New England Telehealth Consortium

FCC Rural Health Care Pilot Program

Network Build Project Management & Network Operations Center Build and Operation

Scope Document 01
January 10, 2011

Introduction and Background

The members of the New England Telehealth Consortium (NETC) Executive Committee, in consultation with the full Board of Directors, have prepared this scoping document to specify its project management and network operations center needs, document the submission requirements, and outline review and selection procedures.

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 primarily encompasses 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 "not to exceed" cost proposals from companies that can perform network build project management, provide network management services for monitoring, alerting, and repairing network problems, and implement and operate the NETC Network Operations Center. The successful bidder will understand the outline below and be able to perform the following work plan. NETC reserves the right to reject any and all proposals received as a result of this Request for Proposals (RFP). Federal Communications Commission (FCC) and Universal Service Administrative Company (USAC) rules govern this RFP process. Please see http://www.usac.org/rhc-pilot-program/ for more details.

I. <u>Project Overview</u>

The New England Telehealth Consortium is 1 of 66 participants in the FCC Rural Health Care Pilot Program (RHCPP). The Consortium consists of 30 members representing a large number of affiliates located throughout the states of Maine, Vermont, and New Hampshire. Please see the Form 465 Attachment for the actual number and specific location of all sites which are to be included in the network build and management. 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.

A comprehensive Network Design for the 400 plus NETC sites was completed earlier this year. Each member or customer of the Consortium selected the sites that need connection to the network.

NETC is bound to the rules and funding commitment of the FCC.

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 – Build and manage designed network.

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 – Build and manage network as detailed in Network Design.

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 sharing data in 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 its members and telehealth advancement agencies.

III.   Work plan of this Scoping Document

Summary

Direct and manage the build out of the designed NETC network, and create and manage a NETC network operations center.

Objective

Manage the build of the NETC designed 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.

Work Plan

The NETC network design envisions one company for both the Project Management of the implementation of the NETC network and the Network Operations Center (NOC) and ongoing operational responsibilities of the NOC. That will ensure tight integration between those two facets of the project for scheduling, implementation, testing and troubleshooting. To be effective, NETC seeks a company that will function as a neutral entity, an unbiased observer of network performance without affiliation with any specific carrier or vendor providing carrier services. That way, the company can identify problems and see that they are solved without unnecessary territorial issues.

Network Implementation

The project management of the implementation of the NETC network encompasses the following responsibilities:

1. Coordination of service providers
2. Scheduling network equipment installations
3. Scheduling carrier services installations
4. Core Data Center
    a. Build out
    b. Programming
    c. Configuration
    d. Testing

5. Edge Equipment
    a. Technician on site
    b. Installation
    c. Connect to network
    d. Testing
6. Coordination / Interfacing with NETC Participant's IT staff
7. Coordination of Demarcation extension

To fulfill above responsibilities, NETC has the following requirements:

- A timeline and description of how the Proposer will conduct network testing and certification of all fiber and copper transmission media in accordance with industry-standard practices. The Proposer will be required to produce a report that documents the results of network testing and certification.
- A detailed description of how the Proposer will provide Network Management Services for Monitoring and Alerting network status.
- Ongoing Service Maintenance and Assistance: Proposer shall provide details of all maintenance activities and how assistance will be provided to participating entities. This data shall include, but not be limited to:
    - How 24/7 maintenance support will be provided
    - The response time for major problems and minor problems.
    - How the service will be monitored on a continuous basis for any problems
    - How service growth will be accommodated

NETC Project Management Services:

- **Joint Responsibilities**:

    NETC and Contractor will be jointly responsible for effective implementation of the NETC network build out. NETC project management responsibilities are itemized briefly below. Proposer responsibilities are enumerated in the following section.

- **General NETC Responsibilities**:
    - NETC has broad authority for oversight and management of the NETC RHCPP, particularly the Contract that will result from the award of this RFP. NETC considers the best interests of NETC as a whole when making decisions and determining its strategies. This includes focus on those policies and activities that emphasize the primary missions of NETC members. These activities include, at a minimum:
        - Serve as the principal contact for all operational, financial and planning aspects of the NETC project.
        - Serve as the principal review and approval authority for all operational, financial and planning aspects of the NETC project.

> - Coordinate regular meetings and other means of communication with Proposer among NETC management, administrative and technical staff.
> - Coordinate communications and serve as principal liaison among NETC Participants, NETC and Proposer.
> - Continuous review of progress on project design and implementation milestones.
> - Contract management oversight to monitor effectiveness and to audit Contractor adherence to Contract Requirements.
> - Make decisions on Participant requests for approval for exemptions to standardized infrastructure installations or nonstandard operations.
> - Respond to service issues beyond the scope of the Contract.
> - Perform periodic audits of NETC invoices to ensure accuracy based on the terms and conditions of the Contract.

- **Contractor Responsibilities:**

  Proposer shall provide comprehensive project management support and services throughout the Implementation Phases of the NETC network. Project management services shall include:
  - Dedicated Project Management Team.
  - Provision for personnel, equipment and logistics sufficient to support the NETC regional project.
  - Capabilities to support multiple simultaneous implementation initiatives in order to maintain geographic equity.
  - Comprehensive Participant Site Coordination staff and services:
    > - NETC Participant site assessments,
    > - Coordination and management of all ILEC/CLEC activities,
    > - Equipment installation, circuit cutover and testing.
  - Coordination and installation of all Connecting and Peering Points with external Networks.
  - Coordination of Network Monitoring service.
  - Coordination of Firewall/IPS design, installation and synchronization with other network implementation activities.
  - Regular communications and reporting on project status to NETC.
  - Budgetary coordination and consultation with NETC.
  - Regular monitoring and reporting of project status to NETC using industry accepted project management methodologies.

  Proposer shall provide comprehensive project management services, including as a minimum, the services and functions listed above.

Network Operations Center (NOC)

Due to the scope of services and the size of the organization, the designed NETC network requires a Network Operations Center (NOC) to centralize support functions and ensure that NETC provides the level of service required by its participants.

Below are the many critical responsibilities of the NETC NOC that must be addressed:

Proactive network monitoring

- Monitor Baseline Network Service Quality Levels.
- Monitor average Utilization and Packet Loss on the entire network.
- Periodically verify round-trip times within the network.
- Verify route propagation and convergence.
- Periodically *traceroute* to various parts of the network and verify correct operation.
- Monitor edge and core device availability, performance, and physical resource utilization (memory, cpu, etc).

Trouble ticket (and work order) creation, monitoring and escalation

- Capture, track, and manage problems.
- Coordinate with outside support providers (carriers, support vendors, consultants, etc).
- Schedule network-wide and site-level maintenance activities.
- Interact with ISPs, Internet2, and transport provider NOCs as necessary.

Notification

- Proactively notify participants of upcoming maintenance events.
- Notify participants of outage events, during and after the actual event.
- Communicate failure analyses to participants after outage events are resolved.

Management & Documentation

- Manage communities of interest tunnels and security.
- Manage IP address allocations and justifications.
- Interface with regional Internet registry (ARIN).
- Manage DNS mappings and delegations.
- Maintain security policies and ensure adherence.
- Ensure that edge and core devices are kept up to date.
- Monitor vendor-specific and industry mailing lists for new security vulnerabilities.
- Maintain security response plan and implement as appropriate against attacks on NETC infrastructure.

- Maintain BGP peering policies (Participants, ISP's, and Internet2), and ensure that proper route lists and communities are applied.
- Manage and maintain central Syslog services.
- Manage and maintain central Authentication, Authorization, and Accounting (AAA) services.
- Manage and maintain Network Time Protocol environment.
- Manage core routers at NETC data centers.

Reporting

- Generate monthly reports on utilization, uptime, outages, and upcoming maintenance windows.
- Report on service quality metrics.
- Evaluate customer-usage per month/week, etc.
- Maintain participant usage "portal" to allow participants to view their own usage in near real-time.

To fulfill above responsibilities, NETC has the following requirements:
- NETC requires that Proposer shall provide a centralized network monitoring service that will comprehensively monitor the NETC network on a 24 x 7 x 365 basis.
- NETC requires that Proposer provide sophisticated capabilities for real-time monitoring of performance and utilization levels for all segments of the network infrastructure. Scope of monitoring should extend to the CE router at each Participant site and each NETC Hub site. The monitoring service shall provide the following capabilities and services:
    - SNMP monitoring of all active network devices serving the NETC network.
    - Operate a 24x7x365 monitoring facility, properly equipped and staffed to identify and mitigate network faults and failures throughout the entire network.
    - Comprehensive performance monitoring capabilities that extend to each NETC CE router.
    - Comprehensive performance monitoring capabilities that track availability and performance of network links at NETC connection and peering points with external networks.
    - Regular periodic reporting to NETC and individual NETC Participants as appropriate, for network performance and reliability.
    - Customer-accessible, real-time, Web-based services that provide comprehensive network status information.
    - Customer-accessible, Web-based problem reporting facilities that support problem ticket generation, problem ticket status updates and problem resolution notification.
    - Resource utilization reports that document Participant usage in industry-accepted metrics.

    Proposer shall provide comprehensive network monitoring services, including as a minimum, the services and functions listed above.

IV. Response Submission

1. Cost to manage all aspects of the network build and perform all aspects of network management as outlined in this scoping document must be clearly stated in the proposal and must include **all** costs including travel and out of pocket costs, and the costs quoted must be specified as either "fixed" or "not to exceed" prices.

2. Costs should be categorized in broad categories to allow evaluation of cost elements. Proposer should delineate the number of person hours and/or consultant hours included in the proposal and a dollar amount for personnel/consulting; travel; space & occupancy; supplies; equipment; and other (e.g., insurance, telephone, advertising, etc.).

3. Based on the required interaction process with the FCC and USAC, it is not possible to determine a definitive project start date as it is dependent on USAC approvals and posting where NETC has limited control.

4. Proposer must include a timeline for project completion. Proposer should delineate how many calendar days the project will take to complete and provide a GANTT, PERT or similar chart of project times and milestones.

5. Each Proposer must clearly and specifically state their understanding of and adherence to the FCC/USAC Rural Healthcare Pilot Program payment procedures which allows for reimbursement only for incurred costs. Reimbursement for work must comply with RHCPP procedures (i.e., 15% invoiced to NETC or NETC Site first; 85% billed to USAC following contractor receipt of 15% payment from NETC or site).

6. Each Proposer must name the project manager and the personnel/key staff that Proposer will assign to the project team along with a description of their qualifications (including identifying and documenting such personnel's experience, if any, with comparable network projects).

7. Each Proposer must confirm that the resultant NETC Network and Network Operations Center shall be owned by NETC.

8. Each Proposer must provide at least three professional references from similar or larger-scale projects including: contact name, mailing address, phone number, and email address.

9. NETC reserves the right to seek clarification of each Proposal or to make an award without further discussion of the Proposals received. Therefore, it is important that each Proposal be organized and submitted in a clear and complete manner.

10. Each Proposer <u>must</u> have a current FCC Registration Number (FRN). More information about obtaining an FRN can be found at ttps://fjallfoss.fcc.gov/coresWeb/publicHome.do.

11. Each Proposer <u>must</u> have a current USAC Service Provider Identification Number (SPIN). More information about obtaining an SPIN can be found at http://www.usac.org/rhc-pilot-program/vendors/step01/service-provider-id.aspx.

12. A copy of the NETC Network Design is available and will be emailed to requesting bidders. Send request to Brian Thibeau, NETC President at bthibeau@penquis.org.

13. Proposers should submit any questions, noted errors, discrepancies, ambiguities, exceptions, additions or deficiencies they have concerning this RFP by emailing such requests, with NETC Network Build/NOC RFP in the subject line, to Brian Thibeau, NETC President at bthibeau@penquis.org on or before the 14th day following the posting of this RFP on the USAC website. Answers to all questions/requests will be posted on the NETC website, www.netelc.org, on or before the 20th day following the posting of this RFP on the USAC website.

14. All responses will be reviewed pursuant to the Selection Criteria listed below by the NETC Executive Committee. Current Executive Committee members are: Brian Thibeau, NETC President and Chief Administrative Officer, Penquis, Bangor, Maine; Tim Smith, NETC Treasurer and Chief Financial Officer, Webber Energy, Bangor, Maine; Martha McLeod, NETC Vice President and Executive Director, North Country Health Consortium, Whitefield, New Hampshire; Charlie Kimball, NETC Secretary and Chief Technology Officer, Eastern Maine Healthcare Systems, Brewer, Maine; Red Hutchinson, Chief Information Officer, LRG Healthcare, Laconia, New Hampshire; and Danny Burgess, Chief Information Officer, Maine General Health, Augusta, Maine.

15. Responses to this RFP are due by 5 pm on or before the 28th day following the posting of this RFP on the USAC website.

    Any responses received after the stated deadline will be considered non-responsive to the RFP and will not be reviewed.

16. Each Proposal must be submitted in two separate documents: the proposal itself and the cost/cost detail of the proposal. One electronic copy of each of the two documents comprising the proposal in Microsoft Word or Adobe Acrobat PDF format must be submitted to Brian Thibeau, President, New England Telehealth Consortium, by email at bthibeau@penquis.org or by CD-ROM or USB Drive delivered to Brian Thibeau, President, New England Telehealth Consortium, by mail to PO Box 1162, Bangor, ME 04402-1162 (Note, mail at Post Office Box is retrieved once each business day around 8 am in the morning) or by delivery service to 262 Harlow Street, Bangor, ME 04401. Use "NETC Network Build/NOC Bid Proposal" on package/envelope label or include in email subject line.

17. All materials submitted in response to the RFP become the property of NETC. If there is any concern about confidentiality, mark the appropriate pages of your response "Confidential." NETC will attempt to honor all reasonable requests for Proposer confidentiality.

18. The cost of preparing the Proposal or any other cost associated with the submission of a Proposal is the sole responsibility of the proposer and will not be reimbursed.

19. Proposer's Proposal will become part of the final contract. The Proposer will be bound to perform according to the terms of this RFP and their Proposal. Any contract issued as a result of this RFP shall be construed according to the laws of the State of Maine. Additionally, the contractor shall comply with all local, state, and federal laws and regulations related to the performance of the contract to the extent that the same may be applicable.

20. A Proposal may be rejected in whole or in part if it limits or modifies any terms and conditions and/or specifications of this RFP.

21. By responding, the Proposer states that the Proposal is not made in connection with any competing Proposer submitting a separate response to the RFP and is, in all aspects, fair and without collusion or fraud.

22. Any and all information provided to vendors by NETC or its sites, is considered to be proprietary information and must be used solely for the purpose of building the network and its operations center, and is not to be released outside the vendor organization without written permission from NETC or its sites.

Selection Criteria: The NETC Executive Committee will select the most cost effective vendor per USAC requirements. Each Proposer is encouraged to provide detailed responses to demonstrate its experience and expertise, and attesting to its ability to build the designed private "any to any" network, and develop and manage its operations center.

1. Demonstrated telecommunications and network building and management experience & expertise.
2. Demonstrated familiarity with the northern New England telecommunications marketplace, vendors, and service providers.
3. Competitive price.
4. Experience with and commitment to comply with the FCC Rural Healthcare USF program and process.
5. Quality of the Proposer's proposal.