

New England Telehealth Consortium

FCC Rural Health Care Pilot Program

Scope Document

October 28, 2008

Introduction and Background

R. S. Consulting has been engaged by New England Telehealth Consortium to prepare and assist with the filing of the 465 and associated documents to procure a company to design the New England Telehealth Consortium network.

The New England Telehealth Consortium (NETC) is a non-profit organization consisting of a wide variety of experienced partners including research, academic, public, and private healthcare organizations dedicated to telehealth and telemedicine. The consortium encompasses primarily the three states of Maine, New Hampshire, and Vermont.

The goal of NETC is to augment healthcare services, health information exchange services, research, and education by enhancing broadband capacity and providing Internet2 services to support existing programs and the implementation of more effective and sustainable telehealth and telemedicine services.

To help facilitate and execute this course of action, NETC is soliciting proposals from companies that provide network design technology. We are seeking proposals from companies independent of equipment vending and or service providers, and agencies thereof. The successful bidder will understand the outline below and be able to perform the following work plan.

I. Project Overview

The New England Telehealth Consortium is 1 of 69 participants in the FCC Rural Health Care Pilot Program. The Consortium consists of 31 members representing a large number of affiliates located throughout the states of Maine, Vermont, and New Hampshire. Please see the 465 attachment for the actual number and specific location of the sites. NETC is a consortium of healthcare providers formed for the following purposes:

- Design and implement a private broadband regional telehealth network with Internet2 connectivity;
- Link regional healthcare providers with urban public practices, research institutions, academic institutions, and medical specialists to provide greater efficiency in the sharing of information relevant to healthcare applications;
- Provide a shared broadband network with healthcare providers thereby increasing and validating telehealth and telemedicine opportunities in the region;
- Provide healthcare providers in rural areas with greater and easier access to current research, advances in medicine, expert support, and team consults; and
- Allow healthcare providers in the region access to a common network for provision of electronic health records, remote medical diagnostics, telehealth, telemedicine, population health database, remote surgery, teledentistry, telepsychiatry and behavioral health treatment and other purposes determined by the Board of Directors and permitted by applicable law.

NETC is a non-profit corporation that has been organized pursuant to the Maine Non-Profit Corporation Act as a mutual benefit corporation for all permitted purposes under Title 13-B of the Maine Revised Statutes. All NETC members have signed a commitment agreement stating that they will pay for project costs not covered by the FCC Rural Health Care Pilot Program.

II. Goals and objectives of the proposed network

A. Overall Goals

The goal of this Consortium is to provide increased access to healthcare services, health information exchange services, research, and education by enhancing broadband capacity to support existing programs and the implementation of more effective and sustainable telehealth services.

The announcement of this pilot grant opportunity has spurred a new energy among those participating in various telehealth networks across the region to collaborate by developing the New England Telehealth Consortium (NETC).

Based on a preliminary needs assessment, a private, cloud based, MultiProtocol Label Switching (MPLS) Wide Area Network (WAN) would best fit the needs of the Consortium and most closely meet the requirements of the FCC Rural Health Care Pilot Program. MPLS is a fully meshed network allowing “any to any” communications and supporting packet prioritization so time sensitive information will not encounter delays. Encryption will be used through the network for privacy and security. A network operations center mechanism will be employed for the support and management of the network. Each member or customer of the Consortium has selected the sites that need connection to the network.

NETC is bound to the rules and funding commitment of the FCC. Estimated costs have been determined for both first year capital costs and first and second year network services costs for each site. Alternative technology network costs must be determined for those member sites requiring alternative WAN technology.

B. Objectives of NETC

1. Build a broadband network that connects multiple healthcare providers and brings the benefits of innovative telehealth and telemedicine services to the region of the three state area where need is most acute.

Action – Conduct design study to meet these objectives.

2. Link the New England Telehealth Consortium, to a nationwide backbone that will connect research, academic, public, and private health care institutions that are important sources of medical expertise and information.
 - a. Upon network completion, NETC has been invited to connect to the Northern Crossroads (NoX) network enabling access to hospitals and universities in Massachusetts, Connecticut, and Rhode Island resulting in a combined network that connects urban hospitals, medical specialists, universities, and research institutions with rural health providers across New England.

Action – Conduct design study to meet the objective.

3. Build increased access to advanced applications in continuing education and research.

Action – The New England Telehealth Consortium will draw from the aggregate expertise of its members and Internet2 affiliates to implement telehealth opportunities in underserved areas.

4. Enhance the healthcare community’s ability to provide a rapid and coordinated response in the event of a national crisis. Emergency planning, program development, notification and assistance will become a coordinated three state activity rather than individual efforts.

Action – An Emergency Response Alert notifier and procedural steps in preparation for health related emergencies or threat of attack will be established.

5. Create a system to share patient electronic medical records easily. In the NETC region bandwidth availability and its cost have traditionally been the key road blocks in establishing a true system of patient record sharing. These barriers will be overcome through this funding.

Action – The New England Telehealth Consortium network will provide a platform for standardized Electronic Medical Records (EMR).

6. Leverage the telemedicine networks that already exist. Telemedicine has been a high priority throughout the region due to remoteness and lack of available medical professionals. Funding from this pilot network will enable providers to expand their service range and increase their abilities.

Action – The New England Telehealth consortium plans to facilitate conversation and participation between telehealth advancement agencies and our members.

Work plan of this Scoping Document

Summary

Conduct a network design study and determine the final network design.

Objective

Design a private regional Telehealth/Telemedicine network that supports high bandwidth, encryption/security, and quality of service and connects to Internet2 to access Telehealth/Telemedicine services offered by out of region healthcare facilities. The design must be in line with the proposed network design of the NETC Rural Health Care Pilot Program application approved by the FCC that is a private network with a fully meshed “any to any” topology.

Work Plan

1. Conduct the network design studies for the consortium that will: address the needs of its Members, Customers, and their respective healthcare sites; determine how to deploy an efficient and private broadband regional telehealth network that includes multiple locations and various technologies; determine Internet2 connectivity.
 - a. Needs Assessment
 - b. Conduct onsite surveys of each NETC site.

- c. Determine current Telehealth and Telemedicine Applications that will impact the WAN.
 - d. Determine needed Telehealth and Telemedicine Applications that will impact the WAN.
 - e. Determine the current LAN and WAN infrastructure at sites.
 - f. Determine needed bandwidth.
 - g. Determine security requirements.
 - h. Determine redundancy requirements.
 - i. Determine Quality of Service requirements.
 - j. Determine how to connect sites' existing networks to the new consortium network.
 - k. Determine Internet2 connectivity requirements for each healthcare site.
 - l. Determine Internet2 connectivity for the entire network.
 - m. Determine Telehealth and Telemedicine applications available on Internet2 that will be used by sites on the NETC network and may impact the WAN.
2. Determine the final network design
- a. Incorporate the results of the site needs assessment in the WAN design.
 - b. Incorporate the results of the onsite surveys.
 - c. Engineer the network structure.
 - d. Engineer Internet2 connectivity.
 - e. Engineer Layer 1 through 7 requirements.
 - f. Determine WAN Service topologies that best fit the consortium needs, are commercially available and cost effective.
 - g. Determine sites that need alternate WAN technologies due to remote location or mobility (i.e. Healthcare trucks and ships).
 - h. Determine and design network equipment requirements.
 - i. List the network connectivity requirements (bandwidth, encryption, Quality of Service, redundancy) for each site.

Response Submission

1. Responses to this scoping document are due no later than 28 days from the date that this scoping document is posted to the USAC web site.
2. Submissions shall be electronic and be submitted to Brian Thibeau, President, New England Telehealth Consortium, bthibeau@netelc.org.

Selection Criteria

1. Experience in pre-design network studies (10 plus years preferred).
2. Experience in telecommunications network design (10 plus years preferred).
3. Demonstrated telecommunications expertise.
4. Demonstrated network design expertise.
5. Working knowledge of the IT needs of health care providers. (e.g., NETC sites)
6. Demonstrated expertise in healthcare applications and bandwidth requirements.
7. Experience providing telecommunications consulting and network design.
8. Must be independent and not acting as agent for telecommunications vendors.
9. Experience in the northern New England telecommunications marketplace and knowledge of vendor and service providers in that market.
10. Experience working in healthcare environments.
11. Competitively priced.
12. Experience in project management.
13. Base project team in northern New England for project duration and provide a single point of contact for design project.
14. Demonstrated expertise in telecommunications network equipment and wireless technology.
15. Demonstrated expertise in voice, data, and video on IP networks, including QoS.
16. Experience with Service Level Agreements.
17. Experience with and commitment to comply with the FCC Rural Healthcare USF program and process.