

Michael Cherewka
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August 10, 2009

Administrator
Rural Utilities Service
U. S. Department of Agriculture
Washington, D.C. 20250-1500

Assistant Secretary
National Telecommunications and Information Administration
Washington, D.C. 20230

Re: Keystone Initiative for Network Based Education & Research
Our File No.: 2850.00

Dear Sir:

We are legal counsel for Keystone Initiative for Network Based Education & Research (KINBER), (the "Applicant"). In such capacity, we acted as counsel to the Applicant in connection with its ability to apply to the Broadband Initiatives Program and the Broadband Technology Opportunities Program and in the review of the grant agreement, as referenced in the Notice of Funds Availability.

We are of the opinion that:

(a) the Applicant is a duly organized and existing nonprofit corporation under the laws of the Commonwealth of Pennsylvania.

(b) the Applicant has corporate power: (1) to execute and deliver the grant agreement; and (2) to perform all acts required to be done by it under said agreement.

(c) no legal proceedings have been instituted or are pending against the Applicant, the outcome of which would adversely affect the Applicant's ability to perform the duties under the grant agreement, and there are no judgments against the Applicant which would adversely affect the Applicant's ability to perform the duties under the grant agreement.

Administrator
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(d) The applicant has the power to own its property and carry out its business as now conducted.

Very truly yours,



Michael Cherewka

MC/dh

ASSURANCES - CONSTRUCTION PROGRAMS

OMB Approval No. 4040-0009
Expiration Date 07/30/2010

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0042), Washington, DC 20503.

PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.

NOTE: Certain of these assurances may not be applicable to your project or program. If you have questions, please contact the Awarding Agency. Further, certain Federal assistance awarding agencies may require applicants to certify to additional assurances. If such is the case, you will be notified.


As the duly authorized representative of the applicant, I certify that the applicant:

1. Has the legal authority to apply for Federal assistance, and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project costs) to ensure proper planning, management and completion of the project described in this application.
2. Will give the awarding agency, the Comptroller General of the United States and, if appropriate, the State, the right to examine all records, books, papers, or documents related to the assistance; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.
3. Will not dispose of, modify the use of, or change the terms of the real property title, or other interest in the site and facilities without permission and instructions from the awarding agency. Will record the Federal awarding agency directives and will include a covenant in the title of real property acquired in whole or in part with Federal assistance funds to assure non-discrimination during the useful life of the project.
4. Will comply with the requirements of the assistance awarding agency with regard to the drafting, review and approval of construction plans and specifications.
5. Will provide and maintain competent and adequate engineering supervision at the construction site to ensure that the complete work conforms with the approved plans and specifications and will furnish progress reports and such other information as may be required by the assistance awarding agency or State.
6. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.
7. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.
8. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. §§4728-4763) relating to prescribed standards for merit systems for programs funded under one of the 19 statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).
9. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§4801 et seq.) which prohibits the use of lead-based paint in construction or rehabilitation of residence structures.
10. Will comply with all Federal statutes relating to non-discrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. §§1681 1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. §794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U.S.C. §§6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended, relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) §§523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. §§290 dd-3 and 290 ee 3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statute(s) under which application for Federal assistance is being made; and, (j) the requirements of any other nondiscrimination statute(s) which may apply to the application.

11. Will comply, or has already complied, with the requirements of Titles II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal and federally-assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.
12. Will comply with the provisions of the Hatch Act (5 U.S.C. §§1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.
13. Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. §§276a to 276a-7), the Copeland Act (40 U.S.C. §276c and 18 U.S.C. §874), and the Contract Work Hours and Safety Standards Act (40 U.S.C. §§327-333) regarding labor standards for federally-assisted construction subagreements.
14. Will comply with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is \$10,000 or more.
15. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the

National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. §§1451 et seq.); (f) conformity of Federal actions to State (Clean Air) implementation Plans under Section 176(c) of the Clean Air Act of 1955, as amended (42 U.S.C. §§7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended (P.L. 93-523); and, (h) protection of endangered species under the Endangered Species Act of 1973, as amended (P.L. 93-205).

16. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. §§1271 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.
17. Will assist the awarding agency in assuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. §470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. §§469a-1 et seq.).
18. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of 1996 and OMB Circular No. A-1 33, "Audits of States, Local Governments, and Non-Profit Organizations."
19. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations, and policies governing this program.

*SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL 		*TITLE KINBER, Board of Directors
*APPLICANT ORGANIZATION KINBER		*DATE SUBMITTED 08-11-2009

CERTIFICATION REGARDING LOBBYING

Applicants should also review the instructions for certification included in the regulations before completing this form. Signature on this form provides for compliance with certification requirements under 15 CFR Part 28, "New Restrictions on Lobbying." The certifications shall be treated as a material representation of fact upon which reliance will be placed when the Department of Commerce determines to award the covered transaction, grant, or cooperative agreement.

LOBBYING

As required by Section 1352, Title 31 of the U.S. Code, and implemented at 15 CFR Part 28, for persons entering into a grant, cooperative agreement or contract over \$100,000 or a loan or loan guarantee over \$150,000 as defined at 15 CFR Part 28, Sections 28.105 and 28.110, the applicant certifies that to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure occurring on or before October 23, 1996, and of not less than \$11,000 and not more than \$110,000 for each such failure occurring after October 23, 1996.

As the duly authorized representative of the applicant, I hereby certify that the applicant will comply with the above applicable certification.

NAME OF APPLICANT

AWARD NUMBER AND/OR PROJECT NAME

Keystone Initiative for Network Based Education & Res

PRINTED NAME AND TITLE OF AUTHORIZED REPRESENTATIVE

Arthur Stephens, KINBER Board of Directors

SIGNATURE

DATE

Arthur Stephens

8/11/2009

DISCLOSURE OF LOBBYING ACTIVITIES

Complete this form to disclose lobbying activities pursuant to 31 U.S.C. 1352

Approved by OMB

0348-0046

(See reverse for public burden disclosure.)

1. Type of Federal Action: <input type="checkbox"/> B a. contract <input type="checkbox"/> b. grant <input type="checkbox"/> c. cooperative agreement <input type="checkbox"/> d. loan <input type="checkbox"/> e. loan guarantee <input type="checkbox"/> f. loan insurance	2. Status of Federal Action: <input type="checkbox"/> A a. bid/offer/application <input type="checkbox"/> b. initial award <input type="checkbox"/> c. post-award	3. Report Type: <input type="checkbox"/> A a. initial filing <input type="checkbox"/> b. material change For Material Change Only: year _____ quarter _____ date of last report _____
4. Name and Address of Reporting Entity: <input checked="" type="checkbox"/> Prime <input type="checkbox"/> Subawardee Tier _____, if known: Keystone Initiative for Network Based Education and Research (KINBER) c/o Jeff Kuhns 401 Old Main University Park, PA 16802-1595 Congressional District, if known: PA-005	5. If Reporting Entity in No. 4 is a Subawardee, Enter Name and Address of Prime: Congressional District, if known:	
6. Federal Department/Agency: National Telecommunications and Information Administration / U.S. Department of Commerce	7. Federal Program Name/Description: Recovery Act Broadband Technology Opportunities Program (BTOP) CFDA Number, if applicable: 11.557	
8. Federal Action Number, if known:	9. Award Amount, if known: \$	
10. a. Name and Address of Lobbying Registrant (if individual, last name, first name, MI): NONE	b. Individuals Performing Services (including address if different from No. 10a) (last name, first name, MI): NONE	
11. Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when this transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to the Congress semi-annually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.	Signature: <u>Arthur Stephens</u> Print Name: <u>Arthur Stephens</u> Title: <u>KINBER, Board of Directors</u> Telephone No.: <u>(717) 433-1678</u> Date: <u>8/11/2009</u>	
Federal Use Only:		Authorized for Local Reproduction Standard Form LLL (Rev. 7-97)

Q 20 Attachment B PennREN Services

Service Offering	Fiber Distance Band	Minimum-Maximum Peak Load Capacity	Annual Pricing
2 Strands of Dark Fiber – Statewide	1,696 Route Miles	1Gbps – 800Gbps	
2 Strands of Dark Fiber – Regional	From 95 – 148 Route Miles	1Gbps – 800Gbps	
10 Gbps Private Wavelength	From 95 – 148 Route Miles	10 Gbps	
1 Gbps Private Wavelength	From 95 – 148 Route Miles	1 Gbps	
Shared 1 Gbps Wavelength	From 95 – 148 Route Miles	10Mbps – 1 Gbps	

The Pennsylvania Research and Education Network (PennREN) is focused on the equal distribution of broadband services throughout the Commonwealth of Pennsylvania. Intended as an advanced backbone and middle mile infrastructure project, PennREN will enable countless projects and initiatives in the areas of K-20 education, research, health care, public safety, homeland security, broadband communications deployment, and economic development. The consortium of participants that have prepared this proposal have prepared these service offerings for use by a broad range of constituents with the final objectives being in complete alignment with the stated goals of the American Recovery and Reinvestment Act of 2009. As part of the partnership with a commercial fiber optic construction company, Penn REN will have 48 strands of fiber optic cable that encompasses nearly 1,696 route miles within Pennsylvania. Two strands of fiber will yield more than 100 Gigabytes of capacity, which provides a scalable network for the foreseeable future, enabling the demands of today's world, while ensuring the infrastructure will hold its value in the years to come.

Dark Fiber Pairs – The excess number of fiber pairs will be made available as a medium for PennREN subscribers to create their own statewide infrastructure that reaches areas where such a capability is not possible or cost prohibitive. Facilities for signal regeneration are available as co-location sites, making the ***single pair fiber assignments*** completely under their control for the placement of network electronics.

Dark Fiber Pairs can also be assigned in point to point configurations for participants wishing large capacity, scalable solutions that do not encompass the entire state.

Private Wavelength Services –

In collaboration with two other commercial partners that manufacture optical electronics, and switching electronics, PennREN will be able to offer advanced technologies that permit the separation of light waves into high capacity networks that are distinct from other bands of light within the same fiber medium. Such “managed services” allow significant economies of scale for entities that require full state, partial, or adjoining region access to complete their institutional objectives. Practical applications

include the opportunity for delivery of broadband Internet services from low cost metropolitan centers to regions that have limited capabilities. Access to national research and educational networks will open new opportunities in education for rural school districts and higher education, and enable new research centers, regardless of geographic location. Hospitals and clinics will have high performance access to medical schools and research facilities both within the state and around the country for telemedicine initiatives.

Shared Wavelength Service –

Using the same efficiencies as described for private wavelength services, shared services enable disparate groups with similar interests to share the cost of a high capacity wavelength, (1 or 10 Gigabits per second), and receive communications capabilities with very large economies. A long sought after, but never realized objective in PA has been the creation of a single Health Information Network that interconnects health systems, clinics, medical schools, the PA Department of Health, and Veterans Administrations Centers. Another possibility is the delivery of commodity Internet service from a Tier 1 provider to multiple communities throughout the state, sharing a Gigabit and paying as little as \$5/Megabit. This would allow local ISPs in under/un-served areas to expand their facilities and reduce the cost to their customers.

For communications between these networks as described above, routing services are also provided at 3 locations on the network. These sites will also provide access to external connections and additional services as needed. For example, there is currently in place high performance connections to the state networks of Ohio, West Virginia, Delaware, New Jersey, and New York.

As the Penn REN organization becomes aware of the additional needs of its participants, these services will be added. For example, under development is the ability to create circuits to optically connected facilities, on demand, and reaching across the United States, Europe, and parts of Asia.

KINBER

Board Members

Bucknell University
Drexel University
University of Pittsburgh
The Pennsylvania State University
Pennsylvania State System of Higher Education
Commission for Community Colleges
Hospital Association of Pennsylvania
Association of Independent Colleges and Universities of PA

Carnegie Mellon University
Lehigh University
University of Pennsylvania

Potential Partners

Intermediary Units, PA Economic Development Assn, PA E-Health Initiative, Hershey Medical Center, public television stations, Wall Street West, Magpi, Three Rocks (Fibertech, Ciena, Juniper Systems), private sector providers

Advisory
Council

KINBER Board
and 501(c)3
organization

PennREN
project team

KINBER

Organization Staff

- Executive Director
- 3 Network Engineers
- Administrative Support

PennREN

Support Resources

- Project management Support
- Accounting Support
- Compliance Support

Q47. Historical Financial Statements

The Keystone Initiative for Network Based Education and Research (KINBER) was incorporated in July 2009 and therefore has no historical financial data. KINBER is a newly formed 501(c)3 Nonprofit Corporation, headquartered in University Park, Pennsylvania. KINBER 's mission is to act as an apolitical, collaborative partnership that would operate through the entire Commonwealth to facilitate affordable and pervasive broadband access; primarily to community Institutions such as Institutions of Higher Education, Hospitals, Economic Development Organizations and other organizations. All partners will be expected to contribute to the on-going operating expenses through membership fees. It is projected that this organization will be self-sustaining by Year 3 of the project, at the latest.

Attachment 27.1 Affordability/Price Comparison Chart

Service Name	<u>Commercial #1</u> 5 yr Amortized Total Cost	<u>Commercial #2</u> 5 yr Amortized Total Cost	<u>Commercial #3</u> 5 yr Amortized Total Cost	<u>Penn REN</u> 5 yr Amortized Total Cost (Includes Membership)
2 Strands of Dark Fiber, State wide	<u>Sunesys</u> \$ 8,967,085	<u>Fiber Tech</u> \$ 6,119,628	<u>ZAYO Comm's</u> \$ 3,571,580	\$ 2,570,000
2 Strands of Dark Fiber, Regional	<u>Sunesys</u> \$ 426,964	<u>Fiber Tech</u> \$353,339	<u>ZAYO Comm's</u> \$323,198	\$145,000
10 Gbps Managed Wavelengths		<u>Level3</u> \$ 613,000	<u>ZAYO</u> \$527,550	\$ 118,056
1 Gbps Managed Wavelengths		<u>Level3</u> \$204,010	<u>ZAYO</u> \$ 193,000	\$ 72,247
Shared Wavelengths		<u>Level3</u> N/A	<u>ZAYO</u> N/A	\$ 10,000 (Included for Members)

Affordability/Price Comparison Chart- Included as Attachment 27.1

Basis for Comparison –

Penn REN has solicited and received quotations from fiber providers and telecommunications companies for services equal to those that Penn REN will offer once the infrastructure is completed. For simplicity, the fees were calculated based on the total cost of ownership for a given service over a term commitment of five years.

Pricing for Pennsylvania statewide fiber assignments include the following:

1. Construction and non-recurring fees
2. Recurring costs for fiber maintenance
3. Recurring costs for co-location sites

Regional fiber assignments assume two strands of fiber optic cabling between any two of the thirteen core nodes as specified in the technical design. Maintenance and co-location facilities are also included.

Managed wavelengths of 10 Gigabit and 1 Gigabit capacities include the following additional components:

1. Apportioned cost of optical electronics
2. Switching hardware, cabinets, and related cross-connects
3. On-site maintenance, monitoring, and NOC support

A shared wavelength is a 1 Gigabit circuit that is accessible from all 13 core nodes by any member of Penn REN for Layer 3 transport to any other institution on the network. This is a basic service for affiliate of full members and is included at no additional cost beyond the membership dues. This is not available from any commercial carrier as a private network offering.

Attachment Z: Contiguous Census Blocks in the PennREN Funded Service Areas

42003475402	42003466000	42003472200	42003040400
42003475102	42003467000	42003472100	42003040900
42003475301	42003280500	42003281100	42003040500
42003475101	42003468700	42003473200	42003051000
42003475200	42003465600	42003192000	42003040200
42003480102	42003470600	42003469000	42003040300
42003490003	42003465800	42003202300	42003140200
42003480101	42003470300	42003473100	42003140100
42003477300	42003468900	42003473300	42003310100
42003475401	42003470500	42003281200	42003480300
42003192100	42003464300	42003473601	42003488500
42003190300	42003470400	42003281400	42003480400
42003191500	42003473602	42003202000	42003483800
42003191400	42003191800	42003476100	42003140800
42003220500	42003474201	42003473402	42003141400
42003051100	42003457200	42003473500	42003140300
42003050100	42003456004	42003473401	42003515500
42003030500	42003474202	42003310300	42003141000
42003020100	42003474102	42003482500	42003141100
42003160700	42003474101	42003480200	42003516100
42003180600	42003477100	42003310200	42003515400
42003170600	42003477200	42003489002	42003515300
42003180700	42003320700	42003489001	42003560500
42003180900	42003290100	42003488600	42003484300
42003180300	42003479000	42003485000	42003560600
42003170200	42003320400	42003488300	42003560400
42003481000	42003320600	42003484600	42003561200
42003010300	42003476200	42003488100	42003140600
42003300100	42003191700	42003484500	42003512900
42003453002	42003290400	42003150400	42003517000
42003409000	42003290200	42003151500	42003518002
42003456003	42003478100	42003151700	42003561500
42003455000	42003478200	42003141300	42003519000
42003453001	42003191900	42003160400	42003518001
42003457100	42003191100	42003160600	42003516200
42003456001	42003191600	42003150100	42003561000
42003459202	42003201900	42003160300	42003515200
42003471000	42003201600	42003040600	42003514000
42003468800	42003281500	42003160900	42003515100
42003458000	42003472400	42003151600	42003561100
42003459201	42003472300	42003160800	42003512800

Attachment Z: Contiguous Census Blocks in the PennREN Funded Service Areas

42003513800	42003426300	42003429500	42003130100
42003488200	42003220100	42003430200	42003415002
42073010900	42003220400	42003429400	42003426800
42003419000	42003250300	42003429300	42003414101
42003415001	42003261500	42003210800	42003414200
42003452000	42003220600	42003250700	42003414102
42003451103	42003261400	42003431400	42003427100
42003444000	42003020300	42003270300	42003050700
42003439000	42003241200	42003429700	42003070900
42003446000	42003250900	42003210700	42003080400
42003450800	42003050900	42003270100	42003060500
42003450700	42003240600	42003270800	42003101600
42003451101	42003230400	42003431500	42003090300
42003445500	42003262000	42003431100	42003080900
42003451102	42003443000	42003202200	42003080200
42003451300	42003442000	42003201700	42003101700
42073010100	42003438000	42003201800	42003080600
42085033100	42003440000	42003270400	42003050600
42085032900	42003441000	42003464400	42003060300
42019910500	42003435000	42003271500	42003111400
42019910400	42003412002	42003429100	42003080700
42085033000	42003412001	42003429202	42003070300
42019911000	42003433000	42003120400	42003070500
42019910300	42003436000	42003120800	42003090100
42019910800	42003437000	42003070800	42003100500
42019910600	42003461000	42003070600	42003426700
42019910200	42003459101	42003140400	42003101800
42003413202	42003460002	42003111300	42003101100
42003413201	42003460001	42003111500	42003090200
42003413300	42003459102	42003110600	42003424000
42003413100	42003202100	42003101400	42003425000
42003260200	42003280800	42003110200	42003421200
42003261200	42003280700	42003120100	42003427200
42003428100	42003434000	42003423000	42003426400
42003260700	42003432300	42003120700	42003422000
42003428200	42003462100	42003120200	42003420000
42003260900	42003463900	42003130400	42003525200
42003427000	42003432400	42003130300	42003524000
42003413400	42003462600	42003130200	42003421100
42003429201	42003430100	42003120300	42003523100
42003413500	42003429600	42003140500	42003523800

Attachment Z: Contiguous Census Blocks in the PennREN Funded Service Areas

42003561400	42049002700	42049000100	42027012700
42003523200	42049010800	42049000700	42027012600
42003130600	42049011002	42049000400	42027012500
42003523300	42049010700	42049000800	42027012400
42003523400	42049010301	42049000300	42027012800
42031990500	42049011202	42049000900	42027012200
42031990900	42049010903	42031990400	42027011902
42031990800	42049011102	42031990200	42027011400
42031990700	42049003000	42031990300	42027012100
42065950600	42049002600	42031990600	42027012000
42005980700	42049002800	42031990100	42027011500
42063961800	42049011001	42121201100	42027011800
42005981700	42049001400	42065950100	42027011700
42063962000	42049001500	42065950200	42061950100
42063961900	42049001700	42065950300	42043021900
42063961700	42049000500	42047991000	42109980300
42063961000	42049000600	42033331500	42119990400
42063960900	42049011801	42033330500	42119990300
42063960800	42049012001	42033331400	42109980200
42063961101	42049012100	42063961400	42119990200
42063961102	42049011508	42063961300	42119990500
42063961600	42049011300	42063960400	42119990100
42063960600	42049011503	42065950700	42119990700
42063960700	42049011201	42033330200	42119990600
42063961200	42049011504	42065950800	42043024700
42063961500	42049011101	42065951000	42097960400
42063960500	42049001100	42033330300	42093950100
42085032800	42049001000	42033330100	42097960100
42121201400	42049002100	42033330400	42093950400
42049010904	42049000200	42027011901	42097960200
42049010902	42049001900	42027010400	42097960300
42049010400	42049001800	42027010500	42097962100
42049010500	42049001200	42027011300	42097960700
42049011701	42049002500	42027011600	42097960600
42049011702	42049002300	42027010600	42097962000
42049011505	42049002900	42027011200	42097960500
42049011507	42049002400	42027011000	42097962200
42049011600	42049002000	42027011100	42109980100
42085032602	42049002200	42027010900	42097961900
42049011400	42049010600	42061950200	42043023400
42049001600	42049001300	42027012300	42133020220

Attachment Z: Contiguous Census Blocks in the PennREN Funded Service Areas

42133020100	42075003800	42069112400	42077005601
42043023300	42043024502	42079210500	42077005501
42043021400	42075003700	42069112600	42077005702
42133020910	42043024002	42069101900	42077006001
42043024001	42043024102	42069103100	42077005602
42133020921	42075004000	42069102200	42077005701
42043022900	42043024103	42069112700	42077005902
42043023100	42071010802	42069101800	42095016300
42043023000	42071010701	42069112800	42077009200
42043021500	42071010702	42069112500	42077005901
42043021700	42071010801	42069111500	42095016201
42043021300	42071010600	42069110202	42095016400
42043023700	42075002500	42069112900	42095015902
42043023500	42069111000	42069111600	42077006500
42043023900	42069111700	42069102600	42077006400
42043023800	42069112100	42069100200	42077006306
42043022800	42069111300	42069101400	42077006101
42043022700	42069111400	42069101300	42077006002
42043023600	42069111100	42069102500	42077006305
42043022501	42069111200	42069103000	42077006201
42043022502	42069111800	42069102000	42077002302
42043024600	42131400500	42069102100	42077006304
42043022100	42079211102	42069101600	42077006102
42043021200	42079210600	42069101700	42077002301
42043021600	42079211702	42069102300	42077006702
42043022200	42079210900	42069102900	42077007000
42043022401	42079210700	42069101000	42077006904
42043022000	42079210800	42069112000	42077001600
42043022300	42079211000	42069100900	42077000700
42043022403	42079211101	42069100500	42077005703
42043024400	42069110402	42069100400	42077001900
42043024503	42069110403	42069112200	42077001700
42043022604	42069110300	42069112300	42077002201
42043022601	42069110500	42069101100	42077001100
42043022603	42069110401	42069102700	42077001300
42043024101	42069101200	42069100800	42077001402
42075002400	42079210100	42069102800	42077001800
42043024200	42079211701	42069100300	42077002202
42075002300	42079210400	42069100600	42077002000
42043024300	42079210200	42077005800	42077006600
42075003900	42079210300	42095016202	42077006703

Attachment Z: Contiguous Census Blocks in the PennREN Funded Service Areas

42077002100	42017103200	42045409602	42101021900
42077001401	42017103300	42045408600	42101022000
42077001200	42017103400	42045409601	42101021600
42077000500	42017103002	42045408900	42091203105
42077006701	42017103700	42045409000	42091204701
42077000600	42017103600	42045409200	42091204702
42077001502	42017103500	42045409100	42091205000
42077001501	42095017300	42045408700	42091205200
42077000200	42095017501	42045400600	42091205100
42077000900	42095017601	42045403602	42091205300
42077001000	42095010500	42045403502	42045408300
42077000400	42095017702	42045403601	42091205501
42077000800	42077009100	42045403501	42045408800
42077000300	42095010300	42045403800	42091205502
42077000100	42095010100	42045403702	42091205600
42095018100	42095010200	42045403901	42091204600
42095014700	42095010400	42045404103	42091205400
42095014500	42095017701	42045403902	42091204500
42095014400	42095014600	42101005700	42045401301
42095014300	42095017603	42101005200	42045401302
42095014200	42095017502	42101005600	42045400802
42095017100	42095017602	42101005400	42045407805
42095011100	42095017402	42045403701	42045407700
42077006800	42095016700	42045403401	42045407804
42077006903	42095017401	42045402900	42045407803
42095018002	42095016900	42045403402	42045404003
42095010800	42095016800	42101005000	42045401401
42095011200	42095017200	42101005100	42045403002
42095010600	42095016600	42045404200	42045403001
42077009300	42095016500	42045404002	42045403101
42095010900	42095015901	42045408102	42045401501
42077009400	42095015800	42045408101	42045401402
42095010700	42045400900	42045407801	42045403200
42077009500	42045401000	42045408002	42045401502
42095011000	42045409300	42045409400	42045403300
42095017800	42045401101	42045408103	42045404004
42095017902	42045401103	42045407802	42101009700
42095011300	42045401104	42045408500	42101009900
42095017901	42045401200	42045407806	42101011600
42095018001	42045409500	42091204900	42101011500
42077006902	42045408400	42091204800	42091205503

Attachment Z: Contiguous Census Blocks in the PennREN Funded Service Areas

42101009800	42101007100	42101010400	42101014500
42101011700	42101006100	42101010700	42101014600
42101010100	42101006200	42101007900	42101012800
42101011400	42101006600	42101008600	42101012700
42045400100	42101007000	42101008700	42101013000
42045400801	42101006700	42101008800	42101013100
42045400402	42101005900	42101012300	42101014100
42045400200	42101005800	42101011000	42101000100
42045400500	42101007500	42101014800	42101004900
42045400401	42101006800	42101015300	42101004800
42045400700	42101004600	42101015200	42101002200
42045400301	42101003500	42101008900	42101002300
42101009500	42101003400	42101000700	42101004500
42101010000	42101006900	42101012500	42101004001
42101008301	42101003600	42101013400	42101002900
42101008302	42101003300	42101013600	42101004002
42101009600	42101007700	42101000800	42101004101
42101008200	42101007600	42101015000	42101004102
42045401600	42101007400	42101013800	42101003000
42045402200	42101007800	42101016901	42101001300
42045403104	42101011300	42101016800	42101001200
42045402700	42101011100	42101014900	42101001900
42045402000	42101011900	42101013700	42101001400
42045403103	42101011200	42101016700	42101002000
42045402500	42101011800	42101015100	42101002100
42045402400	42101008000	42101016600	42101004700
42045402600	42101008100	42101015400	42101003702
42045401700	42101010300	42101016500	42101003800
42045400302	42101010200	42101015500	42101003100
42045401800	42101009400	42101014700	42101003200
42045401900	42101008400	42101013900	42101003902
42045402300	42101009300	42101014000	42101003901
42101006300	42101008500	42101012600	42101003701
42101006400	42101012400	42101013200	42101004400
42101006500	42101010900	42101013300	42101004202
42045402100	42101009100	42101000300	42101004201
42101006000	42101010800	42101013500	42101002400
42101005500	42101009000	42101000500	42101002800
42045402800	42101010600	42101000600	42101001500
42101007300	42101009200	42101000200	42101001800
42101007200	42101010500	42101000400	42101000900

Attachment Z: Contiguous Census Blocks in the PennREN Funded Service Areas

42101001100	42101026100	42101017400	42101028600
42101001700	42101026301	42101020000	42101018800
42101002500	42101025900	42101020300	42101019200
42101002700	42101026302	42101020400	42101017700
42101001600	42101025600	42101028100	42101029100
42101001000	42101025000	42101028000	42101027300
42101021500	42101024800	42101020100	42101030600
42091204300	42101025100	42091202302	42101033600
42091204400	42101025500	42091202301	42101034000
42101021400	42101024600	42091201902	42091202000
42101012000	42101024900	42101026900	42101033900
42101012100	42101025300	42101027000	42101034200
42101020800	42101025400	42101027100	42101034100
42101021200	42101026200	42101027600	42101033700
42101021100	42101024700	42101026800	42101030700
42101020900	42101023800	42101027500	42101033500
42101021300	42101023700	42091202402	42101030900
42101021000	42101026400	42101027400	42101030800
42101020700	42101025200	42091202202	42101031000
42101012200	42091202401	42101027200	42101033800
42101022100	42101027800	42091202201	42101031300
42101022200	42101026500	42101030500	42101031100
42101021800	42101027700	42101019600	42101031400
42101021700	42101026600	42101019700	42101018500
42101022400	42101026700	42101019300	42101018400
42101022600	42101027900	42101019400	42101018300
42101023100	42101024100	42101028800	42101029200
42101022700	42101020600	42101029000	42101019000
42101022800	42101023900	42101019100	42101018900
42101025700	42101017000	42101028900	42101029500
42091210500	42101020500	42101017602	42101029600
42101022300	42101024400	42101017601	42101029300
42101022900	42101024300	42101017500	42101029400
42101023000	42101024200	42101019500	42101031800
42101023400	42101024000	42101028500	42101029900
42101023200	42101024500	42101028700	42101029800
42101023500	42101020200	42101028400	42101031900
42101023600	42101017300	42101019900	42101031700
42101023300	42101017100	42101028200	42101030100
42101025800	42101016902	42101028300	42101030200
42101026000	42101017200	42101019800	42101030000

Attachment Z: Contiguous Census Blocks in the PennREN Funded Service Areas

42101030300	42091201800
42101029700	42091201706
42101032100	42091202602
42101031600	42091202100
42101032000	42091201901
42101030400	42091201501
42101031200	42101032400
42101018200	42101032200
42101016200	42101032300
42101015700	42101032500
42101014400	42101032600
42101016100	42101033000
42101015800	42101032700
42101015600	42101032800
42101016300	42101033200
42101016400	42101033300
42101018100	42101033400
42101018700	42101034701
42101015900	42101033100
42101018600	42101031500
42101017900	42101034300
42101017800	42101034500
42101016000	42101032900
42101018000	42101034702
42101002600	42101034801
42101004300	42101034900
42101012900	
42101036600	
42101014300	
42101014200	
42091203103	
42091203104	
42017102802	
42101022500	
42091210300	
42091202500	
42091210400	
42091202604	
42091210200	
42091201705	
42091202603	

CERTIFICATION REGARDING LOBBYING LOWER TIER COVERED TRANSACTIONS

Applicants should review the instructions for certification included in the regulations before completing this form. Signature on this form provides for compliance with certification requirements under 15 CFR Part 28, "New Restrictions on Lobbying."

LOBBYING

As required by Section 1352, Title 31 of the U.S. Code, and implemented at 15 CFR Part 28, for persons entering into a grant, cooperative agreement or contract over \$100,000 or a loan or loan guarantee over \$150,000 as defined at 15 CFR Part 28, Sections 28.105 and 28.110, the applicant certifies that to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure occurring on or before October 23, 1996, and of not less than \$11,000 and not more than \$110,000 for each such failure occurring after October 23, 1996.

Statement for Loan Guarantees and Loan Insurance

The undersigned states, to the best of his or her knowledge and belief, that:

In any funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this commitment providing for the United States to insure or guarantee a loan, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

Submission of this statement is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required statement shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure occurring on or before October 23, 1996, and of not less than \$11,000 and not more than \$110,000 for each such failure occurring after October 23, 1996.

As the duly authorized representative of the applicant, I hereby certify that the applicant will comply with the above applicable certification.

NAME OF APPLICANT

KINBER

AWARD NUMBER AND/OR PROJECT NAME

PenREN

PRINTED NAME AND TITLE OF AUTHORIZED REPRESENTATIVE

Arthur Stephens, KINBER Board of Directors

SIGNATURE



DATE

08/11/2009

Balance Sheet

	Historical		Forecast Period				
	N/A	N/A	Year 1	Year 2	Year 3	Year 4	Year 5
Assets							
<i>Current Assets</i>							
Cash	\$ -	\$ -	\$ 3,143,705	\$ 6,466,569	\$ 9,162,770	\$ 1,295,834	\$ 2,129,595
Marketable Securities	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Accounts Receivable	\$ -	\$ -	\$ 842,469	\$ 1,500,000	\$ 3,130,000	\$ -	\$ -
Notes Receivable	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Inventory	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Prepayments	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other Current Assets	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Current Assets	\$ -	\$ -	\$ 3,986,174	\$ 7,966,569	\$ 12,292,770	\$ 1,295,834	\$ 2,129,595
<i>Non-Current Assets</i>	\$ -	\$ -					
Long-Term Investments	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Amortizable Asset (Net of Amortization)	\$ -	\$ -	\$ 35,537,655	\$ 71,075,310	\$ 106,612,965	\$ 118,458,849	\$ 118,458,849
Plant in Service	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Less: Accumulated Depreciation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Net Plant	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Non-Current Assets	\$ -	\$ -	\$ 35,537,655	\$ 71,075,310	\$ 106,612,965	\$ 118,458,849	\$ 118,458,849
Total Assets	\$ -	\$ -	\$ 39,523,829	\$ 79,041,879	\$ 118,905,735	\$ 119,754,683	\$ 120,588,444
Liabilities and Owners' Equity							
<i>Liabilities</i>							
<i>Current Liabilities</i>							
Accounts Payable	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Notes Payable	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Current Portion - Total RUS Debt	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Current Portion - Other Debt	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other Current Liabilities	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Current Liabilities	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<i>Long-Term Liabilities</i>							
Existing RUS Debt	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Proposed RUS Debt	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Existing non-RUS Debt	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Long-Term Liabilities	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Liabilities	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<i>Owner's Equity</i>							
Capital Stock	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Additional Paid-In Capital	\$ -	\$ -	\$ 39,523,829	\$ 79,041,879	\$ 118,905,735	\$ 119,754,683	\$ 120,588,444
Patronage Capital Credits	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Retained Earnings	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Equity	\$ -	\$ -	\$ 39,523,829	\$ 79,041,879	\$ 118,905,735	\$ 119,754,683	\$ 120,588,444
Total Liabilities and Owner's Equity	\$ -	\$ -	\$ 39,523,829	\$ 79,041,879	\$ 118,905,735	\$ 119,754,683	\$ 120,588,444
			\$ -	\$ -	\$ -	\$ -	\$ -

Statement of Cash Flows

	Historical		Forecast Period				
			Year 1	Year 2	Year 3	Year 4	Year 5
Beginning Cash	\$ -	\$ -	\$ -	\$ 3,143,705	\$ 6,466,569	\$ 9,162,770	\$ 1,295,834
CASH FLOWS FROM OPERATING ACTIVITIES:							
Net Income	-	-	39,523,829	39,518,050	39,863,856	848,948	833,761
Adjustments to Reconcile Net Income to Net Cash Provided by Operating Activities							
Add: Depreciation	-	-	-	-	-	-	-
Add: Amortization	-	-	-	-	-	-	-
Changes in Current Assets and Liabilities:							
Marketable Securities	-	-	-	-	-	-	-
Accounts Receivable	-	-	(842,469)	(657,531)	(1,630,000)	3,130,000	-
Inventory	-	-	-	-	-	-	-
Prepayments	-	-	-	-	-	-	-
Other Current Assets	-	-	-	-	-	-	-
Accounts Payable	-	-	-	-	-	-	-
Other Current Liabilities	-	-	-	-	-	-	-
Net Cash Provided (Used) by Operations	\$ -	\$ -	\$ 38,681,360	\$ 38,860,519	\$ 38,233,856	\$ 3,978,948	\$ 833,761
CASH FLOWS FROM FINANCING ACTIVITIES:							
Notes Receivable	-	-	-	-	-	-	-
Notes Payable	-	-	-	-	-	-	-
Principal Payments	-	-	-	-	-	-	-
New Borrowing	-	-	-	-	-	-	-
Additional Paid-in Capital	-	-	-	-	-	-	-
Additions to Patronage Capital Credits	-	-	-	-	-	-	-
Payment of Dividends	-	-	-	-	-	-	-
Net Cash Provided by Financing Activities	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
CASH FLOWS FROM INVESTING ACTIVITIES:							
Capital Expenditures	-	-	35,537,655	35,537,655	35,537,655	11,845,884	-
Amortizable Asset (Net of Amortization)	-	-	-	-	-	-	-
Long-Term Investments	-	-	-	-	-	-	-
Net Cash Used by Investing Activities	\$ -	\$ -	\$ 35,537,655	\$ 35,537,655	\$ 35,537,655	\$ 11,845,884	\$ -
Net Increase (Decrease) in Cash	\$ -	\$ -	\$ 3,143,705	\$ 3,322,864	\$ 2,696,201	\$ (7,866,936)	\$ 833,761
Ending Cash	\$ -	\$ -	\$ 3,143,705	\$ 6,466,569	\$ 9,162,770	\$ 1,295,834	\$ 2,129,595

Budget Assumptions and Summary

- Revenue Projections are primarily from member contributions and dues during year one as the network will be under construction. As construction is completed some revenues will be realized through service offerings.
- Revenue Projections increase in year 2 as 50% of the network construction is completed so revenue will be produced from those services.
- Revenue Projections increase in year 3 to reflect the full availability of the network. It is anticipated that this revenue in the Years 3 through 5 will increase considerably as members order services and other stakeholders begin requesting access to the network, however that is not reflected in the spreadsheet.
- Grant and matching funds are recognized in Years 1, 2 and 3 as Other Operating Revenue
- The network is reflected as an amortizable asset on the balance sheet
- These costs reflect withheld payments on the project until the network is accepted by KINBER. The final payment is reflected in project year 4.
- Absent the withheld payments, the revenue exceeds operating expenses in every year.. In Year 5 income exceeds operating expenses by \$833,000. Revenue surpluses will be reinvested into the network or used to expand access for other customers

COMPETITOR TABLE – MIDDLE MILE							
Existing Middle Mile Broadband Service Providers and Services Offered:							
Service Area	Middle Mile Services Provider	Technology Platform	Service Tier	Point-to-Point	Minimum Peak Load Network Bandwidth Capacity	Pricing (per month)	Other Comments
Service Area:	Harrisburg						
Scranton/ Census community	Commonwealth of Pennsylvania - Level 3	Ethernet over Fiber	Entry Level Plan	IntraLATA	3 Mbps	\$647	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"	Highest Speed Plan	IntraLATA	1 Gbps	\$8,611	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"		InterLATA	1 Gbps	\$18,846	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"	Other Plans	IntraLATA	10 mbps	\$1,027	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"		IntraLATA	50 Mbps	\$1,685	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"		InterLATA	50 Mbps	\$2,639	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"		IntraLATA	100 Mbps	\$2,665	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"		InterLATA	100 Mbps	\$4,200	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"		IntraLATA	500 Mbps	\$6,318	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"		InterLATA	500 Mbps	\$11,947	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	Level3 Commercial	Ethernet over Fiber	Entry Level Plan		54 Mbps	\$2,500	
			Highest Speed Plan				
		DS3	Other Plans		45 Mbps	\$2,500	
Bethlehem/ Census community ?	Commonwealth of Pennsylvania - Level 3	Ethernet over Fiber	Entry Level Plan	IntraLATA	3 Mbps	\$647	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"	Highest Speed Plan	IntraLATA	1 Gbps	\$8,611	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"		InterLATA	1 Gbps	\$18,846	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"	Other Plans	IntraLATA	10 mbps	\$1,027	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"		IntraLATA	50 Mbps	\$1,685	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"		InterLATA	50 Mbps	\$2,639	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"		IntraLATA	100 Mbps	\$2,665	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"		InterLATA	100 Mbps	\$4,200	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"		IntraLATA	500 Mbps	\$6,318	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"		InterLATA	500 Mbps	\$11,947	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)

COMPETITOR TABLE – MIDDLE MILE							
Existing Middle Mile Broadband Service Providers and Services Offered:							
Service Area	Middle Mile Services Provider	Technology Platform	Service Tier	Point-to-Point	Minimum Peak Load Network Bandwidth Capacity	Pricing (per month)	Other Comments
		Ethernet over Fiber	Entry Level Plan				
	Level3 Commercial		Highest Speed Plan		500 Mbps	\$7,000	
	XO		Other Plans		50 Mbps	\$1,450	
	Paetec Communications				50 Mbps	\$1,750	burstable to 500 Mb
	Level3 Commercial	Ethernet over Fiber	Entry Level Plan				
			Highest Speed Plan				
			Other Plans	InterLATA	200 Mbps	\$9,560	
		DS3			45 Mbps	\$2,500	
Philadelphia/ Census community ?	Commonwealth of Pennsylvania - Level 3 Contract	Ethernet over Fiber	Entry Level Plan	IntraLATA	3 Mbps	\$647	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"	Highest Speed Plan	IntraLATA	1 Gbps	\$8,611	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"		InterLATA	1 Gbps	\$18,846	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"	Other Plans	IntraLATA	10 mbps	\$1,027	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"	"	IntraLATA	50 Mbps	\$1,685	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"		IntraLATA	100 Mbps	\$2,665	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"		IntraLATA	500 Mbps	\$6,318	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	Level3 Commercial	Ethernet over Fiber	Entry Level Plan				
			Highest Speed Plan				
			Other Plans	InterLATA	200 Mbps	\$9,560	
		DS3			45 Mbps	\$2,500	
Hershey/ Census community	Commonwealth of Pennsylvania - Level 3 Contract	Ethernet over Fiber	Entry Level Plan	IntraLATA	3 Mbps	\$647	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"	Highest Speed Plan	IntraLATA	1 Gbps	\$8,611	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"		InterLATA	1 Gbps	\$18,846	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"	Other Plans	IntraLATA	10 mbps	\$1,027	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"	"	IntraLATA	50 Mbps	\$1,685	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"		IntraLATA	100 Mbps	\$2,665	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"		IntraLATA	500 Mbps	\$6,318	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
		Ethernet over Fiber	Entry Level Plan				
			Highest Speed Plan				
			Other Plans		200 Mbps	\$9,560	redundant connection at both ends

COMPETITOR TABLE – MIDDLE MILE							
Existing Middle Mile Broadband Service Providers and Services Offered:							
Service Area	Middle Mile Services Provider	Technology Platform	Service Tier	Point-to-Point	Minimum Peak Load Network Bandwidth Capacity	Pricing (per month)	Other Comments
	Level3 Commercial	Ethernet over Fiber	Entry Level Plan				
			Highest Speed Plan				
			Other Plans	InterLATA	300 Mbps	\$11,490	
State College/ Census community ?	Commonwealth of Pennsylvania - Level 3 Contract	Ethernet over Fiber	Entry Level Plan	IntraLATA	3 Mbps	\$647	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"	Highest Speed Plan	IntraLATA	1 Gbps	\$8,611	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"		InterLATA	1 Gbps	\$18,846	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"	Other Plans	IntraLATA	10 mbps	\$1,027	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"	"	IntraLATA	50 Mbps	\$1,685	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"		IntraLATA	100 Mbps	\$2,665	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"		IntraLATA	500 Mbps	\$6,318	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	Level3 Commercial	Ethernet over Fiber	Entry Level Plan				
			Highest Speed Plan	InterLATA	1000 Mbps	\$24,060	redundant connection at both ends
			Other Plans				
Indiana/ Census community	Commonwealth of Pennsylvania - Level 3 Contract	Ethernet over Fiber	Entry Level Plan	IntraLATA	3 Mbps	\$647	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"	Highest Speed Plan	IntraLATA	1 Gbps	\$8,611	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"		InterLATA	1 Gbps	\$18,846	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"	Other Plans	IntraLATA	10 mbps	\$1,027	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"	"	IntraLATA	50 Mbps	\$1,685	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"		IntraLATA	100 Mbps	\$2,665	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"		IntraLATA	500 Mbps	\$6,318	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
Pittsburgh/ Census community	Commonwealth of Pennsylvania - Level 3 Contract	Ethernet over Fiber	Entry Level Plan	IntraLATA	3 Mbps	\$647	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"	Highest Speed Plan	IntraLATA	1 Gbps	\$8,611	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"		InterLATA	1 Gbps	\$18,846	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"	Other Plans	IntraLATA	10 mbps	\$1,027	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"	"	IntraLATA	50 Mbps	\$1,685	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)

COMPETITOR TABLE – MIDDLE MILE							
Existing Middle Mile Broadband Service Providers and Services Offered:							
Service Area	Middle Mile Services Provider	Technology Platform	Service Tier	Point-to-Point	Minimum Peak Load Network Bandwidth Capacity	Pricing (per month)	Other Comments
	"	"		IntraLATA	100 Mbps	\$2,665	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"		IntraLATA	500 Mbps	\$6,318	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	Comcast	Ethernet over Fiber	Entry Level Plan				
			Highest Speed Plan				
			Other Plans		100 Mbps	\$2,500	
Slippery Rock/ Census community	Commonwealth of Pennsylvania - Level 3 Contract	Ethernet over Fiber	Entry Level Plan	IntraLATA	3 Mbps	\$647	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"	Highest Speed Plan	IntraLATA	1 Gbps	\$8,611	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"		InterLATA	1 Gbps	\$18,846	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"	Other Plans	IntraLATA	10 mbps	\$1,027	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"	"	IntraLATA	50 Mbps	\$1,685	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"		IntraLATA	100 Mbps	\$2,665	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"		IntraLATA	500 Mbps	\$6,318	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
Erie/ Census community	Commonwealth of Pennsylvania - Level 3 Contract	Ethernet over Fiber	Entry Level Plan	IntraLATA	3 Mbps	\$647	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"	Highest Speed Plan	IntraLATA	1 Gbps	\$8,611	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"		InterLATA	1 Gbps	\$18,846	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"	Other Plans	IntraLATA	10 mbps	\$1,027	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"	"	IntraLATA	50 Mbps	\$1,685	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"		IntraLATA	100 Mbps	\$2,665	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"		IntraLATA	500 Mbps	\$6,318	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
		Ethernet over Fiber	Entry Level Plan				
			Highest Speed Plan				
			Other Plans		200 Mbps	\$9,560	redundant connection at both ends
Clarion/ Census community	Commonwealth of Pennsylvania - Level 3 Contract	Ethernet over Fiber	Entry Level Plan	IntraLATA	3 Mbps	\$647	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"	Highest Speed Plan	IntraLATA	1 Gbps	\$8,611	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"		InterLATA	1 Gbps	\$18,846	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)

COMPETITOR TABLE – MIDDLE MILE							
Existing Middle Mile Broadband Service Providers and Services Offered:							
Service Area	Middle Mile Services Provider	Technology Platform	Service Tier	Point-to-Point	Minimum Peak Load Network Bandwidth Capacity	Pricing (per month)	Other Comments
	"	"	Other Plans	IntraLATA	10 mbps	\$1,027	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"	"	IntraLATA	50 Mbps	\$1,685	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"		IntraLATA	100 Mbps	\$2,665	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"		IntraLATA	500 Mbps	\$6,318	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
Dubois/ Census community	Commonwealth of Pennsylvania - Level 3 Contract	Ethernet over Fiber	Entry Level Plan	IntraLATA	3 Mbps	\$647	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"	Highest Speed Plan	IntraLATA	1 Gbps	\$8,611	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"		InterLATA	1 Gbps	\$18,846	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"	Other Plans	IntraLATA	10 mbps	\$1,027	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"	"	IntraLATA	50 Mbps	\$1,685	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"		IntraLATA	100 Mbps	\$2,665	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"		IntraLATA	500 Mbps	\$6,318	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
		Ethernet over Fiber	Entry Level Plan				
			Highest Speed Plan				
			Other Plans		50 Mbps	\$2,900	redundant connection at both ends
Lewisburg/ Census community	Commonwealth of Pennsylvania - Level 3 Contract	Ethernet over Fiber	Entry Level Plan	IntraLATA	3 Mbps	\$647	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"	Highest Speed Plan	IntraLATA	1 Gbps	\$8,611	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"		InterLATA	1 Gbps	\$18,846	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"	Other Plans	IntraLATA	10 mbps	\$1,027	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"	"	IntraLATA	50 Mbps	\$1,685	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"		IntraLATA	100 Mbps	\$2,665	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	"	"		IntraLATA	500 Mbps	\$6,318	available to Commonwealth government and associated entities only;NRC (\$1000 + build costs)
	Level 3 commercial	Ethernet over Fiber	Entry Level Plan				
			Highest Speed Plan		600 Mbps	\$14,226	Includes transport cost Redundant entry
			Other Plans				

Table 14.1. Middle Mile Project Data

Last Mile Service Area Identifier	Community	State	Square Miles	Population	Households	Businesses	Anchor Institution
1	Scranton	PA	314	239,137	98,449	10,888	University of Scranton
2	Bethlehem	PA	314	570,030	221,095	22,176	Lehigh University
3	Philadelphia	PA	314	2,278,282	883,913	88,683	Switch and Data: Collocation facility
4	Hershey	PA	314	296,137	118,543	10,450	Penn State Hershey Medical Center
5a	State College	PA	314	120,312	43,527	3905	D&E Communications Collocation facility.
5b	State College	PA	314	130,731	47,928	4450	Level 3 Communications Collocation facility.
6 Underserved	Indiana	PA	314	78,378	31,063	2930	Indiana University of PA
7	Pittsburgh	PA	314	929,954	399,425	40,613	Allegheny Center Mall: Collocation facility.
8	Slippery Rock	PA	314	67,755	24,439	2,555	Slippery Rock University
9	Erie	PA	314	211,193	86,534	8,369	Penn State - Behrend
10 Underserved	Clarion	PA	314	58,124	23,221	2,165	Clarion University
11 Underserved	Dubois	PA	314	60,393	24,705	2,296	Penn State Dubois
12 Underserved	Lewisburg	PA	314	119,354	44,600	4,713	Bucknell University
Totals			4,082	5,159,780	2,047,442	204,193	

DETAIL OF PROJECT COSTS

PLEASE COMPLETE THE TABLE BELOW FOR THE DIFFERENT CATEGORIES OF EQUIPMENT THAT WILL BE REQUIRED FOR COMPLETING THE PROJECT. EACH CATEGORY SHOULD BE BROKEN DOWN TO THE APPROPRIATE LEVEL FOR IDENTIFYING UNIT COST

SERVICE AREA or COMMON NETWORK FACILITIES:		Eligibility (Yes/No)	Unit Cost	No. of Units	Total Cost	Support of Reasonableness
NETWORK & ACCESS EQUIPMENT						
Switching	Ciena 4200 RS, Optical Switch		192,308.00	13	2,500,000.00	Provides up to 800 Gbps
	Maintenance		18,333.00	13	238,333.00	Ensures Availability
Routing	Juniper M120		166,667.00	3	500,000.00	Redundant Routing
	Maintenance			3	0.00	Included in sale price
Transport						
Access	Force 10 E-600		176,923.00	13	2,300,000.00	Access to Backbone
			14,667.00	13	190,667.00	Ensures Availability
Other	Other Capital Equipment				550,000.00	Lifecycle Replacement
OUTSIDE PLANT						
Cables	Corning Fiber SMF-28		69,846.00	1,696	118,458,848.00	Fiber Optic Cabling/mile
	Maintenance		958.00	1,696	1,625,000.00	Ensures Availability
Conduits	Aerial Attachments					
Ducts	2" OD, PVC					
Poles	N/A					
Towers	N/a					
Repeaters	N/A					

DETAIL OF PROJECT COSTS

SERVICE AREA or COMMON NETWORK FACILITIES:		Eligibility (Yes/No)	Unit Cost	No. of Units	Total Cost	Support of Reasonableness
NETWORK & ACCESS EQUIPMENT						
Other						
BUILDINGS						
New Construction						
Pre-Fab Huts	N/A					
Improvements & Renovation						
Other	Office Leasing				48,000.00	
CUSTOMER PREMISE EQUIPMENT						
Modems	N/A					
Set Top Boxes	N/A					
Inside Wiring	N/A					
Other						
BILLING SUPPORT AND OPERATIONS SUPPORT SYSTEMS						
Billing Support Systems						
	Salary, Billing Clerk		31,984.00	2.5	79,960.00	Billing Mg
Customer Care Systems	NOC					
	Core Node Support					
Other Support						

DETAIL OF PROJECT COSTS

SERVICE AREA or COMMON NETWORK FACILITIES:		Eligibility (Yes/No)	Unit Cost	No. of Units	Total Cost	Support of Reasonableness
OPERATING EQUIPMENT						
Vehicles						
Office Equipment/ Furniture						
	Office Furniture		1,200.00	5	6,000.00	Staff workspaces
Other						
					6,000.00	
PROFESSIONAL SERVICES						
Engineering Design	Full-time Technicians				487,950.00	Support, Design
Project Management	Executive Director				253,000.00	Mgt, Support, Operations
	Project Manager				225,000.00	Total Project Coordinatio
Consulting	Legal, Accounting, other				150,000.00	Compliance, admin
Other	Benefits for full-time staff				198,273.00	Quality of work life
TESTING						
Network Elements	Core Nodes			13	525,000.00	Regional Access
IT System Elements	Mgt & Monitoring, Maintenance			13	542,000.00	Mgt collection
User Devices						
Test Generators						
Lab Furnishings						
Servers/ Computers						

DETAIL OF PROJECT COSTS

SERVICE AREA or COMMON NETWORK FACILITIES:		Eligibility (Yes/No)	Unit Cost	No. of Units	Total Cost	Support of Reasonableness
OTHER UPFRONT COSTS						
Site Preparation						
Other						
					0.00	

Attachment H: Broadband Subscriber Estimates

Strategic Institution Service Type #1: Layer 1	Year 0	Year 1 (2010)				Year 2 (2011)				Year 3 (2012)				Year 4 (2013)				(2014)			
		Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4
Net Add-ons		1	2	1	2			3	2	3	4	4	3	2	1						
Cumulative subscribers		1	3	4	6	6	9	11	14	18	22	25	27	28	28	28	28	28	28	28	28
Service Type #2																					
Net Add-ons									3	2	5	6	6	3	2	2	1				
Cumulative subscribers		0	0	0	0	0	0	3	5	10	16	22	25	27	29	30	30	30	30	30	30
Service Type #3																					
Net Add-ons				1	2	5	5	3	7	5	3	8	4	4	5	3	2	5	4	2	3
Cumulative subscribers		0	0	1	3	8	13	16	23	28	31	39	43	47	52	55	57	62	66	68	71

PennREN Proposal Team - This data must be cross-correlated with other schedule driven items in the proposal :

1. fiber build schedule
2. information used to build the budget i.e. take rate of services

The PennREN middle-mile project will link community anchor institutions such as public and private universities, pre K-12 institutions, public libraries, public broadcasting, medical facilities and more. Each of these institutions are represented as founding members of the PennREN non-profit organization or have expressed their intention to use the network via letters of intent found elsewhere in this application.

In addition, the organizations represented will amplify access to people in the Commonwealth because of the multiple facilities in several communities under their responsibility such as: The Pennsylvania State University's 23 campus locations, the Pennsylvania State System of Higher Education's 14 campuses; the Independent Colleges and Universities of PA representing over 73 institutions; the 14 Pennsylvania Community Colleges; 27 PreK-12 Intermediate Units, etc. Some of these founding institutions will be early adopters of the network; others will join as additional services are made available. There will be a maturity in which the services are offered by PennREN, the Layer1 infrastructure will be available earlier, Layer3 Commodity Internet Services will follow, preceding the availability of a the Layer2 shared Ethernet Services.

Income Statement

	Historical		Forecast Period				
	N/A	N/A	Year 1	Year 2	Year 3	Year 4	Year 5
Revenues							
Network Services Revenues:							
Local Voice Service	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Broadband Data	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Video Services	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Network Access Service Revenues	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Universal Service Fund	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Toll Service/Long Distance Voice	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Installation Revenues	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other Operating Revenues (Grant)	\$ -	\$ -	\$ 39,486,283	\$ 39,486,283	\$ 39,486,282	\$ -	\$ -
Other Revenues	\$ -	\$ -	\$ 842,469	\$ 1,500,000	\$ 3,130,000	\$ 3,130,000	\$ 3,130,000
Uncollectible Revenues	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Revenues	\$ -	\$ -	\$ 40,328,752	\$ 40,986,283	\$ 42,616,282	\$ 3,130,000	\$ 3,130,000
Expenses							
Backhaul	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Network Maintenance/Monitoring	\$ -	\$ -	\$ 490,133	\$ 804,133	\$ 1,978,133	\$ 1,484,000	\$ 1,484,000
Utilities	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Leasing	\$ -	\$ -	\$ 121,500	\$ 217,500	\$ 272,000	\$ 272,500	\$ 273,000
Sales/Marketing	\$ -	\$ -	\$ 48,323	\$ 111,650	\$ 125,573	\$ 131,138	\$ 134,810
Customer Care	\$ -	\$ -	\$ 96,645	\$ 223,300	\$ 251,147	\$ 262,276	\$ 269,620
Billing	\$ -	\$ -	\$ 48,323	\$ 111,650	\$ 125,573	\$ 131,138	\$ 134,810
Corporate G&A	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other Operating Expense	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total	\$ -	\$ -	\$ 804,923	\$ 1,468,233	\$ 2,752,426	\$ 2,281,052	\$ 2,296,239
EBITDA	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Depreciation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Amortization	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Earnings Before Interest and Taxes	\$ -	\$ -	\$ 39,523,829	\$ 39,518,050	\$ 39,863,856	\$ 848,948	\$ 833,761
Interest Expense - New RUS Debt	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Interest Expense - Existing RUS Debt	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Interest Expense - Other	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Income Before Taxes	\$ -	\$ -	\$ 39,523,829	\$ 39,518,050	\$ 39,863,856	\$ 848,948	\$ 833,761
Property Tax	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Income Taxes	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Net Income	\$ -	\$ -	\$ 39,523,829	\$ 39,518,050	\$ 39,863,856	\$ 848,948	\$ 833,761

Attachment E - Project Plan (Key Phases and Milestones to Demonstrate Degree of Completion)

Time Proposed	Quarter	List All Relevant Milestones	Support for Reasonableness/Data Points
Year 0		* Sign Letter of Intent with Underlying Fiber Provider • Confirm the Scope of Work	
Year 1	Qtr. 1	* Deliver 10% of Total Route Miles	* Fibertech can leverage existing assets and deliver the On-Net route miles quickly. A significant amount of the work associated with this project (i.e. applications, design, etc) will be in Q1/Q2 of the first year.
	Qtr. 2	* Deliver 20% of Total Route Miles	* For each site delivered, Fibertech will test the fiber, ensure that it is within specifications, and will tie any backbone fibers into our Network Operations Center (NOC) for on-going pro-active maintenance
	Qtr. 3	* Deliver 30% of Total Route Miles	
	Qtr. 4	* Deliver 50% of Total Route Miles	
Year 2	Qtr. 1	* Deliver 70% of Total Route Miles	
	Qtr. 2	* Deliver 80% of Total Route Miles	
	Qtr. 3	* Deliver 90% of Total Route Miles	
	Qtr. 4	* Deliver 100% of Total Route Miles	
Year 3	Qtr. 1		
	Qtr. 2		
	Qtr. 3		
	Qtr. 4		

The table below is an example of a Project Plan, with the various tasks associated with the project. Given the size and scope of this project, the timeframe and deliverables will differ by location. However, Fibertech agrees to deliver sites in accordance to the "Project Plan (Key Phases and Milestones to Demonstrate Degree of Completion)" table attached.



Fibertech Networks Project Plan - **EXAMPLE**

Project Description:	Provide Dark Fibers in CT Under Broadband Stimulus Initiative					
Date:	August 14, 2009					
Market:	Pennsylvania			Projected Delivery Date:		No Later Than Q4, 2010
Customer:				Demark Points:		
Sales:				Fiber Count:		
Engineer:				Contract Executed:		
Fibertech Job #:						
	Time Required	Project Plan Start Date	Project Plan Scheduled Completion Date	Actual Start Date	Actual Completion	Responsible Party
Route Design/Strand Mapping	30 days	Year 1, Q1	Year 1, Q1			FT
Easements to Buildings:	60 days	Year 1, Q1	Year 2, Q4			Customer
Permits (State,County,City)	part of app process					FT
Applications: Pole & Conduit	5 days	Year 1, Q1	Year 1, Q1			FT *14 aerial apps to Verizon,

						PSE&G, CATV* And 3 Conduit apps to Vzn
Surveys - Engineering	30 days	Year 1, Q1	Year 1, Q2			utilities
Make Ready Estimates*	15 days	Year 1, Q1	Year 1, Q2			utilities
- Review & Payment of MR	3 days	Year 1, Q1	Year 1, Q2			FT
Make Ready Work *	90-120 days	Year 1, Q1	Year 2, Q4			utilities
Fibertech Mobilization & Construction** which includes:	21 days	Year 1, Q1	Year 2, Q4			FT
^ Lateral Fiber Construction	distance dependent					FT
-Aerial						
-Underground						
^Splice Plan Design**	1-7 days	Year 1, Q1	Year 2, Q4			FT
^ Outside Splicing	approx 10 days	Year 1, Q1	Year 2, Q4			FT
Testing & Trouble-shooting	5 days	Year 1, Q1	Year 2, Q4			
Notice of Completion	1 day	Year 1, Q1	Year 2, Q4			FT
Customer Acceptance	1-15 days	Year 1, Q1	Year 2, Q4			customer

Notes:

Fibertech will require a customer letter providing and authorizing building access and easement ROWs

The dates shown are not guaranteed. Due dates from the utilities may impact the make-ready process

The utilities are allowed a 45 day interval from Application to submission of the Make-Ready bill to Fibertech

The utilities are allowed a 90-120 day interval from receipt of Make-Ready payment to completion of the Make-Ready work. Maximum interval is typical for pole replacement work.

*As Estimates are received and paid, utility make-ready work is begun

** The splice plan is designed while construction is in progress

** Construction can begin as utility make-ready work is completed and licensed

Build-Out Timeline

	Name:												
	YEAR 0	YEAR 1				YEAR 2				YEAR 3			
		Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4
Infrastructure Funds Advance (estimate)													
Pertentage of Total Funds		15%	20%	15%	10%	10%	10%	10%	10%				
Entities Passed & %													
Household													
Percentage of Total Households													
Businesses													
Percentage of Total Businesses													
Strategic Institutions (Comm. Anchor, Public Safety, etc)													
Percentage of Total Institutions		10	9	9	8	5	5	5	5				

General Overall Budget For Joint Applications Only: Please complete the following table only if you are submitting a joint BIP/BTOP Application. Please use the grid on Project Budget Tab in the online system for the BIP budget and then complete the table below for BTOP.

This attachment was required as an upload by the online system even though this is NOT a Joint Application						
Equipment Category	Grant Request	Equity	Debt	Bonds	Other Funding	Total
Network & Access Equipment (switching, routing, transport, access)	4,240,000	2,039,000				
Outside Plant (cables, conduits, ducts, poles, towers, repeaters, etc.)	94,767,078	25,316,770				
Buildings and Land – (new construction, improvements, renovations, lease)		48,000				
Customer Premise Equipment (modems, set-top boxes, inside wiring, etc.)						
Billing and Operational Support Systems (IT systems, software, etc.)		79,960				
Operating Equipment (vehicles, office equipment, other)		6,000				
Engineering/ Professional Services (engineering design, project management, consulting, etc.)	220,000	1,094,223				
Testing (network elements, IT system elements, user devices, test generators, lab furnishings, servers/computers, etc.)	433,600	633,400				
Site Preparation						
Other						
Total Broadband System	99,660,678	29,217,353				

Question 37:

The KINBER organization represents an unparalleled partnership of Pennsylvania's higher education and health care entities. The members consist of Bucknell, Carnegie Mellon, Drexel, Lehigh, PASSHE, Penn, Penn State, Pittsburgh, the Commission for Community Colleges, the Association of Independent Colleges and Universities and the Hospital Association of PA. The organizations committed to the KINBER Board have all appointed key senior technology or business leaders to direct and implement the network design. Examples of resumes from these member organizations are included to highlight our commitment and experience. Unfortunately due to the page limitations, we are not able to provide resumes for all stakeholders.

Although this group of institutions has not partnered together on a previous project of this size, most have implemented large independent networks to meet the needs of their respective organizations. Penn State and PASSHE have both implemented managed services networks that have linked their respective locations. Penn, through its affiliate Magpi, has been providing network and Internet2 services to over 600 customers for more than 10 years including several community colleges and school districts. These services include over 120 education programs to the K-12 community across the commonwealth. Pittsburgh and Carnegie Mellon have partnered to provide access to National Lambda Rail and other services to nearly a dozen customers for over 10 years through their affiliate Three Rocks. This association also provides access to the Pittsburgh Super Computer Connection. The Association of Independent Colleges and Universities of Pennsylvania has organized a series of managed services regional networks for its members.

The leadership team that has been meeting weekly since March has created the KINBER 501(c)3 organization and has worked out a sustainable, network design that meets the needs of its members while providing services to organizations that also meet its non-profit mission.

These efforts have also created a network of additional organizations that support the PennREN project including the University of Pittsburgh Medical Center, the Hershey Medical Center, the PA Electronic Health initiative, the PA Intermediary Units, public television stations, internet service providers, Wall Street West and the Pennsylvania Economic Development Association. KINBER's leadership has committed to work with the Commonwealth in a complimentary manner with their project to provide high speed services to the entire northern tier of PA - we will seek to eliminate redundancies and leverage their infrastructure when practical and offer our fiber resources to help them meet their objectives.

In summary, the KINBER organization is committed to the goals of the BTOP and is anxious to create a statewide mid-mile network that provides services to hospitals, higher education institutions, state and local government agencies, non-profits, economic development entities, libraries and other entities that meet the mission of KINBER. We believe that this network can be the basis for broadband infrastructure across the Commonwealth for the next several decades.

Martin Joseph Ciccocioppo

Experience	January 1998 to Present	The Hospital & Healthsystem Association of Pennsylvania
	Vice President, Research	
	<ul style="list-style-type: none">▪ Responsible for research and data initiatives in support of HAP's representation and advocacy agenda.▪ Represents HAP on the Board of the Pennsylvania eHealth Initiative (PAeHI); Board Chair since November 2005.▪ Represents HAP on the Pennsylvania Health Information Exchange (PHIX) Advisory Council.	
	January 1995 to Dec. 1998	The Hospital & Healthsystem Association of Pennsylvania
	Director, Policy Development and Regional Services	
Education	<ul style="list-style-type: none">▪ Represented HAP on the Pennsylvania Information Highway Consortium Board and work groups.▪ Developed association policy on key strategic planning and public policy issues and prepare for membership consideration.▪ Insurance Commissioner hospital representative appointee to the PA Medical Liability Joint Underwriting Association.	
	June 1987 to December 1994	The Hospital Association of Pennsylvania
	Progressively more responsible positions within HAP's Research Division	
	<ul style="list-style-type: none">▪ Project manager for development and implementation of HAP's Data Analysis Support System (DASS)▪ Principal staff to multi-disciplinary membership Systems Technology Work Group dealing with health care technology issues.▪ Developed software programs and computer systems in support of research and analytical projects	
Education		The Pennsylvania State University
	Master of Health Administration, 1998	
		The Pennsylvania State University
	Master of Business Administration, 1987	
	<ul style="list-style-type: none">▪ Master's Paper: "Hospital Information Systems: An Empirical Case Analysis."	
Education		The Pennsylvania State University
	Bachelor of Business Administration, 1986	
	<ul style="list-style-type: none">▪ High Distinction▪ Health Care Management major▪ Information Systems major	

Lisa Heintzelman

Experience

June 2006 – Present

Pennsylvania Commission for Community Colleges

Director of Education and Development

- Coordinate Workforce Development – Coordination Team Member for the Dept. of Economic Development’s Workforce Leadership Grant
- Coordinate Grant Development – Project Manager for Wall Street West Grant for Financial Services Industry
- Coordinate Distance Learning

April 2000 – Present

Illuminations Consulting

Educational Consultant (Owner)

- Professional Development
- Technical Assistance
- Program Development

Education

Temple University

Master’s degree in Educational Administration, December 1995

Elizabethtown College

Bachelor’s degree in Elementary and Early Childhood Education, May 1993

- Cum Laude

Leave blank

Harrisburg Area Community College

Associate’s degree in Early Childhood Education

- Dean’s List

Peter J. Heverin

Experience

2006 – Present

MAGPI

Subscriber Liaison

- Work with new and upcoming subscribers to get them connected to the MAGPI network. Subscribers include; K-12 schools, Intermediate Units, higher education, medical and research institutions in the Mid-Atlantic area.
- In-depth knowledge of all the operational aspects of K-12 schools and Higher Education institutions is required.
- Understanding of the public bid process, proposal writing, technical specification writing and IT and construction project management.

2005 - 2006

Enterprise Cable Group

Program Director, Corporate Enterprise Projects

2003 - 2005

TekConnect, Inc.

National Practice Manager, Infrastructure Consulting

- Primary duties include: feasibility studies, cost estimates, client presentations, designs of premises cabling systems, and the design and implementation of private fiber optic wide area networks infrastructure for educational institutions in K-12 and higher education markets

2003 - 2005

TekConnect, Inc.

National Practice Manager, Educational Technology Consultant

- Primary duties included: development of a framework to assist the district in the assessment of the use of educational technology throughout the district and outlining the steps necessary to improve the effectiveness of the technology in the classroom and administratively.

1998 - 2002

Sunesys, Inc. / Blair Park Services, Inc. / Teranet, LLC

Sales Engineer / Marketing Manager

- Primary duties included: feasibility studies, cost estimates, route maps, client presentations, the design of wide area network infrastructure for education, corporate and healthcare organizations, writing press releases, managing and creating direct mail pieces targeted at vertical market segments, creating client profiles, writing success stories and designing the creative elements and writing the content for marketing collateral.

Gwendolyn L. Huntoon

Experience

September 1989 - Present

Pittsburgh Supercomputing Center / Carnegie Mellon University

Director, Networking (June 2005 - Present)

- Responsible for the strategic and financial planning, funding and operations of the Networking Group.
- Director for the Three Rivers Optical Exchange (3ROX), including managing and operating a regional network aggregation point for high performance and commodity connectivity.

Assistant Director, Networking (July 1999 - May 2005)

- Manage network staff for the production and research networks at the Pittsburgh Supercomputing Center.
- Director, NLANR Engineering Services. Lead Principle Investigator for three year, \$2.7M National Science Foundation funded project to provide advance network engineering services to Academic sites connected to Next Generation Internet backbones such as vBNS and Abilene.
- Manage, direct and support research in high performance networking services and technologies. Areas of focus include enhancements to TCP protocol, network measurement and network monitoring.

Manager, Networking (January 1995 - June 1999)

- Responsible for strategic planning for all network activities ranging from project coordination and prioritization, budget planning and management, resource allocation, grant administration; and personnel recruitment.
- Expanded networking group from 5 network engineers funded internally to over 11 network engineers and support staff with external funding from a combination of NSF research grants and network partnerships.

Coordinator Networking (August 1992 - December 1998)

- Responsible for coordinating all technical activities associated with PSC's internal and external network infrastructure.
- Technical Project Manager, Common Knowledge: Pittsburgh (CK:P), a \$2M NSF funded project for integrating network connectivity and user devices into the curriculum of the Pittsburgh Public School system.

Acting Manager, Networking and Hardware (August 1991 - July 1992)

- Responsible for all activities associated with PSC's production network and hardware groups, including planning, acquisition and support for production, staff and office systems to supporting specific hardware development projects.

Network Engineer (September 1989 - July 1991)

- Software support for all networking activities.
- Provided software development and project management for PSC's heterogeneous supercomputing environment.
- Software and system support for PSC's high speed experimental and production networks.

September 2005 - August 2009

National LambdaRail / Carnegie Mellon University

Interim Chief Technology Officer (July 2009 - August 2009)

- Provide oversight on technology projects associated with National LambdaRail.

Director of Operations, Interim Chief Technology Officer (July - August 2009)

- Responsible for the operations and technical strategy for National LambdaRail, a fiber-optic based national network.
- Technical oversight for all technical projects ranging from Layer1 optical based services up to strategic applications such as Telepresence.
- Provided managerial and technical oversight the installation, operations and support for a dense wave division multiplex (DWDM) optical network. Including the installation of the optical infrastructure along the southern path (2005) and the upgrade of the northern path (2008).

Education

Northeastern University

Master of Science, Electrical Engineering (1985)

- Concentration in Communications and Signal Processing

Bowdoin College

Bachelor of Arts in Mathematics and History, Magna Cum Laude (1983)

- High Honors, History
- James Bowdoin Scholar

Jeffrey C. Kuhns

Experience

October 2006 – Present

The Pennsylvania State University

Associate Vice Provost, IT

- Developed 5 year IT strategic plan.
- Completed long term data center study and recommendations.
- Initiated IPv6 planning team.
- Vice-Chair, Educause Network Policy Council.

June 2002 – September 2006

The Pennsylvania State University

Senior Director Consulting and Support Services

- Presented testimony to US Senate on net neutrality.
- Acquired private fiber connecting State College to Pittsburgh for campus and internet traffic.
- Created new organization to provide IT consulting and support service to the University community.
- Developed bulk buy for desktop computing saving \$1.7M.
- Negotiated unique software contract with Microsoft.

July 1990 – June 2002

The Pennsylvania State University

Associate Senior Director, Office of Telecommunications

- Created a sustainable budget model for networking and network security.
- Developed a long range plan for University cellular service and campus cellular sites.
- Created student long distance program reducing student cost by 50%.

Education

The Pennsylvania State University

Masters in Telecommunications Policy (1996)

- Thesis studied the value of a university becoming a community telecommunications service provider.

Indiana University of Pennsylvania

BS Business Management (1974)

Michael H Lambert

Experience

July 2006-Present

Pittsburgh Supercomputing Center

GigaPoP Coordinator and Principal Network Engineer

- Liaison and outreach to current and potential GigaPoP members
- Architectural responsibilities for 3ROX network
- Continuing engineering and operational responsibilities for PSC and 3ROX networks
- Participation in national networking meetings on behalf of 3ROX

April 1994-July 2006

Pittsburgh Supercomputing Center

Network Engineer

- Engineering and operational responsibilities for PSC and 3ROX networks
- Co-chair, Internet2 IPv6 working group (1999-present)
- Member, Abilene (now Internet2) Technical Advisory Committee (2000-present)

December 1988-April 1994

Pittsburgh Supercomputing Center

Scientific Specialist

- Responsible for escalated support of scientific applications software for PSC's user community
- Performed one of first application ports to Cray's T3D massively-parallel architecture

Education

University of Pittsburgh

Post-Doctoral Research Associate, Biophysics (1988)

- Area of research: Chaotic behavior in cellular calcium ion transport

Indiana University

PhD, Theoretical Nuclear Physics (1988)

- Thesis: *A study of Gamow-Teller mixing: Coupling to $\Delta(1232)$ and isobaric analogue resonances*

Wabash College

AB, Mathematics and Physics (1980), Minor in German

- Graduated *Magna cum Laude*
- Recipient of Harold Q Fuller Prize in Physics

Gregory D. Palmer

Experience

November 1999 – current

University of Pennsylvania

MAGPI Executive Director

- Built a regional high performance network in PA, NJ, and DE for research and education with 600+ connections
- Built an optical network in support of Princeton University, NOAA and DOE/ESNet research facilities
- Produced and delivered 120 education and professional Development programs for K-20 institutions in 2008-'09
- Chairman – Internet2 Emerging African Research & Education Networks Interest Group
- Board Member – PA Council for International Education
- Advisory Council – Asian Studies Collaborative

August 1998 – November 1999

Christian Dalloz, Inc., Paris, France

Director of Global IT Operations

- Global infrastructure development for 42 sites worldwide
- SAP integration in Europe and the U.S.
- Distributed backbone built for 6 countries

March 1987 – August 1998

Drexel University

Title: Director of Campus Computing

- Awarded VbNS grant from NSF
- Complete campus re-wiring to cat 5
- First wireless pilot program
- Retired mainframe Prime system for server farm

Education

LaSalle University

Bachelor of Science(1988), Minor in Operations Management

- Co-authored, Statistical Analysis of Small Business Behavior
- Cum Laude graduate
- All Night School

Arthur C. Stephens

Experience

October 2008 to present

Pennsylvania State System of Higher Education

Special Assistant to the Chancellor for Information Management and Strategy

- Responsible for establishing the information technology strategy for a 14 university system coordinating technology priorities across the universities. The strategy defines how to better serve Pennsylvania's students by applying technology to enhance learning, improve efficiency and align Pennsylvania graduates with key opportunities across the Commonwealth.
- Serving as the Program Manager for a project to implement student information systems across the 14 campuses.
- Coordinating emergency preparedness and COOP planning for the System. Responsible for establishing System Strategic Telecommunications strategy.

June 2005 – October 2008

Commonwealth of Pennsylvania, Office of the Governor

Deputy Chief of Staff

- Served as a member of the Governor's senior staff focusing on public safety, technology, transportation and telecommunications.
- Facilitated telecommunications concepts including classrooms of the future and broadband outreach and aggregation.
- Acted as the chief liaison for the Governor to cabinet agencies including the State Police, the Department of Corrections, the Pennsylvania Emergency Management Agency, the Office of Homeland Security, the Pennsylvania National Guard, the Commission on Crime and Delinquency, the Board of Probation and Parole, PennDOT, and the Office of Administration on a variety of issues.
- Created the Public Safety Strategic Plan, the Homeland Security and Emergency Preparedness framework, the Public Safety Cabinet, and the Homeland Security Executive Cabinet.
- Re-established continuity of government and pandemic planning for all agencies under the Governor's jurisdiction.
- Participated in numerous emergency response activities including the 7/7/2005 London subway bombings, Hurricanes Katrina, Rita and Wilma, energy shortage concerns, the 2006 Pennsylvania floods, the Nickel Mines shootings, inhalation anthrax, and growing concerns for a potential pandemic resulting from avian influenza.

March 2003 – June 2005

Commonwealth of Pennsylvania

Chief Information Officer

- Responsible for providing technology solutions and infrastructure to more than 40 state boards, commissions, agencies, and departments in hundreds of locations across Pennsylvania and the world, including a state-wide network connecting all state agencies and locations.
- Directly managed a staff of 300, indirectly managed a staff of approximately 2,000 employees and oversaw the budget which was \$110 million with overall IT spending in the Commonwealth near \$1 billion.
- Responsible for providing email, telecomm, security and data center services to all Commonwealth Departments, maintaining the State's web portal, the SAP system for HR, Payroll, Travel, Budget and Finance, the Pennsylvania Justice Network, and the Statewide 800 MHz Radio System. In addition, established and enforced technology policy.
- Accomplishments were based on four main priorities: 1) maintaining and improving the security of Commonwealth systems and networks 2) establishing a governance structure that minimizes agency barriers to allow IT solutions to be shared across government through communities of practice 3) ensuring IT solutions are prioritized to meet the most pressing needs of the business and 4) improving the provision of shared services to continue to drive down the costs of providing technology solutions while maintaining existing service levels.

July 1997 – March 2003

Deloitte Consulting

Senior Manager and Principal

- Responsible for all aspects including sales, HR, public relations, community service, engagement mgmt, and project delivery.
- Performed engagements for the PA Departments of Welfare, Health, Labor & Industry, Insurance, Aging, the State Employee's Retirement System, the Public School Employee's Retirement System, the Commission on Crime and Delinquency, and the Department of Revenue.

July, 1987 – June, 1997

Andersen Consulting (now Accenture)

Experienced Manager

Education

Pennsylvania State University

Bachelor of Science in Finance (1987), Minor in Economics

Bruce M. Taggart

Experience

July 2000 – Present

Lehigh University, Bethlehem, Pennsylvania

Vice Provost, Library and Technology Services

- Responsible for the overall strategic direction, planning, and management of the campus libraries, faculty development, academic and research information technologies, administrative enterprise systems, and graduate level distance education programs. The organizational structure includes eight directors, a 175 FTE professional staff, and a \$23 million operating budget.
- Developed and published two long range plans entitled: "A Strategic Plan for Library and Technology Services, 2001–2005" and "A Strategic Plan for Library & Technology Services, 2006-2010".
- Developed 5-year \$50,000,000 Strategic Campus Network Plan to bring high-speed wireless and gigabit access to the desktop to support enhanced teaching, research, and campus communications.
- Lead seven year \$20 million architectural and construction planning process to renovate and technically transform the historic 1870 Linderman Library into a 21st century library, teaching, and learning space.
- Developed and implemented a \$2.8 million plan for expanding and enhancing campus networking and electronic classroom development including high-end multimedia capacity in 85% of all university teaching classrooms.
- Developed and implemented multi-year life cycle methodology for campus network, student computing labs, e-classrooms, enterprise systems, portal, library automation, and central servers.
- Facilitated the development for the first campus high performance computing (HPC) cluster and computer grid for research. Lehigh's current high performance grid includes 400 nodes.
- Developed and implemented co-location facility in central Computer Center to support campus-wide centralization of high performance computing clusters and decentralized high security need servers (HIPPA, FERPA, et al).

June 1994 – June 2000

Portland State University, Portland, Oregon

Executive Director, Office of Information Technologies

- Responsible for the overall planning, management, and direction of campus academic and administrative computing, networking, telecommunications, and distance learning resources, classroom technology support, and faculty/staff technology development.
- Served on planning and management committee for the Network for Engineering and Research in Oregon (NERO) and Oregon Wide Area Education Network (OWEN).
- Served on executive planning committee which developed the conceptual framework for and later implemented the Portland Research & Education Network (PREN) and gigapop along with Oregon Health Sciences University and the University of Washington.
- Worked with faculty to develop grant proposals for the National Telecommunication & Information Administration (NTIA) and the Telecommunications & Information Infrastructure Assistance Program (TIAP).
- Developed state-of-the-art 100 megabit campus instruction and research network.
- Proposed and designed the concept of constructing a new \$30,000,000 "Campus Technology Commons" to create a multi-discipline, collaborative, technology/library connected building for teaching and learning.
- Oregon Telecommunication Forum Council (1996-2000) – Appointed to Governor's Lifelong Learning and Education subcommittee tasked with developing state-wide recommendations for expanding access to lifelong education and training in Oregon.
- NorthWestNet, Inc. – Elected in the summer 1995 to NorthWestNet Board of Directors. NorthWestNet was one of the largest Internet providers in the Pacific Northwest started by the Northwest Academic Computing Consortium in the late 1980's.

January 1983 – June 1994

University of Connecticut, Storrs, Connecticut

Director of Planning and Administration, University Computer Center

Education

University of Connecticut, Storrs, Connecticut

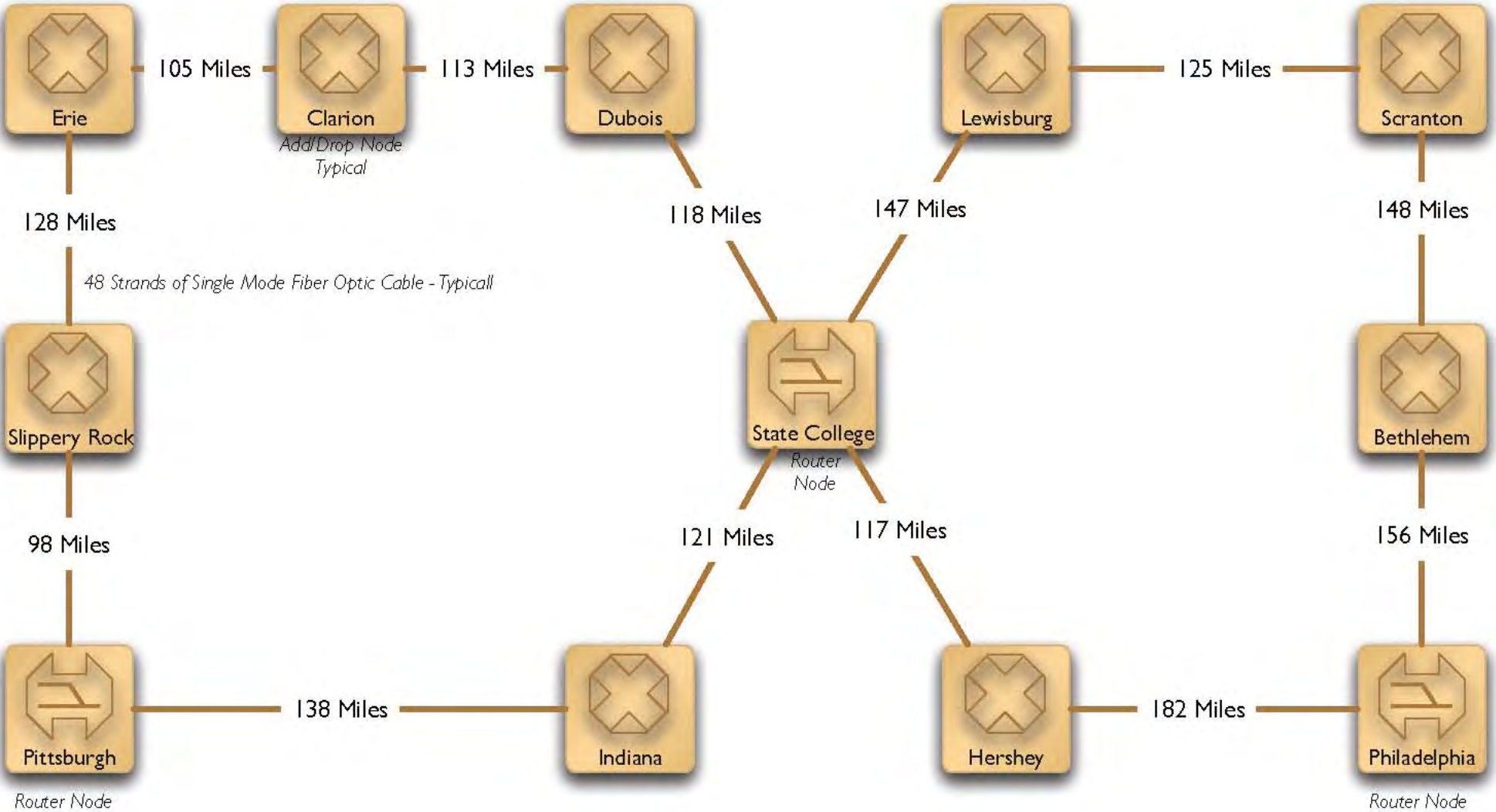
Ph.D. 1993, Higher Education Administration and Public Policy

University of Connecticut, Storrs, Connecticut

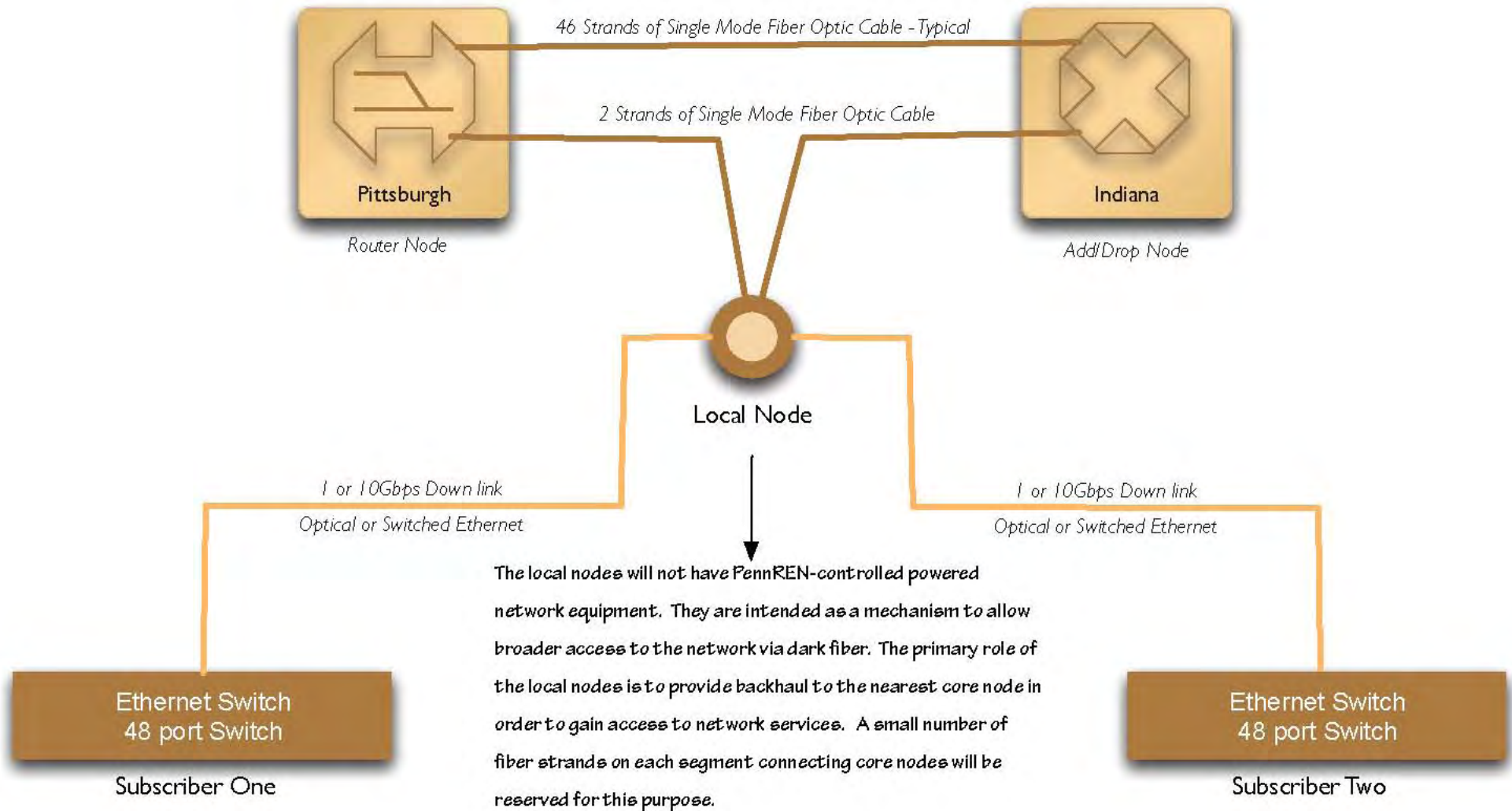
Master of Arts 1981, Public Policy

Nichols College, Dudley, Massachusetts

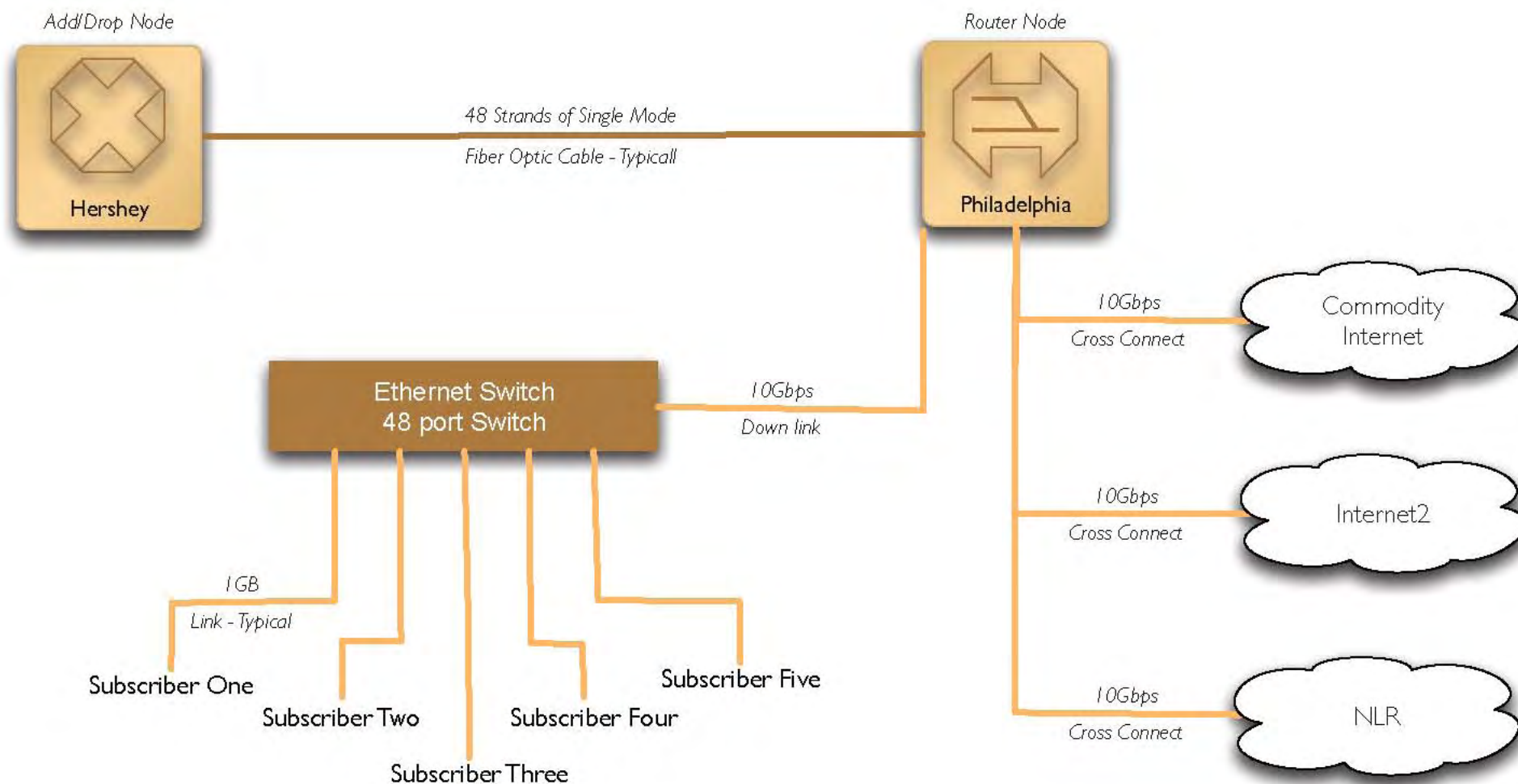
Bachelor of Science 1978, Public Administration



Logical Illustration of Core Node w/Local Node Connection



Logical Illustration of Core Node w/Local Ethernet Connection



Q 41 Government and Other Key Partnerships - PennREN

Organization	Name	Contact Information	Title	Role
3ROX	Huntoon, Wendy	huntoon@psc.edu	Executive Director	Board Member Contractor Customer
Association of Independent Colleges and Universities of PA	Alexander, Tim	Tim.alexander@aicup.org	Vice President of Finance and Administration	Board Member Customer
Bucknell University	Myers, David	myers@bucknell.edu	Chief of Staff to the President	Board Member Customer
Carnegie Mellon University	Smith, Joel M.	412-268-2638	Vice Provost and Chief Information Officer	Board Member
Ciena Government Solutions	Peed, David L.	800-921-1144	Vice President and Managing Director	Partner Vendor, Equipment
Clarion University	Latour, Terry S.	tlatour@clarion.edu; 814-393-1931	Dean of University Libraries	Customer
Drexel University	Bielec, John A.	jbielec@drexel.edu	Vice President and Chief Information Officer	Board Member Customer
FiberTech	Hurley, Michael	585-697-5104	Vice President, Sales and Marketing	Partner Technical Support
eiNetwork	Williams, Ernest	412-622-6503	Manager of Technology Planning	Customer
The Hospital & Healthsystem Association of	Scanlan, Carolyn F.	cscanlan@haponline.org	President and Chief Executive Officer	Board Member Customer

Pennsylvania				
Lehigh University	Taggart, Bruce	Bmt2@lehigh.edu	Vice Provost, Library and Technology Services	Board Member Customer
MAGPI (Mid-Atlantic Gigapop in Philadelphia for Internet2)	Palmer, Gregory D.	gpalmer@magpi.net	Executive Director	Board Member Contractor Customer
MIND (mediaIndependence)	Blumenthal, Howard	215-483-3900 x220; hblumenthal@mindtv.org	CEO	Customer
PA Commission for Community Colleges	Heintzelman, Lisa	Lheintzelman@pacommunitycolleges.org	Director of Education and Development	Board Member Customer
Penn State Milton S. Hershey Medical Center	Abendroth, Thomas W.	717-531-8561	Chief Information Officer	Potential Customer
Pennsylvania Economic Development Association (PEDA)	Blair, Robert	Tedc1@ptd.net	President and CEO	Potential Customer
Pennsylvania eHealth Initiative	Ciccocioppo, Martin	martinc@haponline.org	Board Chair	Potential Customer
Pennsylvania Mountains Healthcare Alliance	Snyder, Gregory W.	814-372-2355 x260; gsnyder@pmhalliance.org	Vice President for Technology	Potential Customer
Pennsylvania State System of Higher Education (PASSHE)	Stephens, Art	astephens@passhe.edu	Special Assistant to the Chancellor	Board Member Customer

The Pennsylvania State University	Kuhns, Jeffrey	Jck1@psu.edu	Associate Vice Provost for Information Technology; Representative of Office of the President	Board Member Customer Technical Support
	Morooney, Kevin M.	814-863-3746	Vice Provost for Information Technology	
The University of Pennsylvania	Palladino, Michael A.	mikep@isc.upenn.edu	Associate Vice President, Networking and Telecommunications	Board Member Customer
The University of Pittsburgh	Walton, Jim	412-624-6100	Director, Computing Services and Systems Development	Board Member Customer
Wall Street West	Ryan, Jim	jryan@nep.benfranklin.org	Director Outreach and Network Development	Board Member Customer
WHYY	Marrazzo, William J.	215-351-1200	President and CEO	Board Member Customer
WTF, Inc.	Pavelko, Kathleen A.	717-704-3000	President and CEO	Board Member Customer
WPSU Penn State Public Broadcasting	Krichels, Ted	814-865-3333	General Manager, Associate Vice President for Public Engagement	Board Member Customer
WQLN Public Media	Miller, Dwight J.	814-864-3001	President and General Manager	Board Member Customer



Dear PennREN Planning Team:

3ROX, the networking group of the Pittsburgh Supercomputing Center (PSC), is the regional hub in western Pennsylvania and northern West Virginia for the Internet2 and National LambdaRail research and education networks. We support the proposal of the Pennsylvania Research and Education Network (PennREN) for NTIA funding available through the Broadband Technology Opportunity Program and intend to use the services this network will offer to facilitate the 3ROX mission of expanding access to research applications and educational opportunities through the facilities offered by the network.

The facilities-based network proposed by PennREN will allow 3ROX to enhance our current relationships with laboratories operated by the US Department of Energy and the National Oceanographic and Atmospheric Administration, as well as improve access for Pennsylvania researchers to PSC's NSF-funded computational infrastructure.

The services PennREN will offer include a shared network connecting member sites as well as Internet services available from a number of providers, both commodity and research and education. Interested entities will be able to provision private networks on this infrastructure using a variety of technological options.

We recognize that deployment of this network is contingent upon the award of funding from the NTIA BTOP program.

This network will empower 3ROX and our peer institutions with the ability to extend national and international research and education applications and facilities to every portion of the commonwealth, eliminating the bandwidth-related barriers which have existed hitherto. We believe this network will significantly enhance the services available to Pennsylvanians and will help move the commonwealth into a leadership role in the national networking landscape.

Sincerely,

Gwendolyn L. Huntoon
Executive Director, 3ROX
Director of Networking, PSC



Association of
Independent Colleges & Universities
of Pennsylvania

101 North Front Street • Harrisburg, Pennsylvania 17101-1405

August 7, 2009

Dear PennREN Planning Team:

The Association of Independent Colleges and Universities of Pennsylvania supports the proposal of the Pennsylvania Research and Education Network (PennREN) for NTIA funding available through the Broadband Technology Opportunity Program and intends to use the services they will offer.

We understand that PennREN will be a facilities-based network running on optical fiber and offering high-bandwidth/low latency. The services they will offer include a shared network connecting member sites as well as Internet services available from a variety of providers. Interested parties will also be able to create private networks for their exclusive use, the opportunity to utilize an entire wave or channel or an entire strand of fiber.

We recognize that the creation of this network is contingent upon the award of NTIA funds.

This is an exciting opportunity to network not only with educational and health care systems in Pennsylvania, but also those throughout the country and the world. We believe it will significantly enhance the services we can provide to our members in a cost effective manner.

Sincerely,

Don L. Francis
President, AICUP

C: Tim Alexander
VP Finance and Administration



Bucknell
UNIVERSITY

Office of the Chief Information Officer
Library and Information Technology
Bucknell University
Lewisburg, Pennsylvania 17837

Phone: 570-577-1557
Fax: 570-577-3313
www.bucknell.edu

August 7, 2009

Dear PennREN Planning Team :

Bucknell University supports the proposal of the Pennsylvania Research and Education Network (PennREN) for NTIA funding available through the Broadband Technology Opportunity Program and intends to use the services they will offer.

We understand that PennREN will be a facilities based network running on optical fiber and offering high-bandwidth/low latency. The services it will offer include a shared network connecting member sites as well as Internet services available from a variety of providers. Interested parties will also be able to create private networks for their exclusive use, the opportunity to utilize an entire wave or channel, or an entire strand of fiber.

We recognize that the creation of this network is contingent upon the award of NTIA funds.

This is an exciting opportunity for Bucknell University to network not only with educational and health care systems in Pennsylvania, but also those throughout the country and the world. We believe it will significantly enhance the services we can provide to our faculty, students, and staff in a cost effective manner.

Sincerely,

Param Bedi
Chief Information Officer

August 6, 2009

Dear PennREN Planning Team:

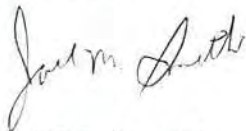
Carnegie Mellon University supports the proposal of the Pennsylvania Research and Education Network (PennREN) for NTIA funding available through the Broadband Technology Opportunity Program and intends to use the services they will offer.

We understand that PennREN will be a facilities-based network running on optical fiber and offering high bandwidth/low latency. The services they will offer include a shared network connecting member sites as well as Internet services available from a variety of providers. Interested parties will also be able to create private networks for their exclusive use, or utilize an entire wave, channel, or strand of fiber.

We recognize that the creation of this network is contingent upon the award of NTIA funds.

This is an exciting opportunity for Carnegie Mellon to network not only with educational and health care systems in Pennsylvania, but also those throughout the country and the world. We believe PennREN will significantly enhance the services we can provide to our students and faculty in a cost effective manner.

Sincerely,



Joel M. Smith
Vice Provost and Chief Information Officer
Carnegie Mellon University



1201 Winterson Road
Linthicum, Maryland 21090

800 921 1144 phone
410 694 5750 fax
www.ciena.com

August 13, 2009

To Whom it May Concern:

Ciena is very pleased to offer its support to the Pennsylvania R&E Network proposal submitted by the PennREN consortium. Ciena is willing to be a significant participant in this proposal from both an intellectual, technological and financial perspective. We at Ciena feel that this application, if awarded, will result in creation of a network that will serve as an ideal foundation in meeting the full range of PennREN networking requirements, supporting the network transport needs of the Pennsylvania State University system, the State System of Higher Education, and other institutions of research and higher education throughout the state.

In contribution to this effort, Ciena has worked closely with technical members of the proposal team on network design. We believe that the network as planned will serve current network requirements of Pennsylvania research and higher education institutions with an approach that will support both large capacity needs of research centers while extending the network to locations that today are underserved by high performance bandwidth. Additionally the network is designed to support new connectivity demands in the future with minimal incremental capital expenditure.

As a corporation headquartered in region in the state of Maryland and with numerous employees residing in Pennsylvania, we at Ciena look forward to working with PennREN to create a flagship network for the academic institutions of Pennsylvania. We fully support this initiative.

Sincerely,

A handwritten signature in blue ink, reading "David L. Peed".

David L. Peed
Vice President and Managing Director
Ciena Government Solutions



Office of Information Resources and Technology

August 9, 2009

Dear PennREN Planning Team:

Drexel University enthusiastically endorses the Pennsylvania Research and Education Network (PennREN) proposal for Broadband Technology Opportunity Program funding via the National Telecommunications and Information Administration. The university anticipates using several of the services expected to be offered on this new Commonwealth-wide network.

PennREN could offer Drexel's faculty and students researchers low latencies and high bandwidths via its optical fiber network with economically accessible connecting points. Through PennREN, Drexel will be able to dynamically initiate new pathways for collaborative research, not currently possible entirely within Pennsylvania. Further, the facilities-based PennREN network may allow Drexel to expand its academic administration initiative to help smaller struggling colleges take advantage of cutting-edge, Pennsylvania-based services to streamline administrative overhead and help contain the rising cost of education.

Drexel recognizes the PennREN network cannot be created without the award of NTIA funds. The BTOP program offers a rare opportunity to take giant strides forward beneficially, economically, and quickly.

Drexel University is eager to expand our access to and collaboration with a range of educational, medical, and cultural institutions across Pennsylvania, throughout the country, and around the world. We believe it will significantly enhance the services we can provide to our students, faculty, and the greater Philadelphia area.

Sincerely,

John A. Bielec, Ph.D.
Vice President and
Chief Information Officer

LETTER OF INTENT ("LOI")

This Letter of Intent ("LOI") is made as of the 10th day of August, 2009 (the "Effective Date") by and between FIBER TECHNOLOGIES NETWORKS, L.L.C. ("Vendor"), a New York limited liability company, having its principal office at 300 Meridian Centre, Rochester, New York 14618, and Keystone Initiative for Network Based Education and Research ("KINBER"), a 501(c), having its principal office at 401 Old Main, University Park, PA 16802-1505 ("Customer") (collectively, "Parties").

This LOI serves to provide an understanding between the Parties for an intent to enter into agreement for an IRU for 48 fiber strands throughout the State of Pennsylvania, provided that the project receives grant funding under the American Recovery & Reinvestment Act of 2009 ("ARRA"). For clarity of doubt, this agreement is not an order. In the event Customer receives Federal grant funding, then the Customer shall have the option of signing a separate Master Facilities Agreement ("MFA") with Vendor, which will include the following terms and conditions:

- Market = Pennsylvania, with map depicted in Schedule 1.
- Match = Fibertech agrees to provide a 20% match for the federal funds (as outlined in grant application guidelines) in recognition of the on-going value that Fibertech believes the network will enable.
- Term = 20-Year IRU
- At the end of the 20-Year IRU Term, Vendor and Customer shall have the option of renewing for two subsequent 5-year terms, or more as mutually agreed.
- Customer/Vendor will define payment terms, within the guidelines of the ARRA as they are released, with an effort to minimize cash outlay and financing requirements for both Parties.
- Vendor certifies that the Dark Fiber stands will adhere to the technical specifications listed in Schedule 1

This Letter of Agreement shall be effective for a one hundred and twenty (120) day period, and shall be superceded in the event that both Parties agree to enter into a Master Facilities Agreement.

FIBER TECHNOLOGIES NETWORKS, L.L.C.

By: Michael C. Hurley

Print Name: Michael C. Hurley

Title: Vice President

Date: August 14, 2009

CUSTOMER

By: Arthur C. Stephen

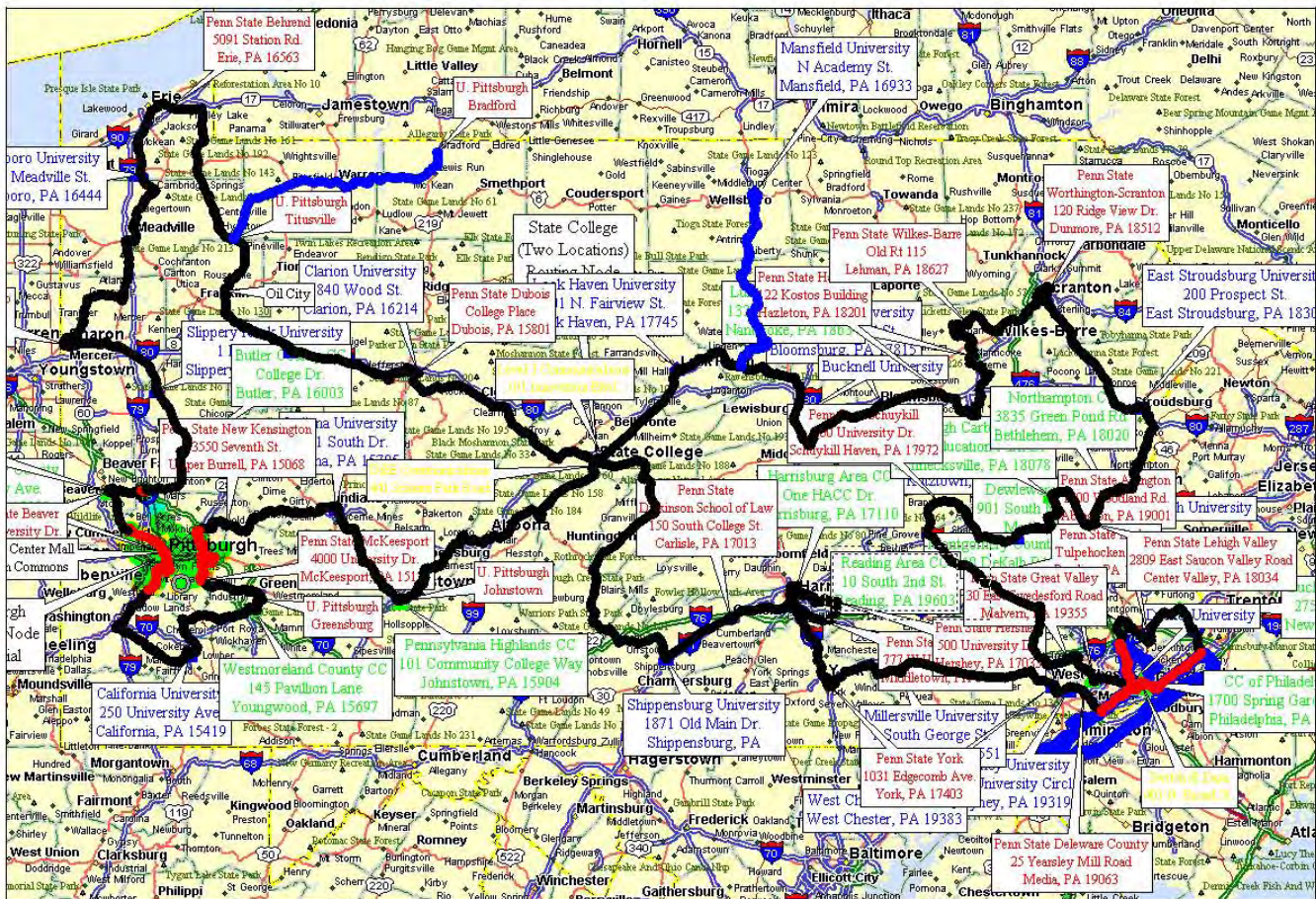
Print Name: ARTHUR C. STEPHEN

Title: BOARD MEMBER

Date: 8/10/2009

SCHEDULE 1 DARK FIBER ROUTE MAP AND ROUTE DESCRIPTION

Map:



Route Description: Vendor shall perform, or cause to be performed, such work, if any, at its expense, as may be required for placement of the Cable on or in the Routes as set forth in this Schedule 1.

Cable Parameters:

Fiber type:	Single Mode (SMF-28) - Matched Clad
Glass Type:	8/125 microns
Buffer:	Loose Buffer Tube Single Fibers or Loose Buffer Tube Ribbon Fibers Gel Filled and/or Dry Block
Operating Wavelength:	1310/1550nm
Maximum Attenuation:	0.35 dB/km for 1310 wavelength 0.25 dB/km for 1550 wavelength

LETTER OF INTENT (“LOI”)

This LOI is effective as of the ___th day of August, 2009 (the “Effective Date”) by and between Force10 Networks, INC (“Force10”), having its principal office at 350 Holger Way, San Jose California, and Pennsylvania Research and Education Network (“PennREN”), having its principal office at 401 Old Main, University Park, PA 16802-1505 (collectively, “Parties”). This Letter of Intent (LOI) is a non-binding agreement and neither party shall be legally obligated to the other by reason of this letter or negotiations to date.

This LOI serves to memorialize an understanding between the Parties regarding their intent to enter into an agreement for PennREN’s purchase C-Series switch/router products from Force10 provided that PennREN’s Pittsburgh Supercomputing project receives grant funding under the American Recovery & Reinvestment Act of 2009 (“ARRA”). PennREN is contemplating purchase of thirteen Force10 C-Series chassis (the “Products”), the final configurations of which will be mutually agreed upon by the parties subsequent to PennREN’s receipt of the anticipated ARRA funding.

Firm Product Pricing: If the final configuration of the Products ordered remains the same as set forth in the attached Force10 quote No. Q-31054 (the “Quote”), PennREN’s purchase price for the Products will not be greater than \$54,887.00. Services, including technical support and/or installation, integration and training services are not included in the preceding purchase price. This Product pricing will remain firm for the quoted configuration until expiration of this LOI.

For avoidance of doubt, this LOI is not an order. In the event PennREN receives funding pursuant to ARRA, then the Parties will enter into negotiations to agree upon terms and conditions of a separate Master Purchase Agreement the terms and conditions of which will govern purchase of the Products (“MPA”). In the event that the Parties enter into an MPA, this LOI will terminate upon execution of the MPA and will supersede this LOI in its entirety. Nothing in this LOI will be interpreted to commit PennREN to purchase Products at the price referenced above.

This Letter of Agreement will expire one hundred and twenty (120) days from the Effective Date.

FORCE10 NETWORKS, INC.

PENNREN

By: _____

By: _____

Print Name: _____

Print Name: _____

Title: _____

Title: _____

Date: _____

Date: _____



Force10 Networks, Inc
350 Holger Way
San Jose, CA 95134 USA

408-571-3500 Phone

Sales Quote (Draft)

Quote/Project Name	PSC- PA State Project C300	Quote Number	Q-31054 Rev: 0
Customer Name	Pittsburgh Super Computing	Contact Phone	
Contact Name		Contact Email	
Force10 Sales Contact Name	Stillman, David	Force10 Sales Ph/Fax	917-447-7428 408-571-3696 (PO Fax)

Hardware and Software

Ln	Product Number	Description	Qty
1	CH-C300-BNA2	C300 8-slot chassis with backplane (CH-C300), fan subsystem (CC-C300-FAN), 2 AC power supply(CC-C-1200W-AC), 1 Switch and Route Processor Module (LC-CB-RPM)	1
2	CC-C-BLNK-LC	C-Series Line Card Blank Panel	6
3	CC-C-BLNK-PWR	C-Series Power Module Blank Panel	5
4	SW-CB-LATEST	C-Series Force10 Operating System Software Latest Version (for SRM series CB)	1
5	CB-C-AC-12-US	C-Series 4-Pack AC Power Cord for 1200W AC Power Supply CC-C-1200W-AC ,plug N5-15 (2.5m or 8ft)	1
6	LC-CB-10GE-8P	C300/C150 8 port 10Gigabit Ethernet line-card, XFP optics required (series CB)	1
7	LC-CB-RPM	C-Series Route Processor module (series CB)	1
8	CC-C-1200W-AC	C-Series 1200W Power Supply Module	1
9	LC-CB-GE-48P	C300/C150 48 port 1Gigabit Ethernet line-card, SFP optics required (series CB)	1
10	GP-XFP-1L	Qualified 10G XFP optics module - LR/LW (10KM)	8
11	GP-SFP2-1S	Qualified Gigabit Ethernet SFP optics module SX	1
12	GP-SFP2-1Y	Qualified Gigabit Ethernet SFP optics module LX	1
13	GP-SFP2-1T	Qualified Gigabit Ethernet SFP module 1000Base-T	1

Hardware and Software USD54,886.25

Maintenance and Support

Ln	Product Number	Description	Qty
14	SV-CHC300-3	STARSUPPORT 24*7*365* TAC, HW Next Business Day, CH-C300 [For 1 Year]	1

Maintenance and Support USD2,570.79

Default Total USD57,457.04

Total USD57,457.04

Quote requires approval

Quote Q-31054 Rev: 0 valid until 10-Sep-2009

11-Aug-2009 12:37:19PM

Force10 Networks, Inc. Confidential

Page 1 of 2



THE HOSPITAL & HEALTHSYSTEM ASSOCIATION OF PENNSYLVANIA

Carolyn F. Scanlan
President and Chief Executive Officer

August 11, 2009

RE: Letter of Support for PennREN's BTOP Funding Application

Dear PennREN Planning Team:

The Hospital & Healthsystem Association of Pennsylvania (HAP) supports the proposal of the Pennsylvania Research and Education Network (PennREN) for the Department of Commerce's National Telecommunications Information Administration (NTIA) funding available through the Broadband Technology Opportunity Program. HAP is a 501(c)(6) membership organization, representing nearly 250 Pennsylvania hospitals and health systems. HAP intends to encourage its members, as well as Pennsylvania health care stakeholders, to use the broadband services PennREN will offer.

PennREN represents an exciting opportunity for Pennsylvania health care stakeholders to more effectively share vital clinical information and provide telemedicine services. PennREN will eventually serve as the conduit to interoperability between health care providers and the Pennsylvania Health Information Exchange (PHIX), and the Nationwide Health Information Network (NHIN). We believe PennREN will significantly enhance the availability and the quality of health care services to all Pennsylvanians in a cost effective manner.

We understand that PennREN will be a facilities-based network running on optical fiber offering high-bandwidth and low latency. The services they will offer include a shared network, connecting many sites across Pennsylvania, as well as Internet services available from a variety of providers. Interested parties also will be able to create private networks for their exclusive use through an entire wave or channel, or an entire strand(s) of fiber. We recognize that the creation of this network is contingent upon the award of NTIA funds.

We are confident that PennREN's focus on supporting research and education with high-bandwidth and connectivity can be leveraged to effectively support health information exchange throughout Pennsylvania, particularly in rural areas.

Sincerely,

A handwritten signature in black ink, reading "Carolyn F. Scanlan", is positioned above the printed name.

CAROLYN F. SCANLAN
President and Chief Executive Officer

4750 Lindle Road
P.O. Box 8600
Harrisburg, PA 17105-8600
717.564.9200 Phone
717.561.5334 Fax
cscanlan@haponline.org



Ted Krichels
Associate Vice President, Public Engagement
General Manager, Penn State Public Broadcasting
238H Outreach Building
University Park, PA 16802-7012

August 11, 2009

Dear PennREN Planning Team:

Independence Media / WYBE supports the proposal of the Pennsylvania Research and Education Network (PennREN) for NTIA funding available through the Broadband Technology Opportunity Program.

As we understand the project, PennREN will be a facilities-based network running on optical fiber and offering high-bandwidth/low latency. Apparently, the services to be offered include a shared network connecting member sites, as well as Internet services available from a variety of providers. We're intrigued by the potential for parties will also be able to create private networks for their exclusive fiber--this significant customization is a major step forward in the distribution of digital media. For public broadcasters in Pennsylvania, PennRen presents an opportunity to re-establish some lost functionality previously provided by a statewide fiber network (dismantled in 2009 due to state funding cutbacks).

This is an exciting opportunity for our organization--and other organizations-- to distribute educational content throughout the state. PennRen could significantly enhance the services we can provide to the public in a cost effective manner. We are strong believers in the widespread dissemination of learning materials through television, the internet, and other means, and we understand that this new project will further enhance these capabilities in several significant ways.

We recognize that the creation of this network is contingent upon the award of NTIA funds.

Sincerely,

A handwritten signature in black ink, appearing to read "Howard Blumenthal". The signature is stylized with a large, sweeping loop at the end.

Howard Blumenthal
CEO, Independence Media

215-483-3900 x220
hblumenthal@mindtv.org



LEHIGH
UNIVERSITY®

Library and Technology Services
E.W. Fairchild-Martindale Library
and Computing Center
8A East Packer Avenue
Bethlehem, PA 18015-3170
(610) 758-3025 Fax (610) 758-3004
<http://www.lehigh.edu/lts>

August 3, 2009

Dear PennREN Planning Team:

Lehigh University supports the proposal of the Pennsylvania Research and Education Network (PennREN) for NTIA funding available through the Broadband Technology Opportunity Program and intends to use the services they will offer.

We understand that PennREN will be a facilities based network running on optical fiber and offering high-bandwidth/low latency. The services they will offer include a shared network connecting member sites as well as Internet services available from a variety of providers. Interested parties will also be able to create private networks for their exclusive use, the opportunity to utilize an entire wave or channel or an entire strand of fiber.

We recognize that the creation of this network is contingent upon the award of NTIA funds.

This is an exciting opportunity for Lehigh University to network not only with educational and health care systems in Pennsylvania, but also those throughout the country and the world. We believe it will significantly enhance the services we can provide to our students, faculty, and staff in a cost effective manner.

Sincerely,

Bruce M. Taggart
Vice Provost for
Library and Technology Services



MAGPI

Dear PennREN Planning Team:

MAGPI is one of 23 Connectors in the United States that provides access to Internet2 across Pennsylvania, New Jersey and Delaware. We support the proposal of the Pennsylvania Research and Education Network (PennREN) for NTIA funding available through the Broadband Technology Opportunity Program and intend to use the services they will offer to enable the MAGPI mission objectives of expanding research applications and education through technology.

The PennREN facilities based network, running on optical fiber and offering high bandwidth/low latency is completely compatible with our standards for advanced networking that we use with the U.S. Department of Energy and NOAA research facilities.

The services they will offer include a shared network connecting member sites as well as Internet services available from a variety of providers. Interested parties will also be able to create private networks for their exclusive use, the opportunity to utilize an entire wave or channel or an entire strand of fiber.

We recognize that the creation of this network is contingent upon the award of NTIA funds.

This network will empower MAGPI with the ability to extend global research and educational applications to every portion of the state, eliminating previous barriers from limited bandwidth capabilities. We believe it will significantly enhance the services we can provide to the communities of Pennsylvania.

Sincerely,

Gregory D. Palmer
MAGPI Executive Director



PENNSYLVANIA COMMISSION FOR COMMUNITY COLLEGES

800 North Third Street, Suite 405 • Harrisburg, Pennsylvania 17102
phone (717) 232-7584 • fax (717) 233-4723 • www.pacommunitycolleges.org

August 10, 2009

Dear PennREN Planning Team:

The Pennsylvania Commission for Community Colleges supports the proposal of the Pennsylvania Research and Education Network (PennREN) for NTIA funding available through the Broadband Technology Opportunity Program. The 14 PA Community Colleges look forward to the benefits and services to be offered within this network.

We understand that PennREN will be a facilities-based network running on optical fiber and offering high-bandwidth/low latency. The services they will include a shared network connecting member sites as well as Internet services available from a variety of providers. Interested parties will also be able to create private networks for their exclusive use with the opportunity to utilize an entire wave or channel or an entire strand of fiber.

This is an exciting opportunity for the Pennsylvania Commission for Community Colleges and its 14 PA Community Colleges to network not only with educational and health care systems in Pennsylvania, but also those throughout the country and the world. We believe it will significantly enhance the services we can provide to our students, faculty, and administration in a cost effective manner.

We encourage NTIA to support funding for the creation of the Pennsylvania Research and Education Network.

Sincerely,

Diane C. Bosak
Executive Director



August 7, 2009

RE: Letter of Support for PennREN's BTOP Funding Application

Dear PennREN Planning Team:

The Pennsylvania eHealth Initiative (PAeHI) supports the proposal of the Pennsylvania Research and Education Network (PennREN) for NTIA funding available through the Broadband Technology Opportunity Program. PAeHI is a 501(c)(3) public-private broad-based coalition committed to improving healthcare quality and efficiency through the effective use of information technology. PAeHI intends to encourage Pennsylvania healthcare stakeholders use the broadband services PennREN will offer.

We understand that PennREN will be a facilities-based network running on optical fiber offering high-bandwidth and low latency. The services they will offer include a shared network, connecting many sites across Pennsylvania, as well as Internet services available from a variety of providers. Interested parties will also be able to create private networks for their exclusive use through the opportunity to utilize an entire wave or channel or an entire strand(s) of fiber.

We recognize that the creation of this network is contingent upon the award of NTIA funds.

PennREN represents an exciting opportunity for Pennsylvania healthcare stakeholders to more effectively share vital clinical information and provide telemedicine services. PennREN will eventually serve as the conduit to interoperability between healthcare providers and the Pennsylvania Health Information Exchange (PHIX), and the Nationwide Health Information Network (NHIN). We believe PennREN will significantly enhance the availability and the quality of healthcare services to all Pennsylvanians in a cost effective manner.

We are confident that PennREN's focus on supporting research and education with high-bandwidth and connectivity can be leveraged to effectively support health information exchange throughout Pennsylvania, particularly in rural areas.

Best regards,

A handwritten signature in black ink, appearing to read "Martin J. Ciccocioppo". The signature is written in a cursive, flowing style.

Martin J. Ciccocioppo
Board Chair, Pennsylvania eHealth Initiative

www.paehi.org



To Whom It May Concern:

The Council of PAIUnet, the governance body of a statewide broadband network linking Pennsylvania's intermediate units and school districts, supports the proposal of the Pennsylvania Research and Education Network (PennREN) for NTIA funding available through the Broadband Technology Opportunity Program.

We understand that PennREN will be a facilities-based network running on optical fiber and offering high-bandwidth/low latency which will offer services to organizations such as the PAIUnet.

The services will include a shared network connecting member sites as well as Internet services available from a variety of providers. Interested parties will also be able to create private networks for their exclusive use, the opportunity to utilize an entire wave or channel or an entire strand of fiber.

We recognize that the creation of this network is contingent upon the award of NTIA funds.

This is an exciting opportunity for enhancing the services and programs PAIUnet can provide to our member intermediate units, school districts and their students.

Sincerely,

A handwritten signature in blue ink that reads 'Lawrence J. O'Shea'.

Lawrence J. O'Shea, Ph.D.
Council President
PAIUnet



Office of the Chancellor | Dixon University Center | 2986 North Second Street | Harrisburg, PA 17110-1201
717-720-4000 | www.passhe.edu

August 11, 2009

To the PennREN Planning Team:

On behalf of the Pennsylvania State System of Higher Education (PASSHE), I strongly endorse the creation of the Pennsylvania Higher Education and Research Network (PennREN).

PASSHE's 14 state-owned universities and their branch campuses are located in every region of the Commonwealth, primarily in smaller towns and boroughs. Several are in unserved or underserved locations. The universities are anchor institutions in their communities, providing stability, and economic and workforce development opportunities. More than 70 percent of our graduates take their first job in the Commonwealth. Approximately 40 percent of our students are first generation students and nearly half are from households with \$50,000 income or less. Providing affordable access to higher education is a core element of our mission.

Each of our campuses will be able to take advantage of enhanced broadband capacity as soon as it is available. The PennREN network represents the greatest opportunity for that to happen in the near future. Additionally, PennREN will produce unlimited possibilities to create a preK-20 continuum of learning as it links our preK-12 networks with a higher education network.

Unlike most states, Pennsylvania is without a higher education and research network linking the world-class capabilities of our education, research and health care institutions, placing us considerably behind our peers. The PennREN consortium is an unprecedented partnership, brought together to create the foundation for a new telecommunication infrastructure.

I strongly support this initiative and thank the NTIA for recognizing the value of broadband and the importance of higher education to serve as anchor institutions to raise the capabilities of the surrounding area.

Sincerely,

John C. Cavanaugh, Ph.D.
Chancellor



August 5, 2009

Dear PennREN Planning Team:

The Pennsylvania Economic Development Association (PEDA), the premiere statewide economic development association comprised of nearly 400 economic development professionals whose primary mission is to promote and implement economic development in the Commonwealth of Pennsylvania, supports the proposal of the Pennsylvania Research and Education Network (PennREN) for NTIA funding available through the Broadband Technology Opportunity Program.

Broadband access is critical for the economic development process for our businesses and our communities to be competitive in a global market. This is particularly true in our rural areas. In addition to “middle mile” service, we hope you will extend service to the “last mile” of the rural areas of the Commonwealth which are truly underserved.

PEDA understands PennREN will be a facility based network running on optical fiber and offering high-bandwidth/low latency which will offer services to organizations such as the Members of PEDA throughout Pennsylvania.

The services will include a shared network connecting member sites as well as Internet services available from a variety of providers. Interested parties will also be able to create private networks for their exclusive use, the opportunity to utilize an entire wave or channel or an entire strand of fiber.

We recognize that the creation of this network is contingent upon the award of NTIA funds. This is an exciting opportunity for enhancing the services and programs we can provide to PEDA Members.

Sincerely,

A handwritten signature in dark ink, appearing to read "R. Blair", is positioned below the word "Sincerely,".

Robert J. Blair
President

908 North Second Street • Harrisburg, PA 17102
Phone (717) 441-6047 • Fax (717) 236-2046 • Email: info@peda.org
www.peda.org



University of Pittsburgh

Computing Services and Systems Development
Office of the Director

728 Cathedral of Learning
4200 Fifth Avenue
Pittsburgh, PA 15260
412-624-6100
Fax: 412-624-3850

August 6, 2009

Dear PennREN Planning Team:

The **University of Pittsburgh** supports the proposal of the Pennsylvania Research and Education Network (PennREN) for NTIA funding available through the Broadband Technology Opportunity Program and intends to use the services they will offer.

We understand that PennREN will be a facilities based network running on optical fiber and offering high-bandwidth/low latency. The services they will offer include a shared network connecting member sites as well as Internet services available from a variety of providers. Interested parties will also be able to create private networks for their exclusive use, the opportunity to utilize an entire wave or channel or an entire strand of fiber.

We recognize that the creation of this network is contingent upon the award of NTIA funds.

This is an exciting opportunity for the University of Pittsburgh to network not only with educational and health care systems in Pennsylvania, but also those throughout the country and the world. We believe it will significantly enhance the services we can provide to our students, faculty, and staff in a cost effective manner.

Sincerely,

A handwritten signature in black ink, appearing to read "Jinx Walton".

Jinx Walton, Director

Computing Services and Systems Development



PENNSYLVANIA MOUNTAINS HEALTHCARE ALLIANCE

August 12, 2009

RE: Letter of Support for PennREN BTOP Grant Application

To Whom It May Concern:

The Pennsylvania Mountains Healthcare Alliance (PMHA) supports the proposal of the Pennsylvania Research, and Education Network (PennREN) for NTIA funding available through the Broadband Technology Opportunity Program. PMHA is comprised of 18 rural, independent hospitals in central and western Pennsylvania. PMHA is actively engaged in developing Tele-Medicine and Hospital shared services for its member hospitals in an effort to improve patient outcomes, improve operational performance and reduce cost.

PMHA has carefully considered all of the regional proposals that it is aware of and has sent letters of support to only those which we believe will have a direct impact to our hospitals operations. The PennREN proposal is one of those that we believe will have direct operational improvements for the PMHA hospitals.

We understand that PennREN will be a facilities-based network running on optical fiber offering high-bandwidth and low latency. The services they will offer include a shared network, connecting many sites across Pennsylvania, as well as Internet services available from a variety of providers. Interested parties will also be able to create private networks for their exclusive use through the opportunity to utilize an entire wave or channel or an entire strand(s) of fiber. We recognize that the creation of this network is contingent upon the award of NTIA funds.

We are confident that PennREN's focus on supporting research and education with high bandwidth and connectivity can be leveraged to effectively support health information exchange throughout Pennsylvania, particularly in rural areas.

Gregory W. Snyder

VP Technology

Pennsylvania Mountains Healthcare Alliance (PMHA)

150 McCracken Run Road

DuBois, PA 15801

814-372-2355 x260

gsnyder@pmhalliance.org



August 6, 2009

Jeff Kuhns, Associate Vice Provost, Information Technology
The Pennsylvania State University
401 Old Main
University Park, PA 16802

Dear Mr. Kuhns:

As you are aware, Penn State Hershey received an FCC Rural Health Care Pilot Program award (WC Docket No. 02-60) of approximately \$900K. This grant, *Enhancing Access to Discovery: Linking Rural Hospitals to Advanced Academic Medicine through IT Connectivity*, includes three specific objectives:

1. To link the Penn State Hershey Medical Center to partner hospitals to facilitate continuing medical education that advances the level of patient care at each hospital.
2. To develop an IT infrastructure that enables the rapid exchange of clinical information for consultation between academic medical center-based physicians and community-based providers.
3. To develop an IT infrastructure that facilitates remote monitoring and management of patients in rural communities by tertiary and quaternary care providers.

While the thrust of this grant is to advance healthcare in rural Pennsylvanian communities, the potential opportunities for education and research are significant. The ready availability of high quality local continuing education (e.g., via remote participation in medical grand rounds or tumor review boards) is especially important when a provider's absence from the rural community creates a deficit in the healthcare services available in that community. Similarly, an increased ability to accrue rural and underserved patients to clinical trials would help to address a well recognized research need.

Currently, we are working to identify the specific clinical programs that will be advanced by the improved telecommunications infrastructure to be funded through the FCC grant. Once we determine these clinical programs, I look forward to working with you to identify opportunities to connect this infrastructure to PennREN.

Sincerely,

Thomas W. Abendroth, MD
Chief Information Officer, Penn State Hershey Medical Center and College of Medicine





August 5, 2009

Dear PennREN Planning Team:

The Pennsylvania State University supports the proposal of the Pennsylvania Research and Education Network (PennREN) for NTIA funding available through the Broadband Technology Opportunity Program and intends to use the services they will offer.

We understand that PennREN will be a facilities-based network running on optical fiber and offering high-bandwidth/low latency. The services it will offer include a shared network connecting member sites as well as Internet services available from a variety of providers. Interested parties will also be able to create private networks for their exclusive use, the opportunity to utilize an entire wave or channel, or an entire strand of fiber.

We recognize that the creation of this network is contingent upon the award of NTIA funds.

This is an exciting opportunity for Penn State to network not only with educational and health care systems in Pennsylvania, but also those throughout the country and the world. We believe it will significantly enhance the services we can provide to our faculty students, and staff in a cost effective manner.

Sincerely,

Kevin M. Morooney
Vice Provost for Information Technology



Clarion University of Pennsylvania
Rena M. Carlson Library
840 Wood Street
Clarion, PA 16214-1232
814-393-1931

July 23, 2009

Mr. Art Stephens
Special Assistant for Information Strategy
Office of the Chancellor
Pennsylvania State System of Higher Education
2986 North Second Ave.
Harrisburg, PA 17110-1201

Mr. Stephens:

Robust Internet bandwidth is critically important for academic libraries to provide access to information and instructional services. As the complexity and volume of these services have increased, bandwidth capacity in some areas of Pennsylvania has been a limiting factor in the quality of services that libraries can provide in support of education and research. It constrains our ability to support the increasing demand for distance education in rural areas, as well as our capacity to support rural schools and public libraries. Access to unique resources, such as institutional repositories, are limited by the lack of Internet bandwidth in many areas of the State. The Pennsylvania Research and Education Network proposal to enhance the broadband infrastructure in Pennsylvania will help to expand educational opportunities and improve the quality of instruction and learning. It will improve broadband access to underserved areas of the State, stimulate economic development, and aid workforce training.

The State System of Higher Education Library Council reviewed the Pennsylvania Research and Education Network proposal to enhance the broadband infrastructure in Pennsylvania. We voted to endorse the proposal and to provide assistance and support with the effort as appropriate. We believe that this project will help us to better achieve our goals of providing equitable access to information resources and services. We encourage PENNREN to proceed with this effort and request that those individuals and bodies charged with reviewing the proposal favorably recommend its funding and implementation.

Sincerely,

Terry S. Latour

Terry S. Latour, Ph.D.
Dean of University Libraries
Keystone Library Network Chair on behalf of the
State System of Higher Education Library Council



Information Systems and Computing
Networking and Telecommunications
Penn Video Networking Student Telephone Services

August 12, 2009

Dear PennREN Planning Team:

The University of Pennsylvania supports the proposal of the Pennsylvania Research and Education Network (PennREN) for NTIA funding available through the broadband Technology Opportunity Program.

We understand that PennREN will be a facilities based network, running on optical fiber and offering high bandwidth/low latency. The services they will offer include a shared network connecting member sites as well as Internet services available from a variety of providers. Interested parties will also be able to create private networks (educational, government, economic development, public television, etc.) for their exclusive use, the opportunity to utilize an entire wave or channel or an entire strand of fiber. We recognize that the creation of this network is contingent upon the award of NTIA funds.

This network will provide exciting opportunities in many areas for the University of Pennsylvania, most notably in continuing medical education, global research collaboration and in the economic development in Pennsylvania.

Sincerely,

A handwritten signature in black ink, reading "Michael A. Palladino".

Michael A Palladino
Associate Vice President, Networking and Telecommunications

Wall Street West Executive Committee
U.S. Department of Labor WIRED Grantee
125 Goodman Drive
Bethlehem, PA 18015

August 11, 2009

**RE: Letter of Recommendation for Pennsylvania Research and Education Network (PennREN)
National Telecommunications and Information Administration (NTIA) Application**

To: National Telecommunications and Information Administration,

We have become aware of the Pennsylvania Research and Education Network (PennREN) application for a National Telecommunications and Information Administration (NTIA) grant as part of the Broadband Technology Opportunity Program (BTOP) to support their plan for an extensive state-wide fiber infrastructure build spanning Pennsylvania. This project will connect a number of the twenty-six colleges and universities in the ten county Northeastern Pennsylvania Wall Street West region. Vast portions of this ten county footprint are considered to be either unserved or underserved with respect to broadband penetration. Such a project would enhance the fiber optic network in support of the Wall Street West workforce development, education and economic development goals of our program.

Wall Street West is a not-for-profit partnership in Northeastern Pennsylvania that is enhancing the financial services, information technology, healthcare and related industries in the commonwealth of Pennsylvania through strategic workforce development and state-of-the-art economic development. Wall Street West is a collaborative effort of economic development agencies; technology investment groups; workforce development organizations; education and research institutions; and private sector companies across the region. This partnership is a first generation recipient of a \$15 million Workforce Innovation in Regional Economic Development (WIRED) grant from the U.S. Department of Labor for education and job training. Over the past several years this collaborative effort has invested more than \$11 million of these grant funds in 55 strategic workforce and education programs, and has leveraged an additional \$9 million of funds. More than 113,000 students, teachers, and incumbent workers have been trained, while 36 educational certificates, degrees, or curricula have been developed. In addition, 25 academic and workforce models have been developed and implemented. As demonstrated by these specific metrics of success, the commonwealth of Pennsylvania knows how to put federal funds to work and achieve significant results.

In addition to the workforce and education enhancement goals of Wall Street West, an advanced, redundant fiber infrastructure build connecting the region to the New York financial services industry was envisioned. Unfortunately, due to the economic upheaval of the past eighteen months, this aspect of the program is yet to be fulfilled. However, implementation of the PennREN fiber build in conjunction with private sector telecommunications partners could provide excess capacity for commercial applications. Such a network spanning Pennsylvania would be a critical factor for financial services, healthcare firms, and related industries as they evaluate locating operations in the commonwealth in the future. It appears that additional capacity in the PennREN fiber build plan could be made available to support these private industry needs, and result in economic stimulus for the region.

On behalf of the fifteen member Wall Street West Executive Committee I want to convey our strong recommendation in support of the PennREN National Telecommunications and Information Administration grant for their research and education fiber infrastructure build.

Sincerely,



Matthew J. Connell, Ph.D.
Chairman, Wall Street West Executive Committee



Wall Street West / WIRED Executive Committee

Matthew J. Connell, Ph.D.
Committee Chairman;
Dean, Monroe Campus
Northampton Community College

Ed McCann
Committee Vice Chairman;
COO,
Berks County Workforce
Investment Board

R. Chadwick Paul, Jr.
President and CEO,
Ben Franklin Technology
Partners of Northeastern
Pennsylvania

Christopher J. Haran
President and CEO,
Northeastern Pennsylvania
Technology Institute

Vito Gallo
Assistant Vice President,
State Relations,
Lehigh University

Lawrence Newman
Vice President,
Community & Economic
Development, Greater
Wilkes-Barre Chamber of
Business and Industry

Nancy Dischinat
Executive Director,
Lehigh Valley Workforce
Investment Board, Inc.

Gerald Ephault
Regional Manager,
Pocono Northeast,
Ben Franklin Technology
Partners of Northeastern
Pennsylvania

John Casella
CareerLink Administrator,
PA CareerLink of Monroe County

Jeffrey Box
President and CEO,
NEPA Alliance

Philip Mitman
President and CEO,
Lehigh Valley Economic
Development Corporation

Penny Cannella
President,
Penn's Northeast

Scott Byers
President and CEO,
Diversified Information Technologies

Ex-Officio Members

Fred Dedrick
Deputy Secretary,
Workforce Development,
Pennsylvania Department
of Labor & Industry

Paul Opiyo
Executive Policy Specialist,
Pennsylvania Department
of Community and
Economic Development



August 12, 2009

Dear PennREN Planning Team :

William J. Marrazzo
President and
Chief Executive Officer

WHYY supports the proposal of the Pennsylvania Research and Education Network (PennREN) for NTIA funding available through the Broadband Technology Opportunity Program.

PennREN will be a facilities-based network running on optical fiber and offering high-bandwidth/low latency. The services to be offered include a shared network connecting member sites, as well as Internet services available from a variety of providers. Interested parties will also be able to create private networks for their exclusive use, the opportunity to utilize an entire wave or channel, or an entire strand of fiber. For public broadcasters in Pennsylvania, PennRen presents an opportunity to recreate functionality lost when their statewide fiber network was dismantled in 2009 due to state funding cutbacks.

This is an exciting opportunity for WHYY to distribute educational content throughout the state. PennRen could significantly enhance the services we can provide to the public in a cost effective manner.

We recognize that the creation of this network is contingent upon the award of NTIA funds.

Sincerely,

A handwritten signature in black ink, appearing to be "WJ Marrazzo", written over a horizontal line.

William J. Marrazzo
President and CEO



WITF, Inc.

HOME FOR CURIOSITY.

August 10, 2009

Dear PennREN Planning Team:

As President and CEO of WITF, Inc., the public media organization serving south-central Pennsylvania, I am writing in support of the proposal of the Pennsylvania Research and Education Network (PennREN) for NTIA funding available through the Broadband Technology Opportunity Program.

As proposed, PennREN will be a facilities-based network running on optical fiber and offering high-bandwidth/low latency. The services to be offered include a shared network connecting member sites, as well as Internet services available from a variety of providers. Interested parties will also be able to create private networks for their exclusive use, the opportunity to utilize an entire wave or channel, or an entire strand of fiber. For public broadcasters in Pennsylvania, PennREN presents an opportunity to recreate functionality lost when their statewide fiber network was dismantled in 2009 due to state funding cutbacks.

This is an exciting opportunity for WITF to distribute educational content throughout the state. PennREN could significantly enhance the services we can provide to the public in a cost effective manner.

We recognize that the creation of this network is contingent upon the award of NTIA funds.

Sincerely,

Kathleen A. Pavelko
President and CEO

WPSU-TV
WPSU-FM
CREATIVE SERVICES
EDUCATIONAL
SERVICES
MEDIA SALES



August 7, 2009

Dear PennREN Planning Team :

Penn State Public Broadcasting supports the proposal of the Pennsylvania Research and Education Network (PennREN) for NTIA funding available through the Broadband Technology Opportunity Program.

We understand that PennREN will be a facilities-based network running on optical fiber and offering high-bandwidth/low latency. The services it will offer include a shared network connecting member sites, as well as Internet services available from a variety of providers. Interested parties will also be able to create private networks for their exclusive use, the opportunity to utilize an entire wave or channel, or an entire strand of fiber. For public broadcasters in Pennsylvania, PennRen presents an opportunity to create an enhanced version of their statewide fiber network that was dismantled in 2009 due to state funding cutbacks.

This is an exciting opportunity for Penn State Public Broadcasting to distribute educational content throughout the state, and particularly to underserved rural areas in our broadcast coverage area. We believe that PennRen could significantly enhance the services we can provide to the public in a cost effective manner.

We recognize that the creation of this network is contingent upon the award of NTIA funds.

Sincerely,

A handwritten signature in black ink, appearing to read "Ted Krichels". The signature is fluid and cursive, with a long horizontal line extending from the start.

Ted Krichels
General Manager, Penn State Public Broadcasting
Associate Vice President for Public Engagement, Penn State

PENNSTATE



PENN STATE PUBLIC BROADCASTING
120 OUTREACH BUILDING
UNIVERSITY PARK, PA 16802

814-865-3333
FAX: 814-865-3145
wpsu.org

August 10, 2009

Dear PennREN Planning Team :

WQLN Public Media supports the proposal of the Pennsylvania Research and Education Network (PennREN) for NTIA funding available through the Broadband Technology Opportunity Program.

PennREN will be a facilities-based network running on optical fiber and offering high-bandwidth/low latency. The services to be offered include a shared network connecting member sites, as well as Internet services available from a variety of providers. Interested parties will also be able to create private networks for their exclusive use, the opportunity to utilize an entire wave or channel, or an entire strand of fiber. For public broadcasters in Pennsylvania, PennRen presents an opportunity to recreate functionality lost when their statewide fiber network was dismantled in 2009 due to state funding cutbacks. This new network will also allow WQLN to provide expanded distance learning opportunities to the region's teachers for Act 48 and Graduate credits.

This is an exciting opportunity for WQLN to distribute educational content throughout the state. PennRen could significantly enhance the services we can provide to the public in a cost effective manner.

We recognize that the creation of this network is contingent upon the award of NTIA funds.

Sincerely,

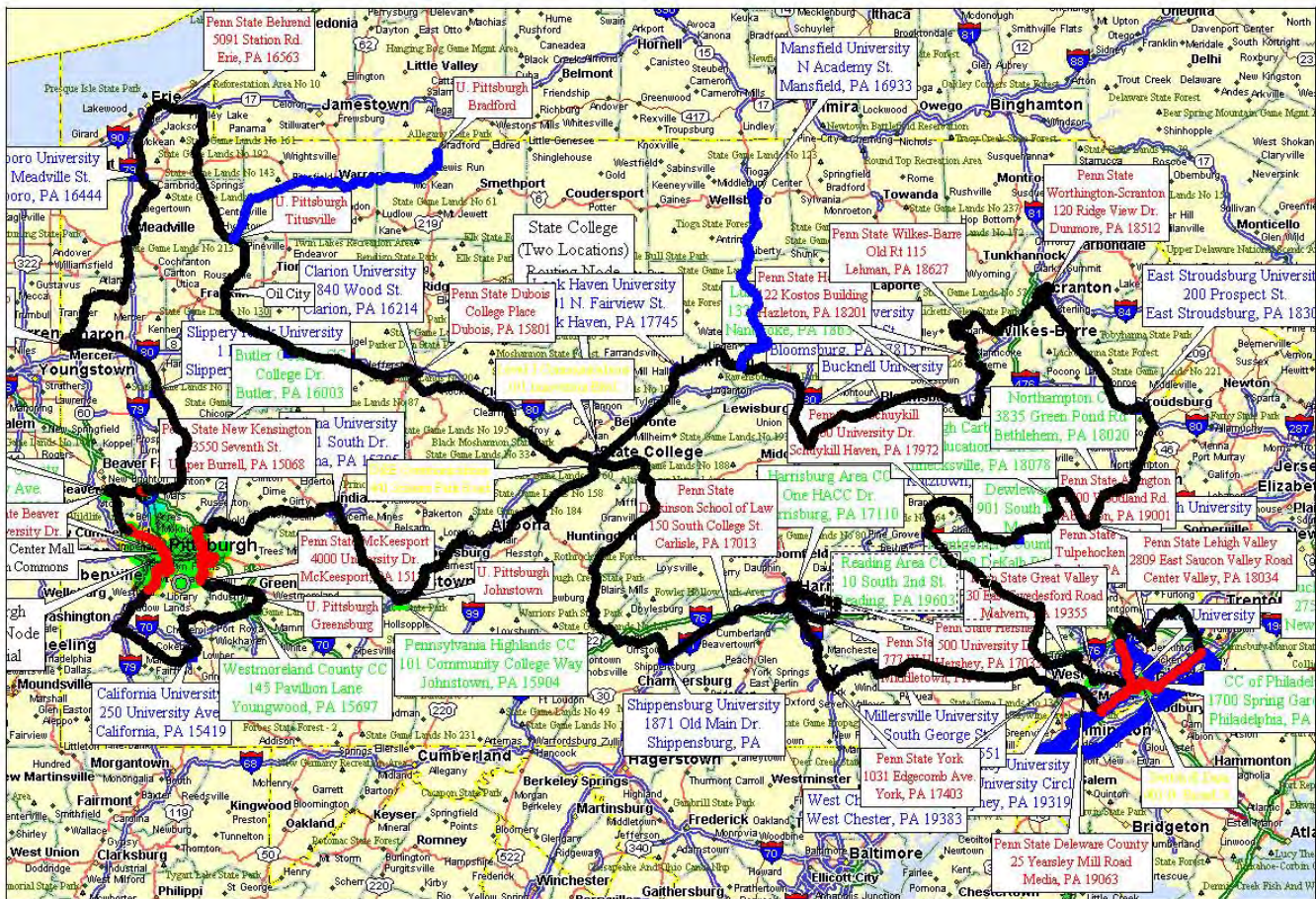


Dwight J. Miller
President & General Manager

DJM

SCHEDULE 1 DARK FIBER ROUTE MAP AND ROUTE DESCRIPTION

Map:



Route Description: Vendor shall perform, or cause to be performed, such work, if any, at its expense, as may be required for placement of the Cable on or in the Routes as set forth in this Schedule 1.

Cable Parameters:

Fiber type:	Single Mode (SMF-28) - Matched Clad
Glass Type:	8/125 microns
Buffer:	Loose Buffer Tube Single Fibers or Loose Buffer Tube Ribbon Fibers Gel Filled and/or Dry Block
Operating Wavelength:	1310/1550nm
Maximum Attenuation:	0.35 dB/km for 1310 wavelength 0.25 dB/km for 1550 wavelength



Dear PennREN Planning Team:

3ROX, the networking group of the Pittsburgh Supercomputing Center (PSC), is the regional hub in western Pennsylvania and northern West Virginia for the Internet2 and National LambdaRail research and education networks. We support the proposal of the Pennsylvania Research and Education Network (PennREN) for NTIA funding available through the Broadband Technology Opportunity Program and intend to use the services this network will offer to facilitate the 3ROX mission of expanding access to research applications and educational opportunities through the facilities offered by the network.

The facilities-based network proposed by PennREN will allow 3ROX to enhance our current relationships with laboratories operated by the US Department of Energy and the National Oceanographic and Atmospheric Administration, as well as improve access for Pennsylvania researchers to PSC's NSF-funded computational infrastructure.

The services PennREN will offer include a shared network connecting member sites as well as Internet services available from a number of providers, both commodity and research and education. Interested entities will be able to provision private networks on this infrastructure using a variety of technological options.

We recognize that deployment of this network is contingent upon the award of funding from the NTIA BTOP program.

This network will empower 3ROX and our peer institutions with the ability to extend national and international research and education applications and facilities to every portion of the commonwealth, eliminating the bandwidth-related barriers which have existed hitherto. We believe this network will significantly enhance the services available to Pennsylvanians and will help move the commonwealth into a leadership role in the national networking landscape.

Sincerely,

Gwendolyn L. Huntoon
Executive Director, 3ROX
Director of Networking, PSC



1201 Winterson Road
Linthicum, Maryland 21090

800 921 1144 phone
410 694 5750 fax
www.ciena.com

August 13, 2009

To Whom it May Concern:

Ciena is very pleased to offer its support to the Pennsylvania R&E Network proposal submitted by the PennREN consortium. Ciena is willing to be a significant participant in this proposal from both an intellectual, technological and financial perspective. We at Ciena feel that this application, if awarded, will result in creation of a network that will serve as an ideal foundation in meeting the full range of PennREN networking requirements, supporting the network transport needs of the Pennsylvania State University system, the State System of Higher Education, and other institutions of research and higher education throughout the state.

In contribution to this effort, Ciena has worked closely with technical members of the proposal team on network design. We believe that the network as planned will serve current network requirements of Pennsylvania research and higher education institutions with an approach that will support both large capacity needs of research centers while extending the network to locations that today are underserved by high performance bandwidth. Additionally the network is designed to support new connectivity demands in the future with minimal incremental capital expenditure.

As a corporation headquartered in region in the state of Maryland and with numerous employees residing in Pennsylvania, we at Ciena look forward to working with PennREN to create a flagship network for the academic institutions of Pennsylvania. We fully support this initiative.

Sincerely,

A handwritten signature in blue ink, reading "David L. Peed".

David L. Peed
Vice President and Managing Director
Ciena Government Solutions

LETTER OF INTENT (“LOI”)

This LOI is effective as of the ___th day of August, 2009 (the “Effective Date”) by and between Force10 Networks, INC (“Force10”), having its principal office at 350 Holger Way, San Jose California, and Pennsylvania Research and Education Network (“PennREN”), having its principal office at 401 Old Main, University Park, PA 16802-1505 (collectively, “Parties”). This Letter of Intent (LOI) is a non-binding agreement and neither party shall be legally obligated to the other by reason of this letter or negotiations to date.

This LOI serves to memorialize an understanding between the Parties regarding their intent to enter into an agreement for PennREN’s purchase C-Series switch/router products from Force10 provided that PennREN’s Pittsburgh Supercomputing project receives grant funding under the American Recovery & Reinvestment Act of 2009 (“ARRA”). PennREN is contemplating purchase of thirteen Force10 C-Series chassis (the “Products”), the final configurations of which will be mutually agreed upon by the parties subsequent to PennREN’s receipt of the anticipated ARRA funding.

Firm Product Pricing: If the final configuration of the Products ordered remains the same as set forth in the attached Force10 quote No. Q-31054 (the “Quote”), PennREN’s purchase price for the Products will not be greater than \$54,887.00. Services, including technical support and/or installation, integration and training services are not included in the preceding purchase price. This Product pricing will remain firm for the quoted configuration until expiration of this LOI.

For avoidance of doubt, this LOI is not an order. In the event PennREN receives funding pursuant to ARRA, then the Parties will enter into negotiations to agree upon terms and conditions of a separate Master Purchase Agreement the terms and conditions of which will govern purchase of the Products (“MPA”). In the event that the Parties enter into an MPA, this LOI will terminate upon execution of the MPA and will supersede this LOI in its entirety. Nothing in this LOI will be interpreted to commit PennREN to purchase Products at the price referenced above.

This Letter of Agreement will expire one hundred and twenty (120) days from the Effective Date.

FORCE10 NETWORKS, INC.

PENNREN

By: _____

By: _____

Print Name: _____

Print Name: _____

Title: _____

Title: _____

Date: _____

Date: _____



Force10 Networks, Inc
350 Holger Way
San Jose, CA 95134 USA

408-571-3500 Phone

Sales Quote (Draft)

Quote/Project Name	PSC- PA State Project C300	Quote Number	Q-31054 Rev: 0
Customer Name	Pittsburgh Super Computing	Contact Phone	
Contact Name		Contact Email	
Force10 Sales Contact Name	Stillman, David	Force10 Sales Ph/Fax	917-447-7428 408-571-3696 (PO Fax)

Hardware and Software

Ln	Product Number	Description	Qty
1	CH-C300-BNA2	C300 8-slot chassis with backplane (CH-C300), fan subsystem (CC-C300-FAN), 2 AC power supply(CC-C-1200W-AC), 1 Switch and Route Processor Module (LC-CB-RPM)	1
2	CC-C-BLNK-LC	C-Series Line Card Blank Panel	6
3	CC-C-BLNK-PWR	C-Series Power Module Blank Panel	5
4	SW-CB-LATEST	C-Series Force10 Operating System Software Latest Version (for SRM series CB)	1
5	CB-C-AC-12-US	C-Series 4-Pack AC Power Cord for 1200W AC Power Supply CC-C-1200W-AC ,plug N5-15 (2.5m or 8ft)	1
6	LC-CB-10GE-8P	C300/C150 8 port 10Gigabit Ethernet line-card, XFP optics required (series CB)	1
7	LC-CB-RPM	C-Series Route Processor module (series CB)	1
8	CC-C-1200W-AC	C-Series 1200W Power Supply Module	1
9	LC-CB-GE-48P	C300/C150 48 port 1Gigabit Ethernet line-card, SFP optics required (series CB)	1
10	GP-XFP-1L	Qualified 10G XFP optics module - LR/LW (10KM)	8
11	GP-SFP2-1S	Qualified Gigabit Ethernet SFP optics module SX	1
12	GP-SFP2-1Y	Qualified Gigabit Ethernet SFP optics module LX	1
13	GP-SFP2-1T	Qualified Gigabit Ethernet SFP module 1000Base-T	1

Hardware and Software USD54,886.25

Maintenance and Support

Ln	Product Number	Description	Qty
14	SV-CHC300-3	STARSUPPORT 24*7*365* TAC, HW Next Business Day, CH-C300 [For 1 Year]	1

Maintenance and Support USD2,570.79

Default Total USD57,457.04

Total USD57,457.04

Quote requires approval

Quote Q-31054 Rev: 0 valid until 10-Sep-2009

11-Aug-2009 12:37:19PM

Force10 Networks, Inc. Confidential

Page 1 of 2



MAGPI

Dear PennREN Planning Team:

MAGPI is one of 23 Connectors in the United States that provides access to Internet2 across Pennsylvania, New Jersey and Delaware. We support the proposal of the Pennsylvania Research and Education Network (PennREN) for NTIA funding available through the Broadband Technology Opportunity Program and intend to use the services they will offer to enable the MAGPI mission objectives of expanding research applications and education through technology.

The PennREN facilities based network, running on optical fiber and offering high bandwidth/low latency is completely compatible with our standards for advanced networking that we use with the U.S. Department of Energy and NOAA research facilities.

The services they will offer include a shared network connecting member sites as well as Internet services available from a variety of providers. Interested parties will also be able to create private networks for their exclusive use, the opportunity to utilize an entire wave or channel or an entire strand of fiber.

We recognize that the creation of this network is contingent upon the award of NTIA funds.

This network will empower MAGPI with the ability to extend global research and educational applications to every portion of the state, eliminating previous barriers from limited bandwidth capabilities. We believe it will significantly enhance the services we can provide to the communities of Pennsylvania.

Sincerely,

Gregory D. Palmer
MAGPI Executive Director