State of Vermont
Enhanced 9-1-1 Board
Request for Information
Statewide Next-Generation 9-1-1 System Project

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1. Overview

Vermont is looking to implement a best-of-breed 9-1-1 system that takes advantages of the rapid advancements in telecommunications and information systems while reducing overall costs associated with providing 9-1-1 service. The State of Vermont Enhanced 9-1-1 Board is seeking information from individuals and organizations with knowledge and expertise in deploying large and complex information systems such as those found in next-generation 9-1-1 systems.

The purpose of this Request for Information (RFI) is twofold: First, it is seeking information that will allow for the development of a formal Request for Proposals (RFP) for a statewide next-generation 9-1-1 system. To meet the first goal of this RFI, Vermont needs to identify the current state of the 9-1-1 industry; what do software and hardware vendors have installed in production environments? What is in development? What partnerships are in place? What level of multi-vendor integration are organizations comfortable with? Answers to these questions will be valuable in creating a comprehensive RFP that will lead to the procurement of a state-of-the-art 9-1-1 system.

Secondly, Vermont understands that as next-generation 9-1-1 systems mature, they will become more open, standards-based, and commoditized. Already, 9-1-1 systems are moving out of the telco central office and into the data center. With the advent of advanced telecommunication technologies driving the need for next-generation 9-1-1 systems nationwide, there will be a massive turnover as legacy 9-1-1 systems are replaced with next-generation systems. This presents a tremendous opportunity for experienced information system providers seeking to expand into the 9-1-1 marketplace.

With its centralized administration, small size, and experience operating an end-to-end IP based 9-1-1 system, Vermont presents a unique opportunity for contractors with a proven history of successful large-scale deployments looking to participate in what will likely become a multi-billion dollar industry. Vermont feels that new entrants in the marketplace will be beneficial to all who rely upon 9-1-1 service; increased competition made possible by non-proprietary systems can both speed technological advancement, and reduce the total cost of ownership of next-generation 9-1-1 systems.

By way of this RFI, Vermont seeks to invite organizations with a history of successfully deploying complex, mission-critical information systems to explore partnerships with existing 9-1-1 vendors. Information systems based on open standards such as TCP/IP

are conducive to multi-vendor solutions, with an experienced system integrator providing overall project management expertise. Vermont feels that multi-vendor solutions can provide systems that offer best-of-breed technology in a cost effective manner, and encourages organizations with demonstrated expertise in deploying large public and private sector information systems, especially those with extensive experience in the public safety and homeland security sectors, to respond to this RFI regardless of past experience implementing 9-1-1 systems.

2. Project Description

Vermont is in the initial stages of the procurement process to deploy a next-generation 9-1-1 system. Next-generation is used in a general manner and does not imply rigid adherence to any current or developing "next-generation" specifications or standards. In using the term, Vermont is indicating its goal to deploy a leading edge, but not bleeding edge, 9-1-1 system.

There are many reasons for the transition to next-generation technology. Many are described in the National Emergency Number Association's (NENA) future path documents, however, it is Vermont's opinion that many important benefits are not emphasized enough. Since February 2007, Vermont has been operating what it believes is the first and only state-wide, end-to-end, IP based, next-generation 9-1-1 system. Vermont's experience with its current 9-1-1 system illustrates many benefits beyond those that are typically mentioned when advocating for next-generation 9-1-1 systems. Some of the benefits that Vermont has realized, and is looking to build upon in its next 9-1-1 system are:

- Flexibility – The ability to quickly reconfigure call catchment areas, call taking positions, number of call-taking positions, etc.
- Cost savings – Through the economies of scale realized when an entire state can appear as a single PSAP.
- Choice – A commoditized system allows for more choices in hardware and software, as well as method of operation.
- Functionality – Next-generation systems provide the ability to link voice, images, and data in ways that improve emergency response.

Through this procurement process, Vermont is making the next step toward its vision of what a next-generation 9-1-1 system should be, much of which is echoed in NENA future path documents, and in the reports produced by the Network Reliability & Interoperability Council (NRIC) VII, Focus group 1.

Vermont envisions a resilient 9-1-1 system built upon the same fault tolerant technologies that are widely deployed in e-commerce, banking and trading systems, and defense and homeland security systems. It expects seamless and automatic failover when one component of a redundant system fails. The ability to survive a Katrina-like event is a key goal.

Through meticulous attention to detail, standardization, configuration management and the use of COTS components, restoration after failure, or system expansion when situations dictate, takes place quickly and efficiently. Vermont seeks call quality that equals or surpasses what the Public Switched Telephone Network (PSTN) provides.

There are many technologies that Vermont feels may be advantageous in a 9-1-1 system such as virtualization, multi-factor authentication, Software as a Service, and cloud computing. It is looking for forward thinking organizations that have the expertise to balance the risks with the opportunities inherent in advanced technologies to explore their role, if any, in next-generation 9-1-1 systems.

3. Procurement Process

Vermont anticipates using a collaborative negotiation process in this procurement. Prospective vendors will submit proposals in response to the RFP. Based on the initial proposals, several finalists will be selected to work with Vermont in a collaborative process to fine tune their proposed solution to more fully meet Vermont's needs. In the initial evaluation, expertise, a proven ability to successfully deploy complex projects, a demonstrated understanding of Vermont's goals, and technical and project management capabilities, will be weighed heavily, as will the merits of the proposed system.

In the secondary, or collaborative negotiation phase, the finalists will have an opportunity to fine tune their proposals based on input from Vermont. There will be well-defined procedures in place to protect the intellectual property of bidders and to ensure that everyone is competing on a level playing field. Vermont will work with the finalists to identify areas where it feels the bidders' proposals do not fully meet the project goals. Bidders will have the opportunity to collaborate with Vermont's project

staff to identify ways to improve their proposal. Bidders will then have time to prepare a revised proposal for the final evaluation.

With the intent of attracting new participants, products and processes, Vermont wants to set a schedule that provides bidders who are familiar with, or new to 9-1-1, ample time to thoroughly research and integrate appropriate technologies. Vermont anticipates the entire procurement process to roughly follow this schedule:

- August 29, 2008 – RFI issued
- October 31, 2008 – RFI responses due
- March 16, 2009 – RFP issued
- April 17, 2009 – Deadline for questions
- July 2, 2009 – RFP responses due
- August 14, 2009 –Finalists (2 – 5) selected
- October 2, 2009 – End of collaborative negotiation period
- October 30, 2009 – Finalist's revised proposals due
- December 18, 2009 – Winner bidder announced
- May 30, 2010 – Contract negotiation and independent review complete, contract signed.
- February 18, 2011 – Installation complete
- June 1, 2011 – Testing complete, Ready to go live

Vermont is considering an *á la carte* procurement strategy that allows an organization to bid on:

- The entire project
- The TCP/IP network component
- The call taking workstation component
- The mapping component
- The ALI database/location services component
- The central-site call distribution component

- On-going operation and support
- Any combination of the components listed above.

The responses to this RFI will be very important in determining the actual bidding options allowed in the RFP. If the RFI responses indicate that the project goals are not likely to be met through the use of an *á la carte* procurement strategy the RFP will likely call for a turn-key solution, or some of the options listed above will be combined.

4. Submission Instructions - Information Requested

Please send your submission to:

James Lipinski
Vermont Enhanced 9-1-1 Board
94 State Street
Montpelier, Vermont 05620

You may also send your submission electronically as a PDF file only to:

james.lipinski@state.vt.us

All submissions are due by close of business on October 31, 2008.

In keeping with the dual purpose of this RFI: obtaining information to create an RFP, and inviting new entrants into the 9-1-1 marketplace, there is some flexibility in the response format. All respondents should provide the required information requested in section 4.1. Information in section 4.2 is optional. Please use the same numbering scheme in your response as is used in this document, i.e., your response to question 4.1.1 should also be numbered 4.1.1.

4.1. Required information

All responses should provide the information requested in sections 4.1.1 through 4.1.5.2

4.1.1. Preparer

Please include the following:

- Organization
- Mailing address
- Contact person
- Contact person's phone number
- Contact person's e-mail address

4.1.2. Qualifications

The respondent's qualifications are of the utmost importance. Please provide a narrative outlining your qualifications to undertake a project of this type, including the information requested in sections 4.1.2.1 through 4.1.2.4.

4.1.2.1. ISO 9001 certification

Please describe your organization's compliance with ISO 9001. If your organization is not ISO 9001 certified, briefly describe the quality management framework in use by your organization.

4.1.2.2. Experience with 9-1-1

What is your organization's experience with 9-1-1 systems?

4.1.2.3. Experience with public safety and/or homeland security

What is your organization's experience with public safety and/or homeland security information systems?

4.1.2.4. Experience with highly available systems

What is your organization's experience with highly available, mission critical, systems requiring ≥ .99999% uptime?

4.1.3. Scope of anticipated proposal

Vermont is considering an *á la carte* procurement strategy, where bidders will have the option to bid on the entire project or individual components of the project. Pursuing this approach is contingent on prospective bidders' willingness to embrace this strategy.

4.1.3.1. Procurement Strategy

What are your organization's thoughts regarding the proposed procurement strategy. Provide a narrative describing your concerns about being part of a multi-vendor solution. What portions of the system would you consider as optional, and could be provided by another contractor? What portions do you feel must be provided by the same contractor? What conditions or safeguards would have to be in place for you to consider participating in a multi-vendor solution?

4.1.3.2. Entire Project

Does your organization anticipate submitting a proposal for the entire system? If you plan to serve as the system integrator, working with sub-contractors, but proposing a turn-key solution you should answer yes to this question.

If you plan to submit a bid on the entire project you do not need to answer questions 4.1.3.3 through 4.1.3.8 unless you would also consider bidding on individual components of the system.

4.1.3.3. TCP/IP network

If the RFP does not require a turn-key solution and your organization does not anticipate submitting a proposal on the entire system, indicate if you plan to submit a proposal for the TCP/IP network component.

4.1.3.4. Call taker workstations – Software and/or hardware

If the RFP does not require a turn-key solution and your organization does not anticipate submitting a proposal on the entire system, indicate if you plan to submit a proposal for the call taking workstation software and/or hardware.

4.1.3.5. Mapping software

If the RFP does not require a turn-key solution and your organization does not anticipate submitting a proposal on the entire system, indicate if you plan to submit a proposal for the mapping software.

4.1.3.6. ALI Database and mobile device location services

If the RFP does not require a turn-key solution and your organization does not anticipate submitting a proposal on the entire system, indicate if you plan to submit a proposal for the ALI database and mobile device location services.

4.1.3.7. Call distribution infrastructure

If the RFP does not require a turn-key solution and your organization does not anticipate submitting a proposal on the entire system, indicate if you plan to submit a proposal for the call distribution infrastructure. This is the functionality that was supplied by ACD's and selective routers in a legacy 9-1-1 system.

4.1.3.8. Ongoing operation and support of the system

If the RFP does not require a turn-key solution and your organization does not anticipate submitting a proposal on the entire system, indicate if you plan to submit a proposal for the ongoing operation and support of the system. This includes providing 24/7 support, help desk, and network monitoring,

4.1.4. Project Management and Deployment

Describe the project management philosophy that your organization would employ in this project. Your response should provide insight into the thinking, values, and core beliefs that guide your organization through a large project, rather than just listing processes or methodologies employed.

4.1.5. Contractual

4.1.5.1. Assurances

It is Vermont's intent to require milestone based payments, as well as penalties for missed deadlines and undelivered requirements. How would your organization assure Vermont that it will successfully complete this project?

4.1.5.2. Financial Statements

It is Vermont's intent to require the finalists to include audited financial statements in their proposals. Describe any concerns that you have with this proposed requirement.

4.2. Optional Information

Providing the information requested in sections 4.2.1 through 4.2.14 is optional.

4.2.1. Network

Describe the general network architecture your organization would propose for an enhanced 9-1-1 system. Please describe the connectivity requirements anticipated to implement your design.

4.2.2. Information Assurance

Describe the information assurance posture that your organization would propose for an enhanced 9-1-1 system

4.2.3. Telco Interface

Describe the interface to the PSTN in your anticipated proposal.

4.2.4. ALI Database/Location Services

Describe the method you plan to employ to provide accurate location information on 9-1-1 callers.

4.2.5. Mapping

Describe how you plan to provide call takers with graphical location information about 9-1-1 callers.

4.2.6. Call Routing

Describe how your proposed system will ensure that calls are routed to the correct PSAP. Describe how congestion and overflows are handled.

4.2.7. Call-taker workstations

Describe the software you would provide call takers. Highlight any unique functionality you would propose.

4.2.8. ENS

Describe how you would either implement an emergency notification system, or provide an interface into the system to allow an external ENS access to the 9-1-1 system's location information.

4.2.9. System management

Describe the information that your proposed solution would make available to system administrators to support system management decisions. Describe how ad-hoc reporting would be accommodated.

4.2.10. Transition

How do you envision managing the transition from the current 9-1-1 system to your proposed system?

4.2.11. Training

Describe the training process you would employ.

4.2.12. Operations

Describe the capabilities of your organization to operate Vermont's 9-1-1 system and to provide support to call takers.

4.2.13. Support

Describe how you would handle system support.

4.2.14. Maintenance

Describe how you would handle ongoing system maintenance.