

## **Florida County Uses Next-Generation 911 System to Enhance Public Safety**

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Visit any public safety agency in the United States and you are likely to witness the nation's 911 network struggling to keep pace with citizen expectations and advances in communications technology. Public safety officials agree the move to the next generation of 911 is imperative.

However, as one Florida County learned, the public safety community must overcome many obstacles to successfully migrate to a next-generation 911 system. These challenges include the integration of new applications into existing systems, developing new funding models, and addressing deployment and policy issues.

Charlotte County took on those obstacles and moved ahead with a NG911 system. There are two public safety answering points (PSAPs) in the county supporting one sheriff's office, one police department, two fire departments and one medical response agency.

"Charlotte County moved forward with deploying a next-generation 911 network to better safeguard our citizens," said John Davenport, the county's sheriff. "This new network will support traditional 911 operations, while also providing a secure foundation from which new lifesaving capabilities can grow -- something our existing network can't do."

### **The Case for NG911**

For the past 40 years, 911 operated as an overlay to the nation's public switched telephone network, a circuit-switched network that provided the safe, secure and reliable operating environment that 911 required. New applications and system enhancements were built on this network, including the automatic delivery of callback numbers and locations, and continued improvements to call handling and computer-aided dispatch (CAD) capabilities.

More recently, 911 was required to receive wireless and IP-based 911 calls, forcing the network to provide 911 for communications technologies it wasn't originally designed to support.

"New technologies have put a strain on the network and, in some cases, compromised the level of 911 service we can provide to our citizens," said Sherman Robinson, captain of the Charlotte County Sheriff's Office. "With citizen expectations growing around the ability to send a text message or pictures to 911, or telematics-enabled [a combination of information and communications technology] vehicles to 'call' and transmit data to 911 in an accident, we are entering areas that the current network simply cannot accommodate."

Also, Charlotte County is frequently hit with severe weather. As with Hurricane Katrina in New Orleans and Charlotte County's Hurricane Charley, survivability of the 911 network is essential regardless of Mother Nature's force.

## **Building a Solid Foundation**

For Charlotte County, a network-based approach to NG911 ensures survivability and addresses enhanced public safety applications like text messaging and dynamic routing of 911 calls during unpredictable emergency events. Rather than solely upgrading customer-premises equipment to IP -- as in some public safety jurisdictions, which limits communicating outside of a 911 center's operational footprint -- Charlotte County officials recognized early on that a network-based approach would be the only way to fully realize NG911's benefits.

Charlotte County has a much broader definition of NG911. The county's new network will access both legacy and new IP-based capabilities.

With a network-based approach to NG911, Charlotte County can receive voice, video, text and data directly into the PSAP's call-handling and CAD terminals over a next-generation, public-safety-class IP network. Once the information is in the network, officials have absolute flexibility to transfer it to other agencies and make it available directly to field units. Plus, the county has eliminated maintenance costs, and the costs and complexity associated with the manual transmission of data from disparate operating environments.

## **Solving Funding Challenges**

Funding for any government project is always an issue -- now more than ever. Charlotte County's funding challenge was somewhat mitigated because the costs associated with 911 services delivery were specified in existing tariffs defining what an enhanced-911 (E911) service provider can charge. As a result, the move to an NG911 network was a matter of shifting costs from the incumbent provider to Intrado Inc., the county's new E911 service provider.

Agreements between Charlotte County and Intrado were put into place for Intrado (through its regulated subsidiary, Intrado Communications) to deliver the 911 traffic from the county's local-exchange carriers (LEC's) central office. Once Charlotte County severed the relationship with the LEC, the Intrado Intelligent Emergency Network took over responsibility of routing all 911 call traffic.

Intrado is replacing the outdated, centralized, automatic message accounting trunks used by the previous service provider. This upgrade to the new IP-based network will handle all 911 call routing and delivery of automatic location information (ALI) for every 911 call, whether from a wireline, wireless or VoIP phone.

There were some incremental costs associated with the county's decision to upgrade call-handling equipment. These costs were offset by reductions in monthly expenses for 911 communication and equipment purchases that are necessary to maintain independent stand-alone PSAPs.

To cover the up-front costs, Charlotte County received a grant from the Florida 911 Board. Each of the state's 67 counties was invited to participate in a competitive grant process for funds made available from wireless 911 fees. The board provided a grant application that included justification of needed funds, scope of work and guidelines.

## **Deploying the Network**

With viable solutions in place to solve the technology and funding issues, the next piece of the puzzle for the county was deployment. Charlotte County and Intrado coordinated to establish NG911 routing and ALI management for the 911 agencies within the county, including the sheriff's office and the Punta Gorda Police Department. Intrado worked with the county's telephone service providers to integrate into the Intrado Intelligent Emergency Network. The company also managed the installation of new equipment within the county's communications infrastructure that enabled the delivery of all 911 calls and associated location information in a true NG911 environment.

## **Addressing Policy Issues**

Currently the appropriate regulations and operational policies are in place for how 911 information may be requested by the public, how long 911 records must be archived and who can access 911 call data.

However, as the county moves beyond traditional technologies and begins to integrate text messaging, photos, video and telematics into the NG911 network, additional policy work is needed.

Charlotte County is considering policy changes that would promote innovation in public safety networks and remove regulatory barriers that inhibit the deployment of new lifesaving applications and technologies. Such changes will help ensure that the county has access to the most progressive emergency services available in the market.

## **The Future of 911**

Charlotte County has the technological foundation it needs to support its citizens' current and future 911 needs, such as sending text messages or receiving telematics data from car crashes. In addition, the network-based model gives Charlotte County the operational flexibility to reroute 911 calls to help ensure that every 911 call gets the attention it needs.