NG9-1-1 is a game changer, in many ways

By David Jones

Next Generation 9-1-1 (NG9-1-1) arguably is the most important technological advancement in public safety communications since mobile radios first were implemented in emergency response vehicles nearly a century ago by William Rutledge, police commissioner for the city of Detroit. This technology truly is a game-changer for the first-response community.

Many emergency managers think of NG9-1-1 only in terms of text-to-911, which will greatly benefit the deaf, hard-of-hearing and speech-impaired community. But there's much more to NG9-1-1 than the ability to send emergency texts. This technology will enable:

- The streaming of video to and from first responders in the field
- The transmission of data-intensive files, such as building floor plans, to incident commanders
- The monitoring of first-responder biometric data
- The ability to reroute calls to a neighboring public safety answering point (PSAP) when necessary
- The ability to share information between PSAPs

All of this is designed to help first responders do their jobs better and to keep them safer. However, as exciting as these capabilities are, it is vital that emergency managers understand that NG9-1-1 also is a game-changer in terms of how they think and operate. The implementation of NG9-1-1 technology will require a wholesale change in the way that emergency calls are processed and administered.

For example, let's consider how 9-1-1 calls are routed. In the legacy environment, location information that tells the selective router where to send the 9-1-1 call is provided by the wireline or wireless commercial carriers. In the case of wireline carriers, the information is generated by billing data; in the case of wireless carriers, location information is generated primarily by the Global Positioning Satellite (GPS) chipsets contained in wireless handsets. While some may believe that the accuracy of location information is less than it should be, what is clear is that this is not something that emergency managers traditionally have needed to be concerned about—it has been the sole responsibility of the commercial carriers.

That's going to change. In the future, NG9-1-1 location data will be generated by Geographic Information System (GIS) technology that leverages numerous databases, all of which will be the responsibility of the PSAP. This means that emergency managers will face an important decision as they contemplate a transition to NG9-1-1: implement GIS technology in house and manage the databases themselves, or outsource this task to a third party. If agencies choose the former, they will control their destiny; however, most currently have little to no experience in managing databases, which will make the task much more challenging. While choosing the latter option will remove this responsibility from the agency, it will create another of critical

importance, as selecting the wrong vendor could have dire consequences, including the loss of life.

None of this should dissuade any agency from migrating to NG9-1-1 technology, which represents a huge leap forward in public-safety communications. Indeed, the transition to NG9-1-1 may be inevitable for most agencies, largely because the legacy circuit-switched equipment used by wireline carriers to provision 9-1-1 service is being phased out in favor of IP technology. Why is this happening? Because IP technologies are standards-based, and provide reliability, redundancy and resiliency that the legacy technologies cannot offer.

So, while agencies may be able to put off the NG9-1-1 migration for the short term, they likely won't be able to avoid it forever. The sooner they begin the migration then, the sooner first responders and citizens will benefit from this advanced technology. Change can be scary, but it also can pay great dividends. In the world of public safety communications, NG9-1-1 truly is a game-changer.

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