Situational Awareness
and On-Site Notification

The appropriate 9-1-1 responses in an enterprise are often confused with the level of detail that is reported to the 9-1-1 call taker. Different individuals need different information based on their role and responsibility during an emergency event. Understanding those roles and responsibilities is the first level of crafting an appropriate emergency response plan for the enterprise.

By Tim Kenyon, ENP
April 10, 2020

Quick and immediate action needs to take place to maximize the efficiency of public-safety first responders.

When emergency events occur within the commercial enterprise environment, quick and immediate action needs to take place to maximize the efficiency of public-safety first responders. Remember, these people are visitors to your building similar to any other guest. Unless previous on-site training has been coordinated, they are helpless in your facility, especially during an emergent situation. Doors will be locked, and access control will prohibit the "free roaming" of individuals without proper authorization and credentials, just as it would any visitor within your facility.

Let's take a large hospitality environment; a guest in room 525 starts feeling chest pains and dials 9-1-1 from their room phone. When the emergency call is answered, the guest is able to communicate the hotel name, address, and even room number to the call-taker. Emergency medical first responders are dispatched to the location, with all pertinent information about the location.

When the first responders arrive at the hotel, medical personnel rush inside, past the front desk, and directly to room 525. Once there, they are met by a locked door, and no response to urgent knocking. Rushing back downstairs, they return to the room with a hotel employee who provides access. Unfortunately, it's too late for this guest.

Let us take that same scenario, but this time we will provide enhanced situational awareness through on-site notification and proper emergency management planning.

A screen pop notifies the manager that an emergency call has just been placed.

Again, the guest in room 525 experiences chest pains. Dialing 9-1-1 from the room phone, the guest is immediately connected to the local public-safety answering point (PSAP). A dispatchable location was clearly presented to the call-taker. Simultaneously, an alert is triggered at the main desk in the lobby; a screen pop notifies the manager on duty that an emergency call has just been placed from room 525.

While EMS is being dispatched to the location, a call is placed to the room, where the manager confirms the call to 9-1-1. A room key for emergency services to utilize is prepared, and an elevator is held at the lobby level for the arrival of first responders.

When the ambulance arrives, medical personnel are provided the appropriate access, and the guest is transported to the hospital in a lifesaving, timely manner.

When we dissect the technology used to provide this advanced level of emergency support, we find that not only did we create a more efficient emergency response environment; we did so without expensive adjunct equipment on the private branch exchange (PBX), and minus complex, costly automatic number/location identification (ANI/ALI) solutions that require monthly operating expenses (OPEX) and management.

The solution delivered all information needed to each individual involved with the chain of care; the hotel manager was provided with room information from where the emergency call was placed. Armed with this, he was able to make contact with the room by phone, and confirm where first responders needed to be once arriving on-scene. The public-safety call taker had the information they required; a dispatchable address, which was in turn provided to public-safety first-responders. Had additional information been available, detailed floor plans could have been sent via a link or printed and handed to first responders when they arrived on-scene. Detailed information could have been provided about elevators and stairwells, reducing internal response time required to get to a specific area within the facility as well as saving precious time during the Golden Period after a traumatic injury.

Unfortunately, today's public safety network only allows an MLTS/PBX to pass caller ID as ANI on a 9-1-1 call.

Today's public-safety network is evolving from 9-1-1 to NG9-1-1. Historically, most multiple-line telephone systems (MLTS)/PBX only pass caller ID as an ANI on a 9-1-1 call. That caller ID must align with a pre-existing ALI record in the public-safety database. These records, also referred to as ELIN's, under the new Ray Baums Act regulations, must provide a "dispatchable location" that gets first responders as close to the caller as they can to reasonably be able to quickly locate the caller on arrival.

In locations such as hotels, where we have fixed floor plans, sequentially numbered rooms, and a user population that does not relocate their device across the property, there is little value in providing a room number to the public-safety dispatcher via complex ANI / ALI records. In fact, based on how 9-1-1 works in the public switched telephone network (PSTN), each individual room would have to have its own unique PSTN telephone number in order to maintain a unique ANI/ALI database record. Even with today's modern telephone systems, although that is possible, it certainly is not feasible, or financially advantageous to hotel property-owners and managers.

With NG9-1-1, additional information can be included in the SIP headers when a call is delivered to the PSAP/ECC. Not all of the 6000+ PSAP's are able to accept NG9-1-1 PIDF-LO data just yet. So calls that include the dispatchable data in the PIDF-LO will still be routed by phone number and standard call routing as done today. Additional data can be pushed to the PSAP/ECC today in a legacy environment. Company's like Rave Mobile Safety and Rapid SOS have been providing this additional data. Rave did it through Smart9-1-1. I presented on this technology to the FCC back in 2012 and developed that solution with Rave Mobile Safety through their Smart9-1-1 offering.

The link to that presentation is available upon request. Rapid SOS has continued this ability to push that additional data to the PSAP/ECC at no charge to the PSAP. However, there is a cost to the enterprise, and the argument is that there is no legal requirement to provide that data. Ray Baums Act only requires that an enterprise provide dispatchable location with the 9-1-1 call. There is some benefit to larger organizations to provide additional data, especially in a complex environment, but there is no requirement to provide this.

By utilizing on-site notification with screen pop technology, PC consoles, wall monitors, employee smart devices and email will ensure the right people are notified when an emergency event occurs (see Kari's Law white paper). The lack of acknowledgment of an alert can be escalated accordingly to ensure a quick and immediate response. The premise here is to make sure that on-site personnel that could assist in the emergency response are notified. That way they can open gates, unlock doors, hold elevators, turn on lights and provide basic first aid where possible. All this will make your facilities more efficient and safer in an emergency situation.

IoT devices allow connectivity to many multiples of devices to provide enhanced emergency management plans.

Situational awareness can happen in many different ways. In addition to the onsite notifications, an E9-1-1 call sequence can be established to trigger multiple events simultaneously. When a caller dials 9-1-1 and the alerting application kicks in, the floor plans and other additional data can be pushed in that alert. The alerting tool can then manage LED lighting control panels, turning on specific lighting in the area of the 9-1-1 caller. In the alerting tool, links can be provided to initiate an IP camera view of the location, automatic door mechanisms can be automatically unlocked for public safety to get through, or on a school campus as an example, you could lock down all the doors and then send out a notification to parents on where to meet their children in the event of an evacuation. Panic buttons for teachers, gunshot detection systems for constant security monitoring, environmental monitoring, all of these can be a part of your "Emergency Management Plan".

Come talk to us and we will assist you in developing the emergency management solution that will best fit your specific needs at an affordable cost. For more details on Kari's Law and Ray Baums Act, you can pick up our white paper and more information on AirOne Solutions Group products and services at www.AirOneSG.com.

Tim Kenyon, ENP (Emergency Number Professional) has been involved in public safety software development and consultancy for over 25 years. Representing industry leaders in 9-1-1 and NG9-1-1 product development, Tim has overseen the creation and marketing of leading enterprise 9-1-1 solutions that are still widely available and used today. Tim is also the current Southeastern Delegate of the NENA National Institute Board (NIB). AirOne Solutions Group provide solutions to provide on-site situational awareness and endpoint location correlation information to enterprise networks eliminating the need for complex and costly ANI/ALI based solutions.