Applicant Name:  WESTERN NEW YORK RURAL AREA HEALTH EDUCATION CENTER, INC.

Project Title:  Rural Upstate Broadband Actualization Network (RUBaN)

Project Type:  Comprehensive Community Infrastructure

_________________________ Executive Summary _______________________

Upstate New York, due in large part to both its aging population base and multi decade economic downturn has lagged well behind many parts of the nation in its widespread adoption of broadband technologies. This is particularly true in areas of applications targeting health care and health workforce development. This proposal seeks to rectify this problematic circumstance by bringing together numerous and varied health and health professional development/educational organizations in a targeted partnership intended specifically to commence adoption and actualization of broadband enabled applications. Western New York Rural Area Health Education Center (R-AHEC), building upon prior (RUS and FCC) funded telehealth initiatives is partnering with PAETEC to develop/acquire the infrastructure and enabling application equipment required to empower middle mile anchor facilities to enhance coordination among themselves and to ultimately improve outreach to their respective constituents. Upstate New York is already in the throes of health care reform brought about by significant facility closures and forced consolidations resulting from State 'Berger Commission' mandates. Thus, the region is currently experiencing a heightened sense of urgency to do things differently and more efficiently. This includes embracing new partnerships and operational strategies made easier through large scale broadband adoption. The creation of a scalable upstate western regional broadband network will: greatly enhance/accelerate health workforce development; expedite the adoption of electronic health records leading to widespread compliance with new federal meaningful use standards and the formulation of increased patient-centered medical homes within rural and underserved anchor safety net facilities; create an innovative public private partnership between R-AHEC, a non-profit health education advocate/resource, and PAETEC, a growing for-profit leader in middle mile telecommunications; promote strategic integration and consolidation moves among select partners strengthening the overall economic viability of essential fringe providers; provide direct support to several of the region's community colleges as they attempt to better utilize their rural extension facilities for expanded training programs in high need health profession shortage areas; enable anchor facilities far greater opportunity to actualize last mile/end user broadband applications improving both access and quality in care delivery; and maximize the use of past, present, and proposed technology investments made available through USDA and FCC awards and well as NYSTAR funding. The proposed service areas of this initiative include a 20 county catchment area, encompassing Western and Finger Lakes portions of upstate New York. A primarily agricultural rural area (with the exception of three major population centers - Buffalo, Niagara Falls, and Rochester), the total population is estimated to be 3,059,000. There are approximately 1,188,000 households and 70,030 businesses contained therein. The currently envisioned broadband network as proposed herein, engages one city school
system (Buffalo City Schools), over 150 medical/health providers, three public safety entities, two universities, four community colleges, seven rural health networks, four workforce investment boards and four agribusiness child development centers. Services and applications proposed for the Rural Upstate Broadband actualization Network (RUBaN) fall almost exclusively within two primary categories, (1) telehealth applications encompassing access to health care specialists for consultations, advanced clinical training, and/or clinical supervision; and (2) health workforce development encompassing academic training, re-credentialing, and/or continuing medical education of existing and future health care professionals - both approaches being highly interdependent upon one another. The broadband network is envisioned as a classic bridge between demand side partners (found within rural and urban underserved health care practices, community based health and human service organizations and/or extension learning centers) and supply side partners (found within the larger, more urban, academic health centers, health care delivery systems, and main community college campuses). Specific examples of how each of the partners intends to utilize the network are provided throughout the body of the application. R-AHEC, as the applicant, will be sub-contracting for services with PAETEC. As the applicant, R-AHEC is committed to ensuring that PAETEC will commit to exceeding the minimum requirement for interconnecting and nondiscrimination obligations, offering wholesale access to network elements and project facilities at reasonable rates and terms. The applicant will offer binding private arbitration of disputes concerning the awardees' interconnection obligations as required. The applicant will ensure that all subcontractors including PAETEC, will construct infrastructure and implement business plans that allow more than one provider to serve end users in proposed funded services area(s), providing a fully functional and comprehensive operations systems and associated Application Programming Interfaces for their wholesale and shared managed services. All sites will be installed with dedicated fiber-optic connections into the PAETEC core network. Each site will use an Integrated Service Router to terminate the fiber and provide required services. All internet access is through redundant peering points across the country. The core of the network is designed with high availability and redundancy to maximize the network uptime. All core routers are redundant, and 3 aggregate routers will carry the load of this network. The network capacity and equipment performance will be monitored around the clock by PAETEC's Data Center Solution. Data Center Solutions are hosted in a highly secure Central Office. R-AHEC and PAETEC bring together an exceptional alliance to sponsor this network. Already linked in a multi-million dollar Rural FCC partnership, each brings to the table a unique, yet highly complementary, history and skill set. R-AHEC is a well known health and human service networker particularly recognized for work in the area of health workforce development. In 2006, R-AHEC received one of six National Center for Excellence Awards from the National AHEC Organization and has received over $6 million dollars since 2004 to administer a highly diversified portfolio of health professional development programs to nearly 3,000 health care professionals, partnering with over 200 healthcare facilities and 60 academic institutions across 23 counties of Western and Central New York. PAETEC is personalizing business communications for medium and large businesses, enterprise organizations, and institutions across the United States. Their geographic reach (83 of the top 100 US metropolitan areas in 2008) and comprehensive suite of data, voice, and IP-based solutions have made PAETEC the pre-eminent alternative to incumbent carriers. Their value-added capabilities include managed services, enterprise communications management software, network security solutions, customer premises equipment, and fixed wireless network access. State-of-the-art Network Operations Centers (NOCs)
monitor the network in real-time 24 x 7 x 365 to address and circumvent network issues. PAETEC’s NOCs adhere to and exceed all industry standards for network performance and restoration, prioritizing, and providing trouble ticket response and interval status. Assets of 77 Voice Switches, 39 Soft Switches, three Data Centers, and over 17,000 miles of fiber optic cable serve their vast customer base. The cost of the overall of the infrastructure through this project is $14,907,550 over the course of two years. This figure is all inclusive of construction, administration, and equipment required for project completion. Based on our extensive research and relationships with the hospitals and clinics this grant will serve, we feel that a 15% cumulative gain for each quarter in year 2 is forcastable. The applicant R-AHEC will essentially not have any on-going subscribers, PAETEC is a subcontractor of R-AHEC, and the above forecast is based only upon the project partners involved in this initiative. It is anticipated that this project will create a grand total of 162 job years including 104 direct and indirect jobs and 58 induced effort jobs over the course of this project.