch (Year 3 of 5) | 3 | 1 | $ 11,914 | $ 35,742 | 5 | $ 7,518 | $ 7,518 | NU |
| Arista Core 10Gbps Aggregation Switch (Year 2 of 5) $30,703.87 | 3 | 1 | $ 8,340 | $ 25,020 | 5 | $ 5,263 | $ 5,263 | NU |
| Network Upgrade Project (10G DWDM, LNK to OMA, Year 3 of 4) | 1 | 1 | $ 120,000 | $ 120,000 | 4 | $ 31,241 | $ 31,241 | NU |
| **Subtotal** | | | | | | | $ 262,634 | |
| **Equipment Maintenance:** | | | | | | | | |
| Router Maintenance -- Grand Island (Year 5 of 5) | 0.85 | 1 | $ 11,463 | $ 9,744 | 1 | $ 9,744 | $ 9,744 | NU |
| Router Maintenance -- Lincoln (Year 5 of 5) | 0.00 | 1 | $ 12,418 | $ - | 1 | $ - | $ - | NU |
| Router Maintenance -- Omaha UNMC (Year 5 of 5) | 0.80 | 1 | $ 9,567 | $ 7,654 | 1 | $ 7,654 | $ 7,654 | NU |
| Router Maintenance -- Omaha 1623 Farnam (Year 5 of 5) | 0.85 | 1 | $ 11,463 | $ 9,744 | 1 | $ 9,744 | $ 9,744 | NU |
| Router Maintenance -- Omaha UNO/PKI (Year 5 of 5) | 0.85 | 1 | $ 10,366 | $ 8,811 | 1 | $ 8,811 | $ 8,811 | NU |
| Router Maintenance -- Scottsbluff (Year 5 of 5) | 0.50 | 1 | $ 9,337 | $ 4,669 | 1 | $ 4,669 | $ 4,669 | NU |
| NSFocus Maintenance (Year 1) | 1 | 1 | $ 14,875 | $ 14,875 | 1 | $ 14,875 | $ - | |
| Router Maintenance -- MPC3 Line cards Line Cards | 1 | 1 | $ 5,292 | $ 5,292 | 1 | $ 5,292 | $ 5,292 | NU |
| Arista 7150-52 10Gbps Maintenance | 2 | 1 | $ 2,218 | $ 4,436 | 1 | $ 4,436 | $ 4,436 | NU |
| Arista 7150-24 10Gbps Maintenance | 7 | 1 | $ 1,465 | $ 10,255 | 1 | $ 10,255 | $ 10,255 | NU |
| SOLIDserver maintenance services for SDS-500-NSIPAM | 1 | 1 | $ 1,747 | $ 1,747 | 3 | $ 600 | $ 600 | NU |
| SOLIDserver maintenance services for SDS-250-NSIPAM | 1 | 1 | $ 1,080 | $ 1,080 | 3 | $ 371 | $ 371 | NU |
| Procera Networks PL-1640 One Year Support | 1 | 1 | $ 2,860 | $ 2,860 | 1 | $ 2,860 | $ 2,860 | NU |
| Fortinet FG-800C Maintenance 3rd year (2014-15) forward | 4 | 1 | $ 2,700 | $ 10,800 | 1 | $ 10,800 | $ 10,800 | NU |
| Fortinet FA-1000C Maintenance 3rd year (2014-15) forward | 1 | 1 | $ 2,000 | $ 2,000 | 1 | $ 2,000 | $ 2,000 | NU |
| Juniper EX4550 Maintenance | 2 | 1 | $ 1,111 | $ 2,222 | 1 | $ 2,222 | $ 2,222 | NU |
| Proximity Maintenance for CP Access System (5 cameras) | 0.5 | 1 | $ 83 | $ 42 | 1 | $ 42 | $ 42 | NU |
| Lifesize Passport Codec Maintenance (Year 2 of 3) | 1 | 1 | $ 855 | $ 855 | 3 | $ 294 | $ 294 | NU |
| **Subtotal** | | | | | | | $ 79,792 | |
| **Software** | | | | | | | | |
| **PRTG** | 1 | 1 | | | | | | |
| SolarWinds (Year 3 of 5) | 0.5 | 1 | $ 40,000 | $ 20,000 | 5 | $ 4,207 | $ 4,207 | NU |
| Automatic Notification System (One call now) | 0.25 | 1 | $ 2,244 | $ 561 | 1 | $ 561 | $ 561 | NU |
| **Subtotal** | | | | | | | $ 4,768 | |
| **Software Maintenance:** | | | | | | | | |
| SolarWinds Maintenance | 0.5 | 1 | $ 11,942 | $ 5,971 | 1 | $ 5,971 | $ 5,971 | NU |
| NOC360 Internet Traffic Analytics Traffic Heat Map | 1 | 1 | $ 12,000 | $ 12,000 | 1 | $ 12,000 | $ 12,000 | NU |
| i.Support Licenses | 0.25 | 1 | $ 3,300 | $ 825 | 1 | $ 825 | $ 825 | NU |
| **Subtotal** | | | | | | | $ 18,796 | |
| **Staff Support -- University of Nebraska** | | | | | | | | |
| UNCSN Support Team | | | | | | | $ 210,000 | NU |
| Network Engineer/Team Lead | | | | | | | | |
| Network Engineers (Est. FTE of 2.0) | | | | | | | | |
| Network Operators (24/7) | | | | | | | | |
| Administrative Assistant | | | | | | | | |
| Accountant | | | | | | | | |
| Training | 1 | 1 | $ 1,875 | $ 1,875 | 1 | $ 1,875 | $ 1,875 | NU |
| Travel FY2015-16 | 1 | 1 | $ 7,500 | $ 7,500 | 1 | $ 7,500 | $ 7,500 | NU |
| **Subtotal** | | | | | | | $ 219,375 | |
| **Staff Support -- Office of the CIO (Network Services)** | | | | | | | | |
| Network Services Team (including benefits) | 0.05 | 12 | $ 6,230 | $ 3,738 | 1 | $ 3,738 | $ 3,738 | OCIO |
| Travel/Videoconferencing | 1 | 1 | $ 500 | $ 500 | 1 | $ 500 | $ 500 | OCIO |
| **Subtotal** | | | | | | | $ 4,238 | |
| **Staff Support -- Nebraska Dept of Ed (E-rate Services)** | | | | | | | | |
| State E-rate Coordinator | 1 | 4 | $ 5,250 | $ 21,000 | 1 | $ 21,000 | $ 21,000 | NDE |
| Travel | 1 | 1 | $ 500 | $ 500 | 1 | $ 500 | $ 500 | NDE |
| **Subtotal** | | | | | | | $ 21,500 | |
| **Other:** | | | | | | | | |
| SEGP (Internet2) | 1 | 1 | $ 41,000 | $ 41,000 | 1 | $ 41,000 | $ 41,000 | NU |
| SFP Modules 10Gbps SR's / LR's | 1 | 1 | $ 5,000 | $ 5,000 | 1 | $ 5,000 | $ 5,000 | NU |
| Patch Cables and Termiation tools | 1 | 1 | $ 1,000 | $ 1,000 | 1 | $ 1,000 | $ 1,000 | NU |
| Traffic Testing Equipment for core aggregation points | 5 | 1 | $ 2,000 | $ 10,000 | 1 | $ 10,000 | $ 10,000 | NU |
| Network Nebraska Toll-Free Number | 1 | 1 | $ 433 | $ 433 | 1 | $ 433 | $ 372 | NU |
| Remote Router Terminal Server Cellular Data Service | 1 | 12 | $ 20 | $ 240 | 1 | $ 240 | $ 240 | |
| MCU -- Shared Service (6 ports @ $372/year) | 6 | 1 | $ 372 | $ 2,232 | 1 | $ 2,232 | $ 2,232 | OCIO |
| **Subtotal** | | | | | | | $ 59,844 | |
| **Total** | | | | | | | $ 670,947 | |
| Indirect Cost Allocation (Interregional Transport Fee) | 7% | 1 | $ 240,744 | $ 16,852 | 1 | $ 16,852 | $ 16,852 | |
| Indirect Cost Allocation (K-12 Internet Access) | 7% | 1 | $ 213,292 | $ 14,930 | 1 | $ 14,930 | $ 14,930 | |
| Indirect Cost Allocation (H.E. Internet Access) | 7% | 1 | $ 138,647 | $ 9,705 | 1 | $ 9,705 | $ 9,705 | |
| Indirect Cost Allocation (Participation Fee) | 7% | 1 | $ 670,947 | $ 46,966 | 1 | $ 46,966 | $ 46,966 | |
| **Subtotal** | | | | | | | $ 88,454 | |
| **Total** | | | | | | | $ 759,401 | |
| **Projected Units of Sale** | | | | | | $ 291 | | |
| **Annual Cost Per Unit** | | | | | | $ 2,610 | | |
| **Monthly Cost Per Unit** | 12 | months | | | | **$ 217.47** | | |
| **Total Projected Revenue** | | | | | | **$ 759,401** | | |

*NOTE: Changes to 2016-17 amounts are denoted by red text.*

| | A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|---|
| 1 | **Network Nebraska Interregional Transport Fee FY 2016-17** | | | | **Cost Recovery Period** | | |
| 2 | | | | | | | |
| 3 | Date of Last Revision: July 14, 2016 | **Units** | **# of Payments Per Year** | **Price** | **Cost** | **Life Cycle** | **Annualized Cost** |
| 4 | | | | | | | |
| 5 | master lease interest rate | | | | | | **2.0%** |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | **Backbone Transport Circuit Costs (See Footnote)** | | | | | | |
| 9 | Lincoln to Grand Island, 2000Mbps NebraskaLink | 1 | 12 | $0.00 | $0.00 | 1 | $ - |
| 10 | Grand Island to Omaha, 4000Mbps NebraskaLink | 2 | 12 | $2,500.00 | $60,000.00 | 1 | $ 60,000.00 |
| 11 | Grand Island to Scottsbluff, 2000Mbps NebraskaLink | 1 | 12 | $2,285.00 | $27,420.00 | 1 | $ 27,420.00 |
| 12 | Scottsbluff to Omaha, 2000Mbps NebraskaLink | 1 | 12 | $2,500.00 | $30,000.00 | 1 | $ 30,000.00 |
| 13 | Lincoln to Omaha, 10Gbps UNCSN Dark Fiber | 1 | 12 | $0.00 | $0.00 | 1 | $ - |
| 14 | Lincoln to Grand Island, 10Gbps UNCSN Dark Fiber | 1 | 12 | $0.00 | $0.00 | 1 | $ - |
| 15 | Long-haul Subtotal | | | | $117,420.00 | | |
| 16 | | | | | | | |
| 17 | **Routing & Aggregation Circuits (See Footnote)** | | | | | | |
| 18 | Omaha, 300Mbps (CenturyLink QMOE) | 0 | 12 | $0.00 | $0.00 | 1 | $ - |
| 19 | Grand Island, 400Mbps (Charter Business) | 0 | 12 | $0.00 | $0.00 | 1 | $ - |
| 20 | ESU 3, 8000Mbps (Windstream) | 1 | 12 | $3,187.00 | $38,244.00 | 1 | $ 38,244.00 |
| 21 | ESU 5, 1000Mbps (Great Plains) | 1 | 12 | $1,800.00 | $21,600.00 | 1 | $ 21,600.00 |
| 22 | ESU 6, 2000Mbps (Windstream) | 1 | 12 | $4,773.00 | $57,276.00 | 1 | $ 57,276.00 |
| 23 | Aggregation Subtotal | | | | $117,120.00 | | |
| 24 | | | | | | | |
| 25 | **Total** | | | | | | **$ 234,540.00** |
| 26 | | | | | | | |
| 27 | **Projected Units of Sale** | | | | | | 291 |
| 28 | | | | | | | |
| 29 | **Annual Cost Per Unit (Pre Erate)** | | | | | | $805.98 |
| 30 | **Monthly Cost Per Unit (Pre Erate)** | | | | | | **$ 67.16** |
| 31 | **Net Monthly Cost Per K-12 Unit (Post Erate)** | | | | | | **$ 22.16** |
| 32 | **Footnote** | | | | | | |
| 33 | Network Costs include 6.95% NUSF | | | | | | |
| 34 | | | | | | | |
| 35 | | | | | | | |
| 36 | **FY 2015 E-RATE CALCULATIONS** | | | | Total Units | K-12 Units | H.E. Units |
| 37 | | | | | 291 | 270 | 21 |
| 38 | **Form 471 Certification Results** | | **4/15/2016** | **Cost Recovery Formula** | **Annual** | **Monthly** | **Total** |
| 39 | **Total Funding Year pre-cost allocation amount** | | $ 234,540.00 | Higher Ed Contributions | $ 805.98 | **$ 67.16** | **$ 16,925.57** |
| 40 | Total Annual Cost Allocation for Higher Education | | $ 16,925.57 | | | | |
| 41 | Total Funding Year pre-discount amount | | $ 217,614.43 | | | | |
| 42 | Total Funding Commitment Request (67%) | | **$ 145,801.67** | E-rate | | $ 45.00 | **$ 145,801.67** |
| 43 | | | | K-12 (post erate) | | **$ 22.16** | **$ 71,812.76** |
| 44 | Total Budgeted Amount allocated to resources not eligible for Erate | | $ 539,136.00 | K-12 Contributions | | | **$ 217,614.43** |
| 45 | Total amount necessary for the applicant to pay the non-discount share | | $ 539,136.00 | **TOTAL** | | | **$ 234,540.00** |
| 46 | | | | | | | |
| 47 | **INTERREGIONAL TRANSPORT FEE, 2007-PRESENT** | | | | | | |
| 48 | | | | | **Total** | | |
| 49 | **Performance Year** | | **K-12 Monthly** | **Higher Education Monthly** | **# entities** | **Comments** | |
| 50 | 2007-08 | | $ - | $ - | 94 | (No backbone in service) | |
| 51 | 2008-09 | | $ 34.21 | $ 93.35 | 182 | (State RFP 1752) | |
| 52 | 2009-10 | | $ 34.48 | $ 92.72 | 232 | | |
| 53 | 2010-11 | | $ 36.45 | $ 115.78 | 226 | (1 entity, 1 fee structure) | |
| 54 | 2011-12 | | $ 31.69 | $ 101.09 | 246 | | |
| 55 | 2012-13 | | $ 18.67 | $ 61.28 | 252 | (State RFPs 3827, 3886) | |
| 56 | 2013-14 | | $ 17.38 | $ 53.80 | 261 | | |
| 57 | 2014-15 | | $ 18.30 | $ 57.79 | 274 | (State RFP 4582) | |
| 58 | 2015-16 | | $ 22.12 | $ 70.39 | 285 | (ESU 3, 5, 6 Aggregations) | |
| 59 | 2016-17 | | $ 22.16 | $ 67.16 | 291 | | |

| | Statewide Internet Contract Purchases, State Contract 51026(04) & NU Contract c2163-13-8116 | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Education Entity | Date Received by OCIO | Billed Entity Number | Premise Address | City | NN Aggregation Point | 2016-17 Quantity (Mbps) | 2016-17 Unit Cost POST-ERATE (Est.) ($/Mbps/month) | 2016-17 Monthly Invoice Cost | 2016-17 Annual Invoice Cost | 2016-17 CPS Unit Cost (Est.) ($/Mbps/month) | 2016-17 Monthly CPS Invoice Cost | 2016-17 Annual CPS Invoice Cost | Respondent |
| 1 | Brownell-Talbot School | 3/1/2016 | 17000601 | 400 N. Happy Hollow | Omaha | Omaha | 600 | $ 0.2459 | $ 147.54 | $ 1,770.48 | $ 0.0349 | $ 20.94 | $ 251.28 | Rob Uchtman |
| 2 | DHHS-Nebraska | 5/23/2016 | 17000614 | P.O. Box 95026 | Lincoln | Lincoln | 150 | $ 0.2459 | $ 36.89 | $ 442.62 | $ 0.0349 | $ 5.24 | $ 62.82 | Mark Nelson |
| 3 | Educational Service Unit 02 (NNNC) | 2/25/2016 | 138244 | 2320 N. Colorado | Fremont | Omaha | 4,250 | $ 0.2459 | $ 1,045.08 | $ 12,540.90 | $ 0.0349 | $ 148.33 | $ 1,779.90 | Andy Boell |
| 4 | Educational Service Unit 03 | 2/29/2016 | 138317 | 6949 S. 110th Street | Omaha | Omaha | 6,000 | $ 0.2459 | $ 1,475.40 | $ 17,704.80 | $ 0.0349 | $ 209.40 | $ 2,512.80 | Mark Hansen |
| 5 | Educational Service Unit 05 (SNDLC) | 2/23/2016 | 138331 | 900 W. Court Street | Beatrice | Lincoln | 1,000 | $ 0.2459 | $ 245.90 | $ 2,950.80 | $ 0.0349 | $ 34.90 | $ 418.80 | Don Ferneding |
| 6 | Educational Service Unit 04-06 (DVLG) | 3/1/2016 | 138326 | 210 5th Street | Milford | Lincoln | 2,000 | $ 0.2459 | $ 491.80 | $ 5,901.60 | $ 0.0349 | $ 69.80 | $ 837.60 | Jamen Hall |
| 7 | Educational Service Unit 09 (CNDLC) | 2/16/2016 | 138852 | 1117 E. South Street | Hastings | G.I. | 2,500 | $ 0.2459 | $ 614.75 | $ 7,377.00 | $ 0.0349 | $ 87.25 | $ 1,047.00 | Gary Needham |
| 8 | Educational Service Unit 10 | 3/1/2016 | 138783 | 76 Plaza Boulevard | Kearney | G.I. | 2,000 | $ 0.2459 | $ 491.80 | $ 5,901.60 | $ 0.0349 | $ 69.80 | $ 837.60 | Ron Cone |
| 9 | Educational Service Unit 11 | 2/24/2016 | 138890 | 412 W. 14th Street | Holdrege | G.I. | 300 | $ 0.2459 | $ 73.77 | $ 885.24 | $ 0.0349 | $ 10.47 | $ 125.64 | Wade Gibson |
| 10 | Educational Service Unit 13 | 2/24/2016 | 139041 | 4215 Avenue I | Scottsbluff | G.I. | 700 | $ 0.2459 | $ 172.13 | $ 2,065.56 | $ 0.0349 | $ 24.43 | $ 293.16 | Jim Copley |
| 11 | Educational Service Unit 15 | 2/17/2016 | 146589 | 344 Main Street | Trenton | G.I. | 600 | $ 0.2459 | $ 147.54 | $ 1,770.48 | $ 0.0349 | $ 20.94 | $ 251.28 | Shane Gerhartz |
| 12 | Educational Service Unit 16 | 3/2/2016 | 139028 | 314 W. First Street | Ogallala | G.I. | 550 | $ 0.2459 | $ 135.25 | $ 1,622.94 | $ 0.0349 | $ 19.20 | $ 230.34 | Scott Jones |
| 13 | Grand Island Public Library | 2/29/2016 | 138719 | 211 N. Washington Street | Grand Island | G.I. | 90 | $ 0.2459 | $ 22.13 | $ 265.57 | $ 0.0349 | $ 3.14 | $ 37.69 | Steve Fosselmann |
| | Grand Island Public Schools | x | 138718 | 123 S. Webb Road | Grand Island | G.I. | | | $ - | $ - | | $ - | $ - | |
| | Kearney Public Schools | x | 138779 | 310 W. 24th Street | Kearney | G.I. | | | $ - | $ - | | $ - | $ - | |
| 14 | Lexington Public Schools | 2/16/2016 | 138789 | 300 S. Washington | Lexington | G.I. | 1,000 | $ 0.2459 | $ 245.90 | $ 2,950.80 | $ 0.0349 | $ 34.90 | $ 418.80 | Kristi Jergensen |
| 15 | Lincoln Catholic Diocese School System | 3/1/2016 | 138460 | 120 W. Harvest Drive | Lincoln | Lincoln | 400 | $ 0.2459 | $ 98.36 | $ 1,180.32 | $ 0.0349 | $ 13.96 | $ 167.52 | Ken Pinkerton |
| 16 | Lincoln Public Schools (ESU 18) | 3/1/2016 | 138458 | 5905 O Street | Lincoln | Lincoln | 6,000 | $ 0.2459 | $ 1,475.40 | $ 17,704.80 | $ 0.0349 | $ 209.40 | $ 2,512.80 | Don Freeman |
| | McCook Public Schools | x | 138925 | 700 W. 7th Street | McCook | G.I. | | | $ - | $ - | | $ - | $ - | |
| | North Platte Public Schools | ~~2/24/2016~~ | 138971 | 301 W. F Street | North Platte | G.I. | | | $ - | $ - | | $ - | $ - | ~~Brian Tegtmeier~~ |
| 17 | Omaha Public Schools (ESU 19) | 3/1/2016 | 138320 | 3215 Cuming Street | Omaha | Omaha | 3,000 | $ 0.2459 | $ 737.70 | $ 8,852.40 | $ 0.0349 | $ 104.70 | $ 1,256.40 | Bobbi Gatrost |
| | | | | | | TOTAL | *31,140* | $ 0.2459 | **$ 7,657.33** | **$ 91,887.91** | | **$ 1,060.61** | **$ 12,727.33** | |
| | | | | | Aggregation- | Omaha | 13,850 | | | | | | | |
| | **Cogent Communications** | **SPIN** | **143025258** | | Aggregation- | Lincoln | 9,550 | | | | | | | |
| | | State Contract #65386(04) | | | Aggregation- | Grand Island | 7,740 | | | | | | | |
| | http://das.nebraska.gov/materiel/purchasing/contracts/pdfs/65386(o4)awd.pdf | | | | | TOTAL | 31,140 | | | | | | | |
| | Collin McKee | | | | | | | | | | | | | |
| | cmckee@cogentco.com | | | | **Cost Allocation** | | Mbps | Unit Cost | Total Monthly | Annual | | | | |
| | 703-456-7903 (office) | | | | | K-12 | 31,140 | $0.2459 | $ 7,657.33 | $ 91,887.91 | | | | |
| | 2450 N Street, NW | | | | (projected 67%) | E-rate | 22,500 | $0.5289 | $ 11,899.20 | $ 142,790.40 | | | | |
| | Washington, DC 20037 | | | | | H.E./other | | $0.7920 | $ - | $ - | | | | |
| | | | | | | Total | | | | | | | | |
| | **Windstream** | **SPIN** | **143030766** | | | | | | | | | | | |
| | | UNCSN Contract | | | | | | | | | | | | |
| | https://statecontracts.nebraska.gov/Search/ViewDocument?D=UinssErZyznHunK3hgwtyA%3D%3D | | | | | | | | | | | | | |
| | Cheryl Krueger | | | | | | | | | | | | | |
| | cheryl.krueger@windstream.com | | | | | | | | | | | | | |
| | 402-437-7215 (office) | | | | | | | | | | | | | |
| | 402-450-7215 (mobile) | | | | | | | | | | | | | |
| | 1440 M Street, 6th Floor | | | | | | | | | | | | | |
| | P.O. Box 81309 | | | | | | | | | | | | | |
| | Lincoln, NE 68501-1309 | | | | | | | | | | | | | |

## Higher Education Internet 2016-17

| | Higher Education Entity | Load Balanced? | Windstream Quantity (Mbps) | Windstream Unit Cost | Windstream Monthly Total | Cogent Quantity (Mbps) | Cogent Unit Cost | Cogent Monthly Total | CPS Quantity (Mbps) | CPS Unit Cost | CPS Monthly Total | Combined Monthly Total | Total Annual Invoice Cost | FY15-16 Validation/ Comments | Confirmation Date |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Central Community College | Y | 150 | $ 0.86 | $ 129.00 | 150 | $ 0.69 | $ 103.50 | 300 | $ 0.0349 | $ 10.47 | $ 242.97 | $ 2,915.64 | Tom Peters | 2/29/2016 |
| 2 | Chadron State College | Y | 750 | $ 0.86 | $ 645.00 | 750 | $ 0.69 | $ 517.50 | 1,500 | $ 0.0349 | $ 52.35 | $ 1,214.85 | $ 14,578.20 | Ann Burk | 3/1/2016 |
| 3 | City of Lincoln | Y | 500 | $ 0.86 | $ 430.00 | 500 | $ 0.69 | $ 345.00 | 1,000 | $ 0.0349 | $ 34.90 | $ 809.90 | $ 9,718.80 | Craig Gifford | 7/18/2016 |
| 4 | Clarkson College | Y | 150 | $ 0.86 | $ 129.00 | 150 | $ 0.69 | $ 103.50 | 300 | $ 0.0349 | $ 10.47 | $ 242.97 | $ 2,915.64 | Ryan Schurman | 2/18/2016 |
| 5 | College of St. Mary | Y | 85 | $ 0.86 | $ 73.10 | 85 | $ 0.69 | $ 58.65 | 170 | $ 0.0349 | $ 5.93 | $ 137.68 | $ 1,652.20 | Vicki Hoskovec | 2/24/2016 |
| 6 | Creighton University* (confirm 1G + 1G or 2G) | Y | 1000 | $ 0.86 | $ 860.00 | 1000 | $ 0.69 | $ 690.00 | 2,000 | $ 0.0349 | $ 69.80 | $ 1,619.80 | $ 19,437.60 | Chris Vaverek | 2/24/2016 |
| 7 | Doane College | Y | 600 | $ 0.86 | $ 516.00 | 600 | $ 0.69 | $ 414.00 | 1,200 | $ 0.0349 | $ 41.88 | $ 971.88 | $ 11,662.56 | Mike Carpenter | 3/1/2016 |
| 8 | Lincoln City Libraries | Y | 250 | $ 0.86 | $ 215.00 | 250 | $ 0.69 | $ 172.50 | 500 | $ 0.0349 | $ 17.45 | $ 404.95 | $ 4,859.40 | Rod Cummings | 2/29/2016 |
| 9 | Little Priest Tribal College-Winnebago | Cogent | 0 | $ 0.86 | $ - | 100 | $ 0.69 | $ 69.00 | 100 | $ 0.0349 | $ 3.49 | $ 72.49 | $ 869.88 | Morri Conway | 2/24/2016 |
| 10 | Metro Community College | Y | 1000 | $ 0.86 | $ 860.00 | 1000 | $ 0.69 | $ 690.00 | 2,000 | $ 0.0349 | $ 69.80 | $ 1,619.80 | $ 19,437.60 | Clifton Pee | 3/1/2016 |
| 11 | Midland University | Y | 300 | $ 0.86 | $ 258.00 | 300 | $ 0.69 | $ 207.00 | 600 | $ 0.0349 | $ 20.94 | $ 485.94 | $ 5,831.28 | Shane Perrien | 3/1/2016 |
| 12 | Mid-Plains Community College | Y | 300 | $ 0.86 | $ 258.00 | 300 | $ 0.69 | $ 207.00 | 600 | $ 0.0349 | $ 20.94 | $ 485.94 | $ 5,831.28 | Tim Hall | 2/24/2016 |
| 13 | Nebraska Indian Community College-Macy | Y | 50 | $ 0.86 | $ 43.00 | 50 | $ 0.69 | $ 34.50 | 100 | $ 0.0349 | $ 3.49 | $ 80.99 | $ 971.88 | Justin Kocian | 2/16/2016 |
| 14 | Nebraska Wesleyan University | Y | 250 | $ 0.86 | $ 215.00 | 250 | $ 0.69 | $ 172.50 | 500 | $ 0.0349 | $ 17.45 | $ 404.95 | $ 4,859.40 | Steven Dow | 2/25/2016 |
| 15 | Northeast Community College | Y | 100 | $ 0.86 | $ 86.00 | 100 | $ 0.69 | $ 69.00 | 200 | $ 0.0349 | $ 6.98 | $ 161.98 | $ 1,943.76 | Bret Steinhauser | 2/25/2016 |
| 16 | Peru State College | Y | 175 | $ 0.86 | $ 150.50 | 175 | $ 0.69 | $ 120.75 | 350 | $ 0.0349 | $ 12.22 | $ 283.47 | $ 3,401.58 | Gene Beardslee | 2/24/2016 |
| 17 | Southeast Community College | Y | 250 | $ 0.86 | $ 215.00 | 250 | $ 0.69 | $ 172.50 | 500 | $ 0.0349 | $ 17.45 | $ 404.95 | $ 4,859.40 | Ed Koster | 3/1/2016 |
| 18 | Union College | Y | 150 | $ 0.86 | $ 129.00 | 150 | $ 0.69 | $ 103.50 | 300 | $ 0.0349 | $ 10.47 | $ 242.97 | $ 2,915.64 | Richard Henriques | 3/1/2016 |
| 19 | UNCA/UNCSN | Y | 50 | $ 0.86 | $ 43.00 | 50 | $ 0.69 | $ 34.50 | 100 | $ 0.0349 | $ 3.49 | $ 80.99 | $ 971.88 | Greg Gray | 2/24/2016 |
| 20 | UNK | Y | 500 | $ 0.86 | $ 430.00 | 500 | $ 0.69 | $ 345.00 | 1,000 | $ 0.0349 | $ 34.90 | $ 809.90 | $ 9,718.80 | Karen Berryman | 2/16/2016 |
| 21 | UNMC | Cogent | 0 | $ 0.86 | $ - | 1000 | $ 0.69 | $ 690.00 | 1,000 | $ 0.0349 | $ 34.90 | $ 724.90 | $ 8,698.80 | Kim Strohbehn | 3/2/2016 |
| 22 | UNO | Windstream | 1000 | $ 0.86 | $ 860.00 | 0 | $ 0.69 | $ - | 1,000 | $ 0.0349 | $ 34.90 | $ 894.90 | $ 10,738.80 | Sybil Sanders | 2/29/2016 |
| 23 | Wayne State College | Y | 450 | $ 0.86 | $ 387.00 | 450 | $ 0.69 | $ 310.50 | 900 | $ 0.0349 | $ 31.41 | $ 728.91 | $ 8,746.92 | John Dunning | 2/29/2016 |
| 24 | Western Nebraska Community College | Y | 100 | $ 0.86 | $ 86.00 | 100 | $ 0.69 | $ 69.00 | 200 | $ 0.0349 | $ 6.98 | $ 161.98 | $ 1,943.76 | William Knapper | 2/29/2016 |
| | TOTALS | | 8,160 | | $ 7,017.60 | 8,260 | | $ 5,699.40 | 16,420 | | $ 573.06 | $ 13,290.06 | $ 159,480.70 | | |

| | | | |
|---|---|---|---|
| K-12 (approximated) | 15,570 | 15,570 | 31,140 |
| Total K-12 & Higher Ed | 23,730 | 23,830 | 47,560 |