

REQUEST FOR PROPOSAL - #01

Project Name:

**Western New York Rural Broadband Healthcare
Network (WNY RBHN)**

Lead Agency:

**Western New York Rural Area Health Education Center
(WNY R-AHEC)**

Contacts:

Kenneth L. Oakley, PhD, FACHE
Project Director
CEO, WNY Rural-Area Health Education Center
20 Duncan Street
PO Box 152
Warsaw, NY 14569
585-344-1022
koakley@r-ahec.org

Sandeep Krishnan, MS, MBA
Project Manager
Consultant, WNY Rural-Area Health Education Center
25 Greylock Ridge
Pittsford, NY 14534
585-329-1625
sandeep.krishnan@medtecintl.com

Kim Cummins-Project Administrative Coordinator
WNY Rural-Area Health Education Center
20 Duncan Street
PO Box 152
Warsaw, NY 14569
585-786-6275
kcummins@r-ahec.org

**WNY Rural Broadband Healthcare Network
WNY R-AHEC**

TABLE OF CONTENTS

**RFP for the Western New York Rural Broadband Healthcare Network
(WNY RBHN)**

<u>Sections</u>	<u>Page</u>
<i>Section 1 - Background</i>	<i>3</i>
<i>Section 2 – General Information</i>	<i>6</i>
<i>Section 3 - WNY Rural Healthcare Broadband Network (WNY RBHN)</i>	<i>8</i>
<i>Section 4 – Scope of Work</i>	<i>11</i>
<i>Section 5 - Administrative and Procedural Information</i>	<i>13</i>
<i>Section 6 - Technical Requirements for Connectivity, Hardware, Network Management & Environment</i>	<i>28</i>
<i>Section 7 - Proposal Content Requirements</i>	<i>36</i>
<i>Section 8 – Proposal Evaluation Criteria</i>	<i>39</i>
<i>Appendix 1 - RFP SUPPLEMENT for the WNY RBHN NETWORK Component in Buffalo, NY</i>	<i>41</i>

WNY Rural Broadband Healthcare Network

WNY R-AHEC

1. Background

Home to about 1.2 million Americans, rural communities in the Western NY region have a fragmented model of healthcare delivery with poor access to quality, affordable healthcare. While these rural communities have adequate numbers of primary care providers, specialists are more often located in urban areas that may be some distance away. Due to this rural-urban separation, interactions between the primary care providers and specialists are limited and poorly coordinated. This often puts the burden on the patient to coordinate their care between the healthcare providers.

The education and training of healthcare professionals in our rural facilities is severely impacted due to the lack of education and training infrastructure in the rural communities and due to their geographical separation from the urban academic and clinical centers.

To significantly increase access to acute, primary and preventive health care in rural America, the Federal Communications Commission through the Rural Health Care Pilot Program (RHCPP) (Link: <http://www.fcc.gov/cgb/rural/rhcp.html>) has dedicated over \$417 million for the construction of 69 statewide or regional broadband telehealth networks in 42 states and three U.S. territories.

The WNY Rural Broadband Healthcare Network (WNY RBHN) proposal, submitted by the consortium of the WNY Rural Area Health Education Center (WNY R-AHEC) and **41** healthcare partners including post-secondary academic institutions providing medical education, urban tertiary-care centers, rural and urban hospitals, and Federally-Qualified Health Centers, has been selected by the FCC as one of the above-mentioned 69 regional broadband telehealth networks to be developed.

WNY Rural Broadband Healthcare Network

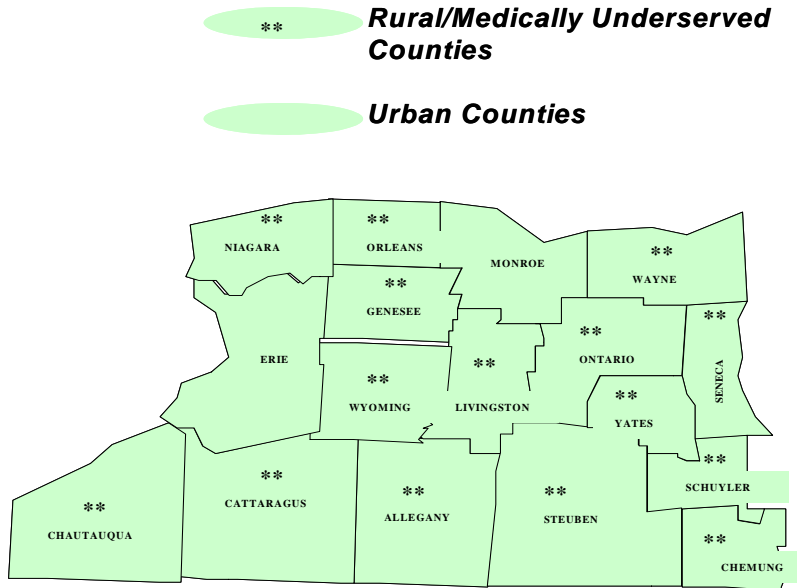
WNY R-AHEC

The WNY R-AHEC, the lead agent in this project, is a non-profit independent facilitation organization focused on assuring effective health services across rural communities in Western New York. Headquartered in Warsaw, New York, the WNY R-AHEC currently plays a significant role in bringing healthcare education, health workforce development, and healthcare technology implementation to a 15-county rural and medically-underserved catchment area adjoining a 2-county urban and medically served area (see map below) with the Western and Finger Lakes regions of New York State. The WNY Rural Broadband Healthcare Network (WNY RBHN) consortium partners have the unified vision of implementing a regional broadband healthcare network which will interconnect the member institutions and which will provide the digital pipeline for seamlessly conducting telemedicine consultations, exchanging high-resolution radiological data, organizing clinical grand-rounds, and developing opportunities for clinical research and education in rural hospitals.

The WNY RBHN will deliver services efficiently, reduce costs and travel time for consumers, decrease medical errors, and enable health care providers to share critical information. Rapid and coordinated responses to public health emergencies, such as bioterrorism attacks, pandemics or disease-related outbreaks, will be expedited through coordination with the U.S. Department of Health and Human Services (HHS), the U.S. Centers for Disease Control and Prevention (CDC), and other public health officials during public health emergencies.

**WNY Rural Broadband Healthcare Network
WNY R-AHEC**

Map of WNY Counties



Through this award, the WNY RBHN consortium partners are eligible for universal service funding to support up to 85 percent of the costs associated with the engineering and construction of their connectivity to the broadband healthcare network, and for monthly recurring charges for the access and services from this connectivity. In order to ensure quality and efficiency, the WNY RBHN project must be competitively bid, and is subject to quarterly reviews, and stringent oversight and audits.

WNY Rural Broadband Healthcare Network

WNY R-AHEC

2. General Information

2.1 Introduction: The WNY Rural Broadband Healthcare Network (WNY RBHN) is a consortium created by hospitals in rural, medically underserved and urban areas of WNY to increase utilization healthcare information services and technologies among public and non-profit healthcare providers. The list of the WNY RBHN partners is provided below:

Facility Name	City	State	Zip
Western New York Rural Area Health Education Center	Warsaw	NY	14569
Brooks Memorial Hospital	Dunkirk	NY	14048
Catholic Health System	Buffalo	NY	14214
Clifton Springs Hospital & Health Clinic	Clifton Springs	NY	14432
Ira Davenport Memorial Hospital	Bath	NY	14810
Erie County Medical Center Corporation (ECMC)	Buffalo	NY	14215
Finger Lakes Migrant Health Care, Inc. (Sodus Clinic)	Sodus	NY	14451
Finger Lakes Migrant Health Care, Inc. (Geneva Clinic)	Geneva	NY	14456
Finger Lakes Migrant Health Care, Inc. (Port Byron Clinic)	Port Byron	NY	13160
Geneva General Hospital	Geneva	NY	14456
Jones Memorial Hospital	Wellsville	NY	14895
Kaleida Health	Buffalo	NY	14203
Lakeside Health System	Brockport	NY	14420
Medina Memorial	Medina	NY	14103
Mount St. Mary's	Lewiston	NY	14092
Niagara Falls Memorial Medical Center	Niagara Falls	NY	14302
Nicholas H. Noyes Memorial Hospital	Dansville	NY	14437
Oak Orchard Community Health Center, Inc. (West Ave - Brockport Clinic)	Brockport	NY	14420
Oak Orchard Community Health Center, Inc. (Lyndonville Clinic)	Lyndonville	NY	14098
Oak Orchard Community Health Center, Inc. (West Ave - Albion Clinic)	Albion	NY	14411
Oak Orchard Community Health Center, Inc. (Albion Clinic)	Albion	NY	14411
Olean General Hospital	Olean	NY	14760
Planned Parenthood of Western New York (Lockport Site)	Lockport	NY	14095
Planned Parenthood of Western New York (Niagara Falls Site)	Niagara Falls	NY	14301
Rochester General (Via Health)	Rochester	NY	14610
Schuyler Hospital	Montour Falls	NY	14865
St. James Mercy Health System	Hornell	NY	14843
St. Joseph's Hospital	Elmira	NY	14901
The Resource Center	Jamestown	NY	14701
Thompson Health	Canandaigua	NY	14424
Tri-County Memorial Hospital	Gowanda	NY	14070
Academic Medical Services	Buffalo	NY	14215
UB Family Medicine, Inc.	Buffalo	NY	14215
UB School of Medicine & Biomedical Sciences	Buffalo	NY	14214
University at Buffalo - Neurosurgery	Buffalo	NY	14209
United Memorial Medical Center	Batavia	NY	14020
University Orthopaedic Services	Buffalo	NY	14214
WCA Hospital	Jamestown	NY	14702
Westfield Memorial Hospital	Westfield	NY	16544
Wyoming County Community Health System	Warsaw	NY	14569
Lakeshore Health Care Center	Irving	NY	14081

WNY Rural Broadband Healthcare Network
WNY R-AHEC

The WNY RBHN will be a robust, secure, sustainable, and interconnected broadband wide-area-network (WAN) that links providers in the WNY communities. The proposed network will utilize funding provided by the Federal Communications Commission ('FCC') under the Commission's order 07-198 ('Rural Healthcare Support Mechanism') of 19 November 2007, selecting participants for the Rural Healthcare Pilot Program, as well as matching and participatory funds as defined in the Order and provided by the Partners and their member sites and organizations.

The Western New York Rural Area Health Education Center (WNY R-AHEC) is the lead agent on behalf of the WNY RBHN consortium and is soliciting bids from vendors, suppliers and service providers to provide the connectivity and required edge network electronics and devices.

Bidders are requested to provide proposals based on the information provided in this RFP and are encouraged to submit bids for the following categories under this RFP:

- Integrated– One inclusive price to provide connectivity, equipment, and services for any or all of the sites, areas, or regions according to the specifications set forth in this RFP.
- Connectivity – Price to provide connectivity and carrier services for any or all of the sites, areas, or regions defined in this RFP.
- Hardware – Price to provide hardware (logical network components, as defined herein) for any or all of the sites, area, or regions defined in this RFP.

WNY Rural Broadband Healthcare Network
WNY R-AHEC

- Services – Price to provide network monitoring services for any or all of the sites, area or regions defined in this RFP.

The RFP process is designed to allow the WNY RBHN consortium to receive competitive offers to implement the network from carrier organizations, network equipment providers, and others. These competitive offers will be judged according to the criteria set forth in **Section 4** of this document.

3. WNY Rural Healthcare Broadband Network (WNY RBHN)

The Western New York Rural Healthcare Broadband Network (WNY RHBN) is the core of this RFP – a dedicated Internet Protocol (IP)-based broadband healthcare network that will provide each partner facility a minimum of 10 Megabits per second (Mbps) minimum scalable upwards bandwidth, based upon facility, connecting them over a secure enterprise wide-area-network, with Quality of Service (QoS) features and the option of connecting to the commercial Internet & to Internet 2. When fully implemented, the WNY RBHN will bring services to rural communities through innovative health information technology applications, including telemedicine, imaging, and electronic medical records.

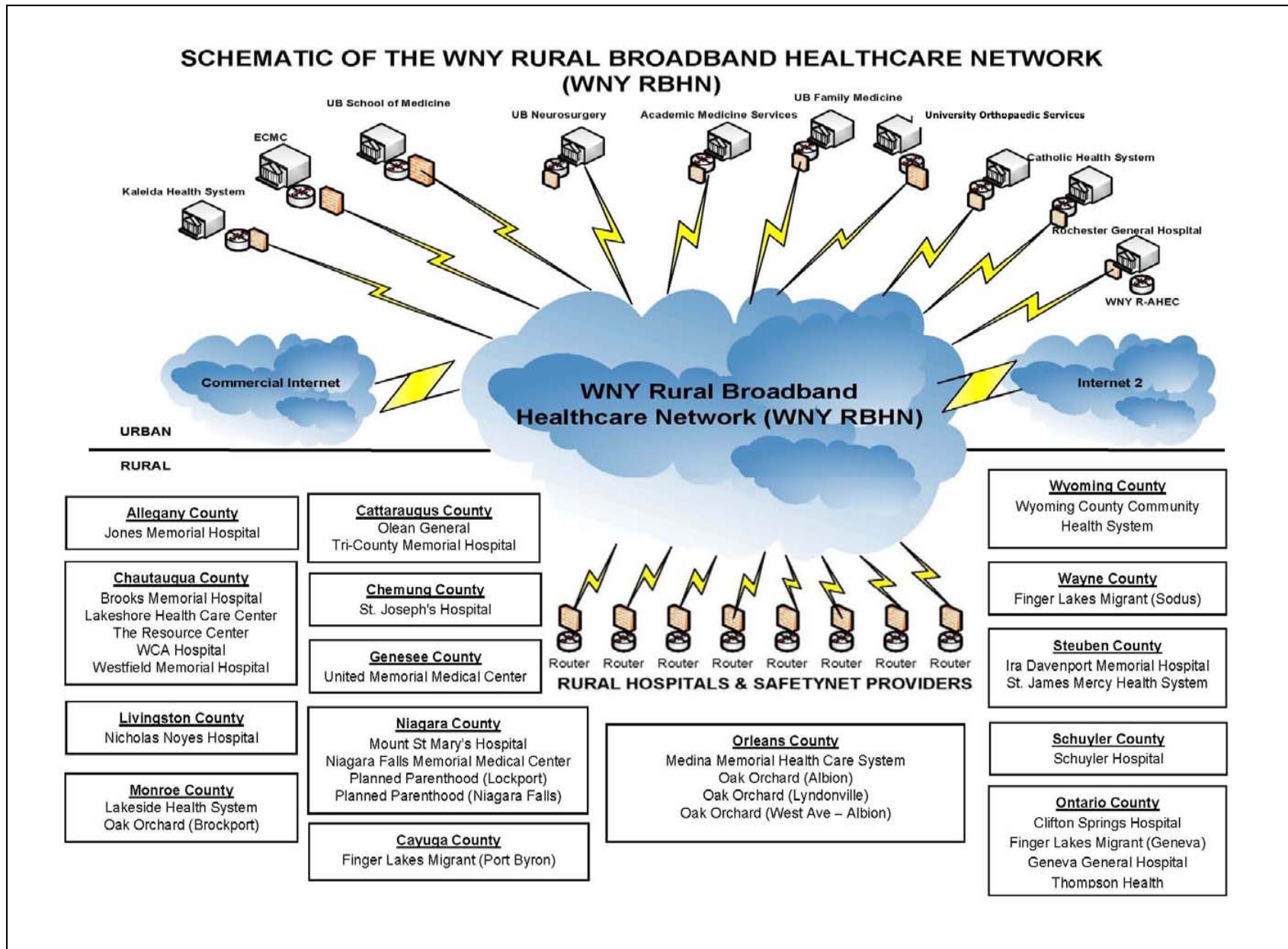
Our ultimate goal is to provide equitable healthcare across the WNY region, by improving access to experienced, specialty physicians and critical life-saving treatments, and enhancing the overall healthcare quality in the rural communities of Western New York. The connectivity of the major academic centers in the region, urban and rural healthcare facilities will also provide a platform for continuing education, clinical trials, measuring quality outcomes and enhancing coordination of care, as well as the critical end-points that could potentially provide much-needed

WNY Rural Broadband Healthcare Network

WNY R-AHEC

capacity and support in the event of a national crisis. The WNY RBHN is the first building block in this innovative, cost-effective, and sustainable strategy to bridge the divide in access to quality affordable healthcare in our rural communities.

**WNY Rural Broadband Healthcare Network
WNY R-AHEC**



WNY Rural Broadband Healthcare Network
WNY R-AHEC

This project meets the objectives and requirements of FCC Rural Healthcare Pilot Program. First, it identifies and supports FCC's objectives for development and investment in broadband connectivity on a regional level by aggregating the needs of **41** rural and urban healthcare facilities in WNY region. Second, the project will leverage existing facilities, technologies, and applications on a regional-basis in developing an efficient and cost-effective model for implementing the WNY RHBN. Third, the WNY region has a rich history in developing and sustaining telemedicine and health information technology (HIT) applications and network development activities, as well as the depth of talent and resources to successfully develop and implement the WNY Rural Broadband Healthcare Network, and manage it efficiently and effectively in the long-run.

4. SCOPE OF WORK:

Based on the WNY RBHN schematic and partner list shown above, the WNY R-AHEC and its partners seek to construct a robust, secure, sustainable, and interconnected broadband network that links providers in the abovementioned partners using:

- a) Funding provided by the Federal Communications Commission ('FCC') under the Commission's order 07-198 ('Rural Healthcare Support Mechanism') of 19 November 2007, and
- b) Matching and participatory funds as defined in the Order and provided by the Partners and their member sites and organizations.

This RFP addresses the telecommunications, perimeter hardware, network management and monitoring hardware and software, implementation, and support needs of the WNY RBHN.

WNY Rural Broadband Healthcare Network
WNY R-AHEC

The network requested in this RFP must be implemented to benefit of the healthcare facilities identified on **Page 6** in this RFP. Any traffic, connections, hardware, and software will be specified out, installed, and used only for/by these Pilot Program participants. However, the proposed elements should be scalable, so that additional eligible entities can be added in the future. Entities ineligible for Pilot Program funds may also be added in the future, with the requirement that they pay their fair share of the cost associated with their usage.

Bidders must in all cases clearly indicate when solutions either require or are dependent upon additional hardware, systems and/or vendors, so that all costs of the functionality requested/promised are accounted for. If the vendor is unable to provide the costs for a dependent vendor system, this must be indicated in the response.

It is anticipated that several vendors may be required to provide all of the components requested. Vendors are encouraged to make proposals on those parts of the project where they feel they can effectively provide a solution.

WNY Rural Broadband Healthcare Network
WNY R-AHEC

5. Administrative and Procedural Information

The Rural Health Care Pilot Program ('RHCPP') of the Universal Service Fund, which is administered by the Universal Service Administrative Company (USAC), is a support program authorized by Congress and designed by the Federal Communications Commission (FCC) to encourage the development of rural broadband networks to provide advanced healthcare telecommunications capabilities and services to rural health care providers.

This project is subject to the USAC procurement rules. Vendors must meet all USAC requirements. WNY R-AHEC will submit a USAC Form 465 to USAC who will review the documentation and will post the RFP on the USAC website. More information on bidding and posting rules can be found at:

<http://www.universalservice.org/rhc-pilot-program/vendors/>.

The following considerations apply to the proposal submission and review process:

- 5.1 Vendor meets all FCC requirements and has a clean FCC-RN (Federal Communications Commission Registration Number) and SPIN Number.
- 5.2 All vendor questions must be directed to the Project Administrative Coordinator via e-mail to kcummins@r-ahec.org. Fax and telephone calls will not be entertained.
- 5.3 Responses to all questions submitted to Project Administrative Coordinator will be provided within five (5) working days of

**WNY Rural Broadband Healthcare Network
WNY R-AHEC**

receipt, and will be posted on the project website at www.r-ahec.org – **Click on the link for WNY RBHN**

- 5.4 In the event it becomes necessary for WNY R-AHEC to amend, add to or delete any part of this RFP, the amendment will be posted on the USAC web site, as required by the Order and by the USAC-mandated bidding procedures. Subsequently, copies of the same will be posted on the project website listed above.
- 5.5 Bid proposals must be received at the WNY R-AHEC office **no later than 5pm EST on the 45th day following the posting date.** This receipt deadline requirement is a mandatory requirement and is not subject to waiver by WNY R-AHEC. Accordingly, no bid proposals will be accepted after the date and time specified. A late bid proposal will be returned unopened to the bidder.
- 5.6 No bid proposal will be accepted by telephone, electronic mail or facsimile. The proposal receipt deadline is for actual receipt in the WNY R-AHEC office as identified below. Delivery, whether via postal mail or other service, must be arranged to assure arrival before the deadline set forth above.
- 5.7 Bid proposals must be mailed or otherwise physically delivered to the following address:

**WNY R-AHEC
Attn: Kim Cummins – WNY RBHN Project
20 Duncan Street
PO Box 152
Warsaw, NY 14569**

WNY Rural Broadband Healthcare Network
WNY R-AHEC

It is strongly suggested that certified delivery services be used to verify the receipt of bids by WNY R-AHEC.

5.8 Bid Proposals will be opened the following business day after the proposed due date for RFP submission. The bid proposals and the evaluation documents created by WNY R-AHEC will remain confidential until WNY R-AHEC has evaluated all of the compliant bid proposals submitted in response to this RFP and the selection process is complete.

5.9 Bid Proposal General Requirements

5.9.1 Failure to comply with or supply any and all information requested to accompany bid proposals may be cause for rejection of the proposal as non-compliant.

5.9.2 All bid proposals must be valid for a minimum period of 60 days from the date of submission.

5.9.3 By submitting a bid proposal the vendor agrees to the terms and conditions contained within this RFP.

5.10 Proposal and Contract Terms

5.10.1 Vendor's response to the RFP demonstrates a clear and complete understanding of the goals of the overall project.

5.10.2 Bidder's proposition for providing the consolidated project needs – i.e., proposals that combine

WNY Rural Broadband Healthcare Network
WNY R-AHEC

connectivity, hardware, and services.

5.10.3 The above notwithstanding, vendors may bid for connectivity or network edge hardware exclusively.

5.10.4 Implementation timeline must begin no later than 15 days after the agreed upon contract date, upon receipt of the Funding Commitment Letter (FCL) from USAC. Bid proposals must include a project plan and timeline detailing milestones and overall schedule. Critical path items and potential delay circumstances must be clearly identified.

5.11 Funding Duration:

5.11.1 Connectivity services – up to 5 years.

Bidder's proposal accounts for existing network design within the Partner network(s) to which its bid applies, and does not require re-grooming or reconfiguration of circuits or transports not directly impacted by the project.

Bid proposals for redundant / resilient site connections will be evaluated on a cost-effectiveness basis for the specific site(s) involved, and may be accepted for a single-circuit connection on that basis. Preference will be given to solutions providing fail-over or dual homed capabilities as well as diverse laterals or multi-path facility entrance and egress.

The WNY RBHN Consortium partners will evaluate the ability of the potential vendor to provide a minimum of 10 Mbps bandwidth or a greater scalable bandwidth chosen by the individual facility.

Preference will be awarded to potential vendors who can provide the

WNY Rural Broadband Healthcare Network
WNY R-AHEC

broadest flexibility in bandwidth selection and growth in the future. Additional preference will be awarded to the vendor's ability to provide rapid response to bandwidth increases or decreases.

The Consortium will consider the Service Level Agreements (SLAs) presented by the vendor and will reward SLAs that provide a higher level of performance.

The Consortium will consider the security capabilities of the proposed networking services. Vendors will be awarded for systems with perceived security strengths.

5.11.2 Hardware Components with service and maintenance – up to 5 years.

Bidder's proposal for hardware meets the stated requirements of the RFP in all respects without substitution or alteration of required functionality.

Bidder's proposal accounts for existing hardware components and network logical and physical topology, and does not impose restrictions or reconfiguration requirements to accommodate specifications of proposed equipment that do not meet RFP requirements.

Bidder's proposal includes maintenance and support contract options. Bidder's proposal includes only those installation and configuration services specifically requested in the RFP.

5.11.3 Network Monitoring Services – up to 5 years.

WNY Rural Broadband Healthcare Network
WNY R-AHEC

As a part of their proposal submission, bidders are required to provide detailed Network Performance data based on their design of the proposed network. At a minimum, the following network performance data must be submitted:

- **End-to-End Network Availability**
- **Network Latency**
- **Packet Loss**
- **Usage**

5.11.4 Maintenance

At a minimum, the following network maintenance data must be submitted

- **Mean Time to Restore**
- **MTTR Objective**
- **Routine Network Maintenance**

5.11.5 Provider / Vendor Qualifications

Bidder possesses the ability to provide proposed services or products in the manner and within the timeline(s) specified in the RFP, as determined by the Consortium, based on:

- References provided;
- Reputation in the industry;
- Past performance in the experience of one or more of the Consortium partners (if applicable);
- Objective qualifications of key staff and proposed project personnel;

**WNY Rural Broadband Healthcare Network
WNY R-AHEC**

- Bidder's proposal includes only those installation and configuration services specifically requested in the RFP.

5.11.6 Cost

The following Network Costs are allowed to be incurred by the project partners and 85% of these costs are reimbursable to them by FCC. Bidders must provide detailed Network Costs on a per-facility basis, as well as for the project in aggregate, for the project components that they plan to submit proposals on.

5.11.6.1 Non Recurring-Infrastructure build-out

The Non-Recurring Infrastructure cost comprises of the costs associated with building out the local-loop facilities engineering solution for each of the urban and rural facility listed in the network cost model to prepare the individual facility to have a minimum of 10 Mbps bandwidth or a greater scalable bandwidth chosen by the individual facility

5.11.6.2 Monthly Recurring - Transmission Facilities

The Monthly-Recurring Transmission Facilities cost comprises of the recurring monthly costs associated with maintaining a minimum 10Mbps bandwidth, or a greater scalable bandwidth chosen by the individual facility

5.11.6.3 Monthly Recurring - Internet Services

The Monthly-Recurring Internet Services cost comprises of the recurring monthly costs associated with running commercial Internet services over a minimum 10 Mbps bandwidth or a greater scalable bandwidth chosen by the individual facility

**WNY Rural Broadband Healthcare Network
WNY R-AHEC**

5.11.6.4 Monthly Recurring - Internet2 connection

The Monthly-Recurring Internet 2 cost comprises of the recurring monthly costs associated with connecting to Internet 2 at a minimum 10 Mbps, or a scalable greater bandwidth chosen by the individual facility

5.11.7 Pricing and Cost Information

Bidders submitting proposals should identify all costs associated with the solution or subset solution that they are quoting. Not all of the costs associated with the solutions will qualify for FCC funds, and it is critical that WNY R-AHEC and its partners understand the complete cost of ownership. More information on bidding and posting rules can be found at: <http://www.universalservice.org/rhc-pilot-program/vendors/>. Quotes must include the following:

5.11.7.1 Connectivity Services:

- Implementation Fees, including any cost of required hardware, for end to end connectivity
- Ongoing transmission fees for end to end connectivity
- Any other costs associated with the solution and/or description of requirements that are prerequisites for the solution that may add additional cost to WNY R-AHEC and its partners

5.11.7.2 Hardware and/or Software

- Purchase price
- Installation costs
- Ongoing support costs and support hour limits that may add costs

WNY Rural Broadband Healthcare Network
WNY R-AHEC

- Any other costs associated with the solution and/or description of requirements that are prerequisites for the solution that may add additional cost to WNY R-AHEC and its partners

5.11.7.3 Network Monitoring & Testing

All costs associated with the solution and/or description of requirements that are prerequisites for the solution that may add additional cost to WNY R-AHEC and its partners

5.11.7.4 Other Costs

Bid proposals must identify all additional costs associated with the proposed solution, installation, configuration, maintenance, and monthly recurring costs, including but not limited to the following:

- Implementation fees, including one-time connection or provisioning charges, hardware costs.
- Monthly recurring charges amortized over the period of the proposed contract, for transmission at the proposed bandwidth, port charges, transport charges, taxes, fees, and assessments.
- Contract termination provisions, including specific penalties, if any, for early termination by "WNY RBHN CONSORTIUM".
Specifically, for hardware and fiber installation proposals:
- Purchase price for each unit. Bundled pricing may be cited, but individual components must be identified and detailed pricing provided.
- Shipping costs for each unit or shipment.
- Engineering, configuration and installation charges.
- Taxes, permits, fees, licenses.
- Maintenance and/or support charges for the proposed contract

WNY Rural Broadband Healthcare Network
WNY R-AHEC

period.

- All costs may not qualify for RHCPP funding, so it is critical that accurate, detailed cost information be provided for all portions of the bid proposal.

5.11.8 Proposal Evaluation and Acceptance

The WNY RBHN Consortium has a Technical Working Group (TWG) that is responsible for the development of this RFP, and all bidder responses to this RFP will be evaluated by the TWG, with the following conditions:

- The TWG reserves the right to issue any resulting order with the vendor or vendors whose proposal, in the judgment of the group, most nearly conforms to the specifications and will best serve the needs of WNY RBHN participant members as described herein.
- The TWG reserves the right to waive all technicalities in selecting or rejecting any or all proposals which satisfy or fail to satisfy respectively the best interests of the WNY RBHN participant members. The TWG group is not obligated to accept any proposal received. It may accept proposals in whole or in part, or may reject all proposals.
- One of the evaluation criteria will consider the willingness of the potential vendor to make the last mile connectivity available for other vendors to utilize for services beyond the end of the contract for reasonable fees.

WNY Rural Broadband Healthcare Network
WNY R-AHEC

- Proposed system testing and acceptance provisions will be required on all bid proposals. The WNY RBHN Consortium reserves the right to work in concert with vendors to develop appropriate testing and acceptance criteria for specific installations or configurations, to be defined and accepted by both parties prior to contract initiation.
- Bidder agrees to provide a project manager or other individual who will be the primary contact for all project-related dealings with bi-weekly project updates to the TWG of the WNY RBHN Consortium.
- The assigned project manager will schedule in-person project review meetings with the WNY R-AHEC project team on a minimum monthly basis
- Any contract resulting from this RFP will contain specific deliverable item acceptance provisions.
- Bid proposals will contain acknowledgement of, and provisions for providing, USAC invoicing requirements and formats. Bidder will conform to invoicing procedures and processes as promulgated by USAC.
- The selection will be based on all factors indicated in this chapter, and may not go to the lowest bidder if cost is outweighed by a combination of other features in the winning vendor's bid.
- The Consortium reserves the right to select bid proposals which, in the its sole judgment, most nearly conforms to the

WNY Rural Broadband Healthcare Network
WNY R-AHEC

- specifications set forth herein, will best serve the needs of the Consortium Partners, and provides the most cost-effective means for producing those results.
- The Consortium reserves the right to waive any and all issues of form or presentation in considering bid presentations for acceptance or rejection, if, in the sole opinion of “WNY RBHN CONSORTIUM”, such waiver is in the best interests of the project.
 - The Consortium is not responsible for any costs incurred by a vendor related to the preparation or delivery of the bid proposal, or any other activities carried out by the vendor as it relates to this RFP.
 - The Consortium is not obligated to accept any proposal received in response to this RFP. In particular, it may accept received proposals in whole or in part, or it may reject all proposals received.
 - Changes in applicable laws and rules may affect the award process or any resulting contracts. Vendors are responsible for ascertaining pertinent legal requirements and restrictions. Vendors are encouraged to visit the official Federal websites pertaining to the Pilot Project, at http://www.lifelinesupport.org/rhc_pilot_program/ and <http://www.fcc.gov/cgb/rural/rhcp.html>.
 - The selection decisions made by the Consortium and reported to USAC under this RFP are final, and appeals or resubmissions will not be considered.

WNY Rural Broadband Healthcare Network
WNY R-AHEC

5.11.9 System Tests and Acceptance Provisions

- Any contract resulting from this solicitation will contain specific system test provisions. These provisions will be developed by the WNY RBHN consortium and the vendor in accordance with the general concepts described in this RFP and executed in mutually agreed upon test environment.

- Any contract resulting from this RFP will contain specific system acceptance provisions. Acceptance plans will be developed and executed in advance of delivery. Payment for the system shall not become due until acceptance plans as agreed to and incorporated into the contract is met. A payment schedule will be tied to a work plan with critical milestones. Failure to achieve milestones will impact the payment schedule along with other hard and soft remedies.

- The WNY RBHN consortium expects that any contract resulting from this RFP will contain guarantees to the performance of the proposed solution to the specified speeds, transaction volumes, uptime rates, etc. Vendors have been asked to describe their service and performance level agreements. Respondents to this RFP should describe their capability of meeting these expectations and describe the terms of their response time guarantees.

5.11.10 Implementation Schedule Description

The WNY R-AHEC and its partners are on a tight schedule that requires the implementation of all or most of the above components 120 days of signing the contract for each of the Urban and Rural Components of

WNY Rural Broadband Healthcare Network
WNY R-AHEC

our project. Please include a plan with timeline, and address your ability to meet project timeline goals. Identify any circumstances/threats that may create potential delays.

5.11.11 Service and Performance Level Agreements

Bidders must provide a description of the network provider's network performance Service Level Guarantees for Dedicated Access. Please include information regarding service levels and any service level guarantees associated with the solution, including uptime and response time guarantees. Vendors are encouraged to include strong guarantees, as this will be one of the proposal evaluation criteria.

5.11.12 Provider Point(s) of Contact

- The bidder must provide the network provider single point of contact for all service related support or questions for the maintenance and support of the WNY RBHN. This eliminates any confusion and enables issues to be resolved quickly. The provider must have one phone number to call regardless of which site may be experiencing difficulty.
- In addition, WNY-RAHEC will be provided with an escalation list in the event that questions or concerns arise. The network provider will also require essential contacts within WNY-RAHEC for ongoing communication of planned maintenance.

5.11.13 Key Considerations to Note:

- Network diagrams identifying the end-to-end routes of the connections, including final mile information must be provided.

WNY Rural Broadband Healthcare Network
WNY R-AHEC

- The termination hardware will manage the redundant connections, so that if one fails, the other will automatically engage, with as little disruption to end-users as possible.
- The termination hardware will also allow participants to segregate bandwidth for specific purposes (QOS) and provide the other functions listed. Vendors will need an understanding of the level of traffic or concurrent connections from each site to determine what model device to propose. Vendors should assume 40 concurrent connections from each of the rural sites
- Network Monitoring Software: Vendors may need an understanding of the level of traffic or concurrent connections from each site to determine what configuration to propose. Vendors should assume 40 concurrent connections from each of the rural sites
- Network Testing to certify appropriate Security and Availability
- Please clearly identify all the testing services that will be provided as part of this certifications process, including port sniffing, probing, wireless assessment, personnel assessment, etc.

**WNY Rural Broadband Healthcare Network
WNY R-AHEC**

**6. Technical Requirements for Connectivity, Hardware,
Network Management & Environment**

The WNY RBHN project consists of the addition and enhancement of broadband connectivity and hardware to **39** sites in support of the project's selection as a participant on the FCC Rural Healthcare Pilot Program.

All connectivity bids solicited under this RFP are for newly-provisioned circuits.

6.1 Connectivity Requirements

- End-to-end line installation between the facility-designated telecommunications demarcation point in both sites of each site pair is required. Routing and installation particulars are to be determined by the bidder in accordance with the specifications below, and must be described in the bid proposal.
- Dedicated line installation bids are to include all labor and materials needed for the installation of the specified line connectivity, including site survey, engineering, fiber installation, and termination.
- The vendor will obtain permits from departments and/or agencies of cities, state, county, and federal government, railroads, or other entities which provide for the placement of facilities within their respective rights of way.
- The vendor will provide easements for construction on private lands, as needed. Any and all easements must be approved by

WNY Rural Broadband Healthcare Network
WNY R-AHEC

“WNY RBHN CONSORTIUM” prior to implementation. It is preferred that all easements be one time, advance payments with no recurring charges

- All external fiber installation will be of cable-in-duct construction, using twelve-strand (minimum) single-mode fiber optic cable. Bids for direct-buried cables and/or multi-mode fiber will not be considered.
- All fiber installation will be installed and tested in accordance with industry-standard practices, including but not limited to the standards promulgated in the National Electrical Safety Code IEEE C.2, NFPA 70, TIA590.A, and TIA.758.A, all as amended. Installation will meet all local building and electrical codes.
- One hundred percent (100%) of all fiber optic media must be tested in accordance with TIA/EIA.568.B.1, TIA/EIA.568.B.3, and TIA.526.7 (single mode). OTDR instrument must be calibrated to show anomalies of .02dB minimum, with photographic or digitized traces provided to the “WNY RBHN CONSORTIUM” site contact.
- Over the life of the contract term, it is likely that locations will need to increase or decrease the bandwidth available for data communications. Vendors providing the greatest flexibility in upgrading or downgrading services available will be ranked favorably.
- Each location will have the fiber terminated at the Telco demarcation point or the local Information Technology computer room at the discretion of the site coordinator.

WNY Rural Broadband Healthcare Network
WNY R-AHEC

Site visits will not be permitted at this time. Estimates for onsite facility installation must be a “not to exceed estimate” based on an average internal 1000 ft cabling path. The final vendor(s) selected will be encouraged to make site visits to finalize their facility cable costs.

- The following table will summarize the services requested at each site.

WNY Rural Broadband Healthcare Network
WNY R-AHEC

<u>Facility Name</u>	<u>Non-Recurring Infrastructure Build out</u>	<u>Monthly Recurring Transmission Facilities</u>	<u>Monthly Recurring Internet Services</u>	<u>Monthly Recurring Internet2 Services</u>
Western New York Rural Area Health Education Center	*	*	*	*
Brooks Memorial Hospital	*	*	*	*
Catholic Health System	*	*	*	*
Clifton Springs Hospital & Health Clinic	*	*	*	*
Ira Davenport Memorial Hospital	*	*	*	*
Erie County Medical Center Corporation (ECMC)	*	*	*	*
Finger Lakes Migrant Health Care, Inc. (Sodus Clinic)	*	*	*	*
Finger Lakes Migrant Health Care, Inc. (Geneva Clinic)	*	*	*	*
Finger Lakes Migrant Health Care, Inc. (Port Byron Clinic)	*	*	*	*
Geneva General Hospital	*	*	*	*
Jones Memorial Hospital	*	*	*	*
Kaleida Health	*	*	*	*
Lakeside Health System	*	*	*	*
Medina Memorial	*	*	*	*
Mount St. Mary's	*	*	*	*
Niagara Falls Memorial Medical Center	*	*	*	*
Nicholas H. Noyes Memorial Hospital	*	*	*	*
Oak Orchard Community Health Center, Inc. (West Ave - Brockport Clinic)	*	*	*	*
Oak Orchard Community Health Center, Inc. (Lyndonville Clinic)	*	*	*	*
Oak Orchard Community Health Center, Inc. (West Ave - Ablion Clinic)	*	*	*	*
Oak Orchard Community Health Center, Inc. (Albion Clinic)	*	*	*	*
Olean General Hospital	*	*	*	*
Planned Parenthood of Western New York (Lockport Site)	*	*	*	*
Planned Parenthood of Western New York (Niagara Falls Site)	*	*	*	*
Rochester General (Via Health)	*	*	*	*
Schuyler Hospital	*	*	*	*
St. James Mercy Health System	*	*	*	*
St. Joseph's Hospital	*	*	*	*
The Resource Center	*	*	*	*
Thompson Health	*	*	*	*
Tri-County Memorial Hospital	*	*	*	*
Academic Medical Services	*	*	*	*
UB Family Medicine, Inc.	*	*	*	*
UB School of Medicine & Biomedical Sciences	*	*	*	*
University at Buffalo - Neurosurgery	*	*	*	*
United Memorial Medical Center	*	*	*	*
University Orthopaedic Services	*	*	*	*
WCA Hospital	*	*	*	*
Westfield Memorial Hospital	*	*	*	*
Wyoming County Community Health System	*	*	*	*
Lakeshore Health Care Center	*	*	*	*

WNY Rural Broadband Healthcare Network
WNY R-AHEC

- WNY R-AHEC, the lead agent in this project, will be included in the bid proposal but will not be participating in the USAC_FCC funding of the effort. They will self-fund their connection to the network.
- Separate prices for each location for each of the categories of services requested in the table above will be provided by the vendor.

6.2 Hardware (Router) Requirements

- Routers are required for all sites.
- Routers must be compatible industry-standards and with existing network hardware existing in the WNY RBHN partner infrastructure on a functional, configuration, and physical level.

6.3 Network Management Services for Monitoring and Alerting

- Bidders may provide proposals for 24x7 for 365 days network monitoring & alerting.
- If the vendor chooses to not quote on the 24 hour network monitoring & alerting, the vendor must allow ICMP and SNMP data from the provided router to be provided to WNY RBHN CONSORTIUM or a 3rd party for those services.
- Each port of the supplied router will be monitored on an agreed upon time interval. Basic performance analytics will be initially provided via SNMP polling. Acceptable, Warning and Loss of Service levels will be established and an alert

WNY Rural Broadband Healthcare Network
WNY R-AHEC

protocol with escalation will be established. Each location will have a minimum of 2 notification contacts which may be via SMS, email and/or pager. Additional services will be negotiated at a later date to include monitoring of the site firewall device and corresponding ports.

- Any additional costs beyond the monthly reoccurring service should be identified in supporting documentation provided with the proposal.

6.4 Site Requirements

6.4.1 Environmental

- The Contractor shall be responsible for materials and substances brought to the job site. The Contractor will be responsible for hazardous waste management in accordance with the Resource Conservation and Recovery Act (RCRA) and hazardous materials management in accordance with the Toxic Substance Control Act (TSCA).
- All contractors, subcontractors, and sub-subcontractors and their employees performing work for WNY RBHN CONSORTIUM must comply with state and federal regulations. These guidelines included here are representative, and not all inclusive.

6.4.2 NEC & NFPA

- Communication bonding and grounding shall be in accordance with the NEC and NFPA. All terminating equipment including Fiber optic terminating enclosures must be grounded whether

WNY Rural Broadband Healthcare Network
WNY R-AHEC

- wall mounted or rack mounted.
- All communications cabling used throughout this project shall comply with the requirements as outlined in the National Electric Code (NEC) article 760 and the appropriate local codes. All cabling shall bear CMP (Plenum Rated), CM/CMR (Riser Rated) and/or appropriate markings for the environment in which they are installed. All fiber optic cabling shall meet/exceed Gigabit Ethernet standards as set forth in IEEE 802.3z.
 - Sealing of openings between floors, through rated fire and smoke walls, existing or created by the contractor for cable pass through shall be the responsibility of the contractor. Sealing material and application of this material shall be accomplished in such a manner, which is acceptable to the local fire and building authorities having jurisdiction over this work. Creation of such openings as are necessary for cable passage between locations shall be the responsibility of the contractor's work. Any openings created by or for the contractor and left unused shall also be sealed as part of this work.

6.4.3 Infection Control

- The selected vendor will participate in an Infection Control Risk Assessment (ICRA) at each facility. While the ICRA is the responsibility of the facility owner complete, input from the design and construction professionals is critical for an effective assessment. The ICRA is used to determine the potential risks of transmission and infection of various agents caused by the new construction.
- The ICRA is to be initiated in design and planning phases of construction projects, continuing through the actual

WNY Rural Broadband Healthcare Network
WNY R-AHEC

construction and renovation of the health care construction project, to minimize conditions that may be hazardous to patients located in nearby areas.

6.4.4 Contractor Site Operations

- The contractor shall be responsible for damage to any surfaces or work disrupted as a result of his work. Repair of surfaces, including painting, shall be included as necessary. Damaged ceiling tiles shall be replaced with identical materials.
- Construction operations and staging is limited to areas identified by WNY RBHN Consortium or local hospital project coordinator.
- Time restrictions may limit conduct of noisy work to the hours established by the local hospital. The Contractor may conduct on-site activities that do not involve loud or disruptive operations during day light work hours. Coordinate extended hours of work with the Local Project Coordinator. (The PC will notify Hospital Security & Facility Maintenance of Contractor working hours.)
- From the commencement of work and until final acceptance by WNY RBHN CONSORTIUM of any work specified, Contractor will be required to initiate and maintain measures which shall be proper and adequate to protect the building and its contents against damage by the elements. At no time shall the Contractor leave the building exposed.
- The contractor will maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition. Additionally, the contractor will remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and

WNY Rural Broadband Healthcare Network
WNY R-AHEC

other closed or remote spaces, prior to enclosing the space.

- The contractor will assure broom cleaning once per day in exterior locations and vacuum clean of interior areas with HEPA filtered equipment during work to eliminate dust. Any longer term activities will include the collect and remove all non-hazardous waste materials, debris, and rubbish from site at least once per week and dispose off-site.
- The contractor will comply with any unique requirements of the local hospital to assure patient safety appropriate employee work environments.

7. PROPOSAL CONTENT REQUIREMENTS

7.1 Proposal Format:

Submit one (1) unbound original, three (3) copies, and one (1) electronic copy (CD, flash drive or other electronic media readily read by Microsoft Office applications) of the proposal. Proposals should be bound, printed on both sides of the paper when possible and organized according to the following outline.

Proposals shall not exceed thirty (30) pages of 8.5x11 size, exclusive of TOC, supporting documentation, schematics, maps, resumes and exhibits.

7.1.1 Table of Contents: The proposal will have a table of contents with page numbers and pages numbered throughout the proposal.

7.1.2 Introduction: Brief introduction which includes:

- The bidder's name and address;

WNY Rural Broadband Healthcare Network
WNY R-AHEC

- Statement that indicates the proposal is valid for at least 90 days from the proposal submission deadline;
- Statement that indicates the bidder's willingness to perform the services described in this RFP;
- Provide a detailed and precise discussion, including examples and/or documentation, of meeting each requirement of this RFP.
- A statement that all essential positions and other resources which are required to perform the services described in this RFP will be made available by your organization over the life of the anticipated contract;
- Completed and signed Representations and Certifications of bidder(attachment);
- Statement that the signatory has authority to bind the bidder;
- Signature of authorized individual.

7.1.3 Firm Profile: Provide a table or chart that shows organizational structure, chain of supervision, decision authority, and communications. Include both the respondent firm and any subcontractor firms

7.1.4 Project Personnel Qualifications: Professional qualifications and experience of the firm's proposed Project Manager, other key personnel, and/or team members necessary for satisfactory performance of required services. Include all personnel that will actively be involved with performing the work, to include a listing of all subcontractors, if any, with an explanation of purpose. Individual qualifications are to address the following:

WNY Rural Broadband Healthcare Network
WNY R-AHEC

- Describe your experience working with other projects of similar scale
- Describe your experience working with healthcare organizations

7.1.5 Existing Network Facilities in the Project Area: Provide a detailed schematic drawing and map indicating the network facilities owned by the vendor in the region(s) where the project will be implemented

7.1.6 Proposed Network: Provide a detailed schematic drawing and related maps showing the bidder's implementation of the proposed network. Clearly indicate the facilities owned by the bidder and the facilities owned by other carriers that will be leased by the bidder to deliver the required services.

7.1.7 Network Guarantees and Service Level Agreements: Please provide all pertinent network guarantees and service level agreement templates for the network and related services quoted.

7.1.8 Technical Specifications: Provide all equipment information and technical details supporting the proposed network.

7.1.9 Project Costs: Use the partner list to provide the cost for each of the network and service elements provided for each partner. The aggregate network and service costs for the each partner should then be totaled. Finally, the aggregate costs for all partners should be totaled to arrive at the overall costs for the project.

**WNY Rural Broadband Healthcare Network
WNY R-AHEC**

7.1.10 Term: For pricing purposes, please use 3 year and 5 year terms

8. PROPOSAL EVALUATION CRITERIA

8.1 Project Understanding and Project Approach (10 POINTS):

Narrative submittal must address individual tasks as shown in the Scope of Work as to how they will be accomplished and where necessary provide proposed revised schedule for deliverables. Bidder proposals addressing all aspects of the RFP scope of work will be allocated greater points than bidders proposals addressing subset parts of the RFP scope of work.

8.2 Understanding Network Quality, Security, and Operational Issues (20 POINTS):

Narrative submittal must address network quality, security, and operational issues that are associated with the individual tasks as shown in the Scope of Work.

8.3 Experience in implementing network(s) similar to the size and scope of the network in this RFP (20 POINTS): Experience in implementing similar network(s) in last five (5) years and compliance with performance schedules. Provide information on projects and contacts (phone numbers and emails) for the references to validate the experience.

8.4 Ubiquity and Ownership of Facilities in the service area (20 Points): The vendor's ownership and penetration of the network and services in the service region in this RFP carries a certain value to the

**WNY Rural Broadband Healthcare Network
WNY R-AHEC**

project in terms of operational and economic efficiencies. Therefore vendors with network ownership and penetration in the RFP service area will be allocated appropriate points.

8.5 Price Proposal (20 Points): A clear and concise pricing proposal is critical to evaluate the vendor's ability to provide the network services listed in this RFP.

8.6 Documentation Quality of Proposal (10) Points): A clear, concise, and well-documented proposal adhering to the proposal guidelines is expected of all submitting vendors.

**APPENDIX 1 – RFP SUPPLEMENT for the WNY
RBHN NETWORK Component in Buffalo, NY**

**WNY Rural Broadband Healthcare Network
WNY R-AHEC**

1. GENERAL CONDITIONS

1.1. INTRODUCTION

The Western New York Rural Area Health Education Center (the WNY-RAHEC) is soliciting proposals for the implementation and management of a Buffalo Urban Area WAN to interconnect the participants identified herein as well as potential future participants within Erie and Niagara Counties, with the WNY-RAHEC Master Network (the Network) being implemented under separate RFP by the WNY-RAHEC pursuant to the Rural Health Care (RHC) Pilot Program established by the Commission in the *2007 Pilot Program Order* pursuant to section 254(h)(2)(A) of the Communications Act of 1934, as amended by the Telecommunications Act of 1996.

2. GENERAL SPECIFICATIONS

2.1. SCOPE

The vendor will provide entities within the Buffalo Urban Area and Erie / Niagara counties with network connectivity to the Network. The vendor will deploy a suite of separately priced services which include the implementation of physical network links between a vendor provided peering point and participants, managed network services to participants, and operate business services associated with the management, billing and operations associated with maintaining this infrastructure.

WNY Rural Broadband Healthcare Network
WNY R-AHEC

2.2. NETWORK

2.2.1. Peering Point

The vendor will identify a site to house a network peering point for interconnecting participants and the Network. The peering point will house vendor provided network equipment to provide the peering capability. Peering requirements appear below.

Evaluation of peering point locations will include 350 Main Street where several participants currently have a physical network presence.

2.2.2. Endpoints Participants

Pre-approval by WNY-RAHEC is required before an entity may be offered service for attaching to the Network through the vendor provided peering point.

2.2.2.1. Current Participants (WNY-RAHEC approved)

2.2.2.1.1. WNY-RAHEC (the Network)

2.2.2.1.2. Catholic Health System

2.2.2.1.3. Kaleida Health System

2.2.2.1.4. Erie County Medical Center

2.2.2.1.5. University at Buffalo, State University of New
York

2.2.2.1.6. Academic Medicine Services, Inc.

2.2.2.1.7. UB Family Medicine, Inc.

2.2.2.1.8. University at Buffalo Neurosurgery, Inc.

2.2.2.1.9. University Orthopaedic Services, Inc.

WNY Rural Broadband Healthcare Network
WNY R-AHEC

2.2.2.2. Future Potential Participants (WNY-RAHEC approved)

2.2.2.2.1. Roswell Park Cancer Institute

2.2.2.3. Future Potential Participants (pending WNY-RAHEC approval) in Erie / Niagara counties

2.2.2.3.1. Hospitals

2.2.2.3.2. Clinicians / Clinician Groups

2.2.2.3.3. Health Insurance Providers

2.2.2.3.4. Entities providing ASP or other services to primary participants

2.2.3. Endpoint Physical Connectivity

Physical endpoint connectivity strategies must be determined in a manner which permits the most cost-effective, long term physical connectivity solution.

2.2.3.1. Utilizing Participant or Participant/3rd party infrastructure

Endpoint physical connectivity scenarios will include alternatives comprised of using existing participant network infrastructure (where present), and/or building additional participant owned network infrastructure to the vendor maintained peering point.

The University at Buffalo currently owns dark fiber infrastructure which extends to KALEIDA, the Catholic Health System, and the Roswell Park Cancer Institute. The University has plans to extend this infrastructure to the Erie

WNY Rural Broadband Healthcare Network
WNY R-AHEC

County Medical Center. Vendor physical connectivity solution scenarios should include, but not be limited to, utilization of this infrastructure, including consideration of extending this infrastructure under existing ownership models.

Portions of this infrastructure may also be provided by a 3rd party vendor under contract to a participating entity or to the vendor when considering implementation alternatives.

2.2.3.2. Provided as a service

The vendor will provide the option of completely provisioning connectivity from the peering point to the participating entity when no alternative, cost effective physical connection is available or can be put in place.

2.2.3.3. Inter-facility connectivity (Buffalo Urban Area)

2.2.3.3.1. menu of physical layers supporting 10Mb, 100Mb, 1Gb and 10Gb.

2.2.3.3.2. latency < 4ms

2.2.3.3.3. symmetric bandwidth

2.2.3.4. Inter-facility connectivity (the Network)

2.2.3.4.1. menu of physical layers supporting 10Mb, 100Mb, 1Gb and 10Gb.

2.2.3.4.2. latency < 4ms

2.2.3.4.3. symmetric bandwidth

2.2.4. Managed Services to endpoints

2.2.4.1. Bandwidth – menu selection

WNY Rural Broadband Healthcare Network
WNY R-AHEC

- 2.2.4.2. Commercial Internet (I1)
 - 2.2.4.2.1. IP addresses
 - 2.2.4.2.1.1. Pre-existing ranges owned by participants
 - 2.2.4.2.1.2. Provide new ranges as required as a service
 - 2.2.4.2.2. Support / Coordinate BGP
 - 2.2.4.2.2.1. Class C blocks or larger owned by participant
 - 2.2.4.2.2.2. Class C blocks or larger provided as part of managed service
 - 2.2.4.2.3. Ensure upstream (the Network) symmetric bandwidth sufficient to support full use of aggregated Buffalo Urban Area I1 services utilized by participants
- 2.2.4.3. Research Internet (I2)
 - 2.2.4.3.1. Provide layer 2 connectivity between Internet 2 provided by NyserNet via dark fiber infrastructure from the University at Buffalo and the Network
 - 2.2.4.3.2. via University at Buffalo for eligible participants
- 2.2.4.4. Service Level Agreement
 - 2.2.4.4.1. 99.999% up time
- 2.2.4.5. Network Operations Center (NOC)
 - 2.2.4.5.1. 24x7 call center
 - 2.2.4.5.2. coordination of scheduled and unscheduled maintenance
 - 2.2.4.5.3. connectivity monitoring
 - 2.2.4.5.4. problem notification
- 2.2.4.6. Reporting

WNY Rural Broadband Healthcare Network
WNY R-AHEC

2.2.4.6.1. Uptime

2.2.4.6.2. Latency

2.2.4.6.3. Usage

2.2.4.7. Business Operations

2.2.4.7.1. billing

2.2.4.7.2. annually updated service offering pricing

2.2.5. Requirements

2.2.5.1. Define alternative networking environments for linking the endpoints identified herein to the Network and should anticipate.

2.2.5.2. Varying bandwidth and QOS requirements specific to each location and permit scaling in anticipation of changing future bandwidth demands that is location specific.

2.2.5.2.1. latency < 4ms

- o Alternatives should leverage existing network infrastructure owned by the institutions identified herein as appropriate to the extent such infrastructure meets technical requirements identified herein and provide an overall project cost advantage.
- o Alternatives should consider extension of privately held infrastructure (build to own) when that approach meets technical requirements identified herein and provide an overall project cost advantage.

2.2.6. Prepare a gap analysis between the current environment and each alternative.

2.2.7. Prepare a cost benefit analysis of each alternative.

WNY Rural Broadband Healthcare Network
WNY R-AHEC

- 2.2.8. Incorporate alternatives for continuation or termination of endpoint connectivity to the Network at the end of the FCC funding period identified herein.
- 2.2.9. Recommend a target environment for all data communications sufficiently detailed to enable project planning for subsequent steps.
- 2.2.10. Define, as detailed as possible, security and disaster recovery plans for the target environment.
- 2.2.11. Identify, as detailed as possible, the initial build, ongoing operations, and maintenance requirements, of the target environment.
- 2.2.12. Define Service Level Agreement parameters and relevant uptime metrics for each alternative
- 2.2.13. Define a portfolio of projects to move the WNY-RAHEC towards the target Network environment identified in the master RFP.