

PSAP Grant Program Grant Ranker

View Application--50--VOIP Call Delivery Project

Grant Period: 2009

Tier: Broaden or increase the delivery of wireless E-911 equipment or services beyond established minimum functional standards (**BROADEN**)

Grant Program: Enhancement **Grant Type:** Individual PSAP

Priority: NG-911 (**NG**)

Primary PSAP Applicants: Pittsylvania County Emergency Management

Jurisdictions Served: Pittsylvania

Project Director:

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Project Description:

Pittsylvania County installed a new E-911 phone system in August of this year. This new phone system represents the Next Generation E-911 equipment available. This equipment is now capable of receiving wire-line, wire-less and Voice over Internet Protocol (VOIP) phone calls. Pittsylvania County is the first 911 Center in Virginia with the equipment in place to begin receiving all of the above type of emergency phone calls. In order to begin receiving the VOIP emergency phone calls, the County needs to work with a vendor to coordinate the delivery of this type of phone calls. A grant will be necessary to engineer, and design the backbone framework for this to happen. Additionally, we will be looking at how to route and deliver the ALI dip information from a vendor via private IP Network for all existing wireline and wireless calls.

Total Project Cost \$180,000.00

Amount Requested: \$150,000.00

Matching Funds: \$30,000.00

Additional Local Funds: \$0.00

Statement of Need:

An IP based, packet switched NG 9 1 1 system mitigates many of the limitations of the legacy 9 1 1 system. When enabled with a nationwide IP network for call routing and delivery, PSAPs have the ability to reroute calls to any PSAP on the network regardless of local access and transport area (LATA) or geopolitical boundaries. For example, should the Pittsylvania County Sheriff's Office be disabled by a local or regional incident, the Pittsylvania County Emergency Management and Communications Center will have the ability to log into their profile on the NG 9-1-1 solution platform and reroute all, or a portion of, incoming 9 1 1

calls to an unaffected PSAP. While NG 9 1 1 provides solutions for disaster recovery, there are day-to-day applications where an IP packet switched network can be utilized to solve inefficiencies of the current E9 1 1 system. For instance, should one of Pittsylvania County's neighboring PSAPs, which is not serviced by the same tandem servicing Pittsylvania County, receive a misrouted wireless call of an overturned vehicle on a stretch of road inside Pittsylvania County, the only way to transfer the call would be on a ten digit administrative line and not on a native 9 1 1 trunk. NG 9 1 1 solves this problem by allowing transfer of 9 1 1 calls to the correct PSAP on a native 9 1 1 line. Further, NG 9 1 1 would allow the neighboring PSAP's call taker to transfer all the notes that have been taken on the call prior to realizing the need to transfer to Pittsylvania County Sheriff's Department. This feature is particularly valuable in Pittsylvania County's case because the PSAP would no longer be limited by the Verizon selective router footprint, and transferring calls within network would allow seamless transfers across LEC tandem boundaries. The legacy E9 1 1 network has traditionally left much of the changes in the system outside the control of the PSAP, whether it is the need to reroute 9 1 1 calls in the case of a "bugout" or the ability to run reports on demand.

Project Impact:

In today's demanding PSAP environment, manual processes consume valuable personnel time that could be devoted to saving lives. The need for increased automation in the PSAP during periodic events or major emergencies further enforces the need to modernize. Key benefits are: Continue to meet citizen's evolving 9 1 1 expectations Interoperability Survivability Reporting and Metrics Prevent technical obsolescence of 9 1 1 operations Maintain the integrity of the network Flexibility to support Text Messaging, particularly for the deaf community

Consequence of Not Receiving:

The system will not be replaced.

Part of Long Term or Strategic Plan?: Yes

Likelihood of Completion Unfunded?: 0%

Other Available Funding Sources?: No

Percent of Grant Funding Requested To Total Funding Cost?: 80%

Is Project Locally Sustainable?: No

Comprehensive Project Description:

As citizens move toward telecommunication technologies that transcend the fixed wireline model, policy and operational changes are needed to help keep 9 1 1 delivery a success. Pittsylvania County can continue to meet citizen's evolving 9 1 1 expectations and protect the County from technical obsolescence by upgrading to Next Generation 9 1 1 (NG 9 1 1), which enables our network to expand beyond traditional 9 1 1 services. An NG 9 1 1 network facilitates new life saving applications, eliminates single points of failure, and supports new technology access and new data types allowing interoperability between public safety answering points (PSAPs). In support of Pittsylvania County's strategic direction, we are looking for a fully managed solution offering emergency call delivery and data management services over an Internet Protocol (IP) network. A design to work with existing legacy equipment and is integrated, operated, and maintained to the public safety class standards demanded of a life-critical application. We are look to lay a foundation for the development and implementation of innovative applications and services that will advance the capabilities of public safety communications and eliminate many of the challenges. To enhance operational efficiencies for the call taker and the PSAP manager and extend interoperability through the entire chain of public safety entities, Pittsylvania County requires a new technology that blends voice, data, and multi-media from a variety of trusted sources. This technology must get the right data to the right user at the right time during an emergency and facilitate data delivery beyond the call taker to the first responder.

What type of interface or compatibility solution will be used between existing equipment and/or software and that which you intend to purchase?:

VOIP and related ancillary equipment to connect to existing VIPER system.

What is the overall relationship of your project to your PSAP or locality's established long-range future plans?:

Pittsylvania County's citizens expect their 9 1 1 calls to go to the right PSAP in the event of an emergency and that the call taker will know who they are, where they are, and their telephone number in case the call

is interrupted and they need to be re-contacted. They also expect to receive help from emergency responders, even in cases where the caller cannot convey their location and/or the nature of their problem or hear due to age, circumstances, or disability. This project will enable us to meet long range future plans.

How will the equipment purchased will support future technologies for PSAP readiness?:

With the new Network, interoperability is no longer contingent upon local equipment. Pittsylvania County can readily transfer and share emergency calls, as well as call specific information with an expanded set of authorized agencies, including first responders, neighboring PSAPs, medical facilities, and other public safety mutual aid agencies for improved emergency response. The new Network manages automatic retrieval and delivery of contextually relevant information to the communications center personnel and enables access to that same information by officers in the field. This supports event resolution more efficiently and enables interoperability with other PSAPs outside Pittsylvania County's jurisdictions. For example, if there are two counties on different systems and one is flooded in a disaster, the 9 1 1 network is working, but they cannot dispatch. They need an interoperable system so that when one is down, the other county can dispatch for the county that is flooded

Budget and Budget Narrative:

This distributed component-based approach allows the Network services to be deployed to meet Pittsylvania County's specific needs in a reasonable timeframe and at manageable costs. Special bundled annual pricing for the required five-year commitment is included in this proposal. The service pricing for five (5) years focuses on the monthly service charge associated with varying levels of Non-recurring charges (NRC), for bundled services per telephone number (TN), with the estimated number of TNs for Pittsylvania County of approximately 31,000. Monthly Total Dollar Amount for 9-1-1 Routing, ALI and MPLS with NRC Options Based on 31,000 TNs NRC \$100,000 ALI/SR Monthly \$5,152 MPLS Monthly \$2,248 Combined ALI/SR MPLS Monthly \$7,400 Table 1: Pricing Pricing Notes: 1. Pricing is for budgetary planning purposes only, and subject to change. 2. Services and pricing are contingent on the Incumbent Local Exchange Carrier's (ILEC's) ability and willingness to connect to us at our point of interface. Intrado is actively negotiating with ILECs for termination at our interface locations. 3. Certain network carrier costs, network connectivity costs, and program management costs associated with the selective routing replacement, such as the rehomeing and testing of trunks, are to be determined and are not included in the proposed pricing. Certain network carrier costs associated with selective router replacement are yet to be determined.

Ongoing Expenses:

Not sure at this time

Evaluation:

This has never been done before in Virginia, I am sure many eyes will be evaluating this.

What are the short term, intermediate, and/or long-term outcomes desired for this project?:

This core network will be robust and flexible, and may be leveraged to support other public safety applications and data such as: GIS data distribution Public safety mobile radio (regardless of frequency band) Data access such as criminal justice database Public safety automatic crash notification and vehicle location tracking Notification services Incident management Chemical, biological, and nuclear network sensors This interconnected, secure, IP-based system provides Pittsylvania County with: Quick deployment of additional virtual PSAPs or PSAP positions to support specific situations, such as a drastic increase in call volume, large public events, and emergency incidents Quick remote access to voice and data for any authorized non-PSAP-based personnel, including call takers, dispatchers, first responders, law enforcement, incident commanders, and medical staff Ability to transfer call taker notes with a call to another Intelligent Emergency Network-connected entity On-the-fly call management modifications including routing of incident-specific calls (based on caller location) to specific call takers Ability to "push" data from dispatchers to first responders' mobile data terminals or even radio screens Access to expanded data sources such as real-time maps, building blueprints, public safety databases, and medical records via secured Internet

What measures will be used to determine outcomes?:

This will have to looked out with the assistance of the State Wireless Board.

How will data be collected and how will evaluations be conducted?:

Again, assistance will be needed from the State Wireless Board.

How will data be presented?:

In whatever format will be required.

Attachments