Mass notification systems

The top five technology trends
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Updated: 08-18-2010 3:44 pm

When seeking information on Mass Notification Systems (MNS), search engine results can range from 250,000 to 5.8 million hits. A search for Emergency Communications System (ECS) produces even more results - 6.5 to 45 million. Whether first-time shoppers of an MNS or upgrading current systems, there is no doubt that there is a huge amount of information for an inundated security executive to review and decipher.

Wikipedia defines Mass Notification as "a comprehensive solution that leverages cutting-edge communications technology to not only warn people of danger, but to keep them informed and guide them to safety." It further states that "a top-level, facility-wide, multi-threat emergency communications platform has gained the attention of regulators, and as the field matures, listings and standards will play a defining role in its ongoing development."

From the wide range of technologies available to the countless vendors that provide it, security executives are not only challenged with finding the right emergency communications solution to protect their personnel and community, but also with keeping up with the latest trends and technology and understanding local and national codes and requirements.

System-of-Systems. Security executives are now recognizing the need for a System-of-Systems approach to emergency communications. Instead of relying on just one technology to do the job, multiple communication systems ensure that information will successfully reach everyone in harm's way. The different layers of communication for a System of Systems include sending e-mail and text messages, activating computer pop-up alerts, distributing automated voice calls, broadcasting emergency information over indoor or outdoor mass notification systems, using electronic signage as well as Websites and social media.

Interoperability. Launching alerts from multiple communication systems can greatly increase the time it takes to send and receive messages, leading to slower response times from first responders trying to decipher the appropriate actions for the crisis. This challenge directs us to a further trend - interoperable emergency communications systems. There are three types of integration that are key to improving emergency response time.

With multiple communication systems to launch and limited staff to launch the separate systems, businesses need an integrated emergency notification system with a simplified, single interface to launch all of the different systems and applications. In other words, one button to push. It enables security managers and emergency response personnel to focus on the

emergency at hand without being slowed down, in an attempt to activate multiple systems.

Knowledge is critical in efficiently responding to emergencies. The more knowledge one has about a situation, the better he or she can respond. In addition to integrating multiple communication systems, an interoperable emergency notification system can provide a secure real-time information sharing framework, enabling facilities to communicate with other facilities and campuses as well as to local fire, police and health departments and surrounding organizations for a better understanding of the emergency. This helps facility managers make more informed decisions.

Another trend in MNS is improving situational awareness and alerting time with interoperable life safety and security systems. By integrating emergency communications with security systems such as video monitoring, access control and sensor detection or with external data sources like the National Weather Service, Center for Disease Control and Prevention (CDC), Federal Drug Administration and Consumer Products Safety Commission, alerts can be automatically sent when a threat is detected, giving businesses the essential information quickly.

IP Networked Systems. The MNS market is going through an IP Network Convergence evolution. Since emergencies do not always happen while you are sitting in the office, businesses need the ability to remotely activate any of their emergency notification systems - from an emergency text messaging system to an outdoor warning system. One of the main benefits of an IP-based mass notification is the ability to send and receive alerts anytime, anywhere across a range of networks and communication devices.

Large-Scale Alerting Systems. Several states and counties have developed highly-advanced and interoperable large-scale alerting systems that can communicate across multiple regions or state-wide.

For example, the five counties of Southeastern Pennsylvania, including the city of Philadelphia, have launched ReadyNotifyPA, powered by Cooper Notifications Roam Secure Alert Network (RSAN) to communicate to 25,000 first responders and emergency operations staff and 3.8 million citizens. This interoperable regional alerting system enables emergency management personnel in different counties to receive or send messages across borders so that colleagues in other agencies can assist in crisis situations or be alerted to threats that may cross multiple counties.

It also enables citizens that live and work in different counties to register multiple devices, including e-mail addresses, pagers and phone numbers so they can be contacted no matter where they are located. The National Capitol Region also uses a regional alerting system to communicate with 16 jurisdictions. During President Obama's inauguration, 58 law enforcement agencies in the District of Columbia and surrounding jurisdictions relied on Alert

DC to coordinate the largest security and safety operation for a presidential inauguration in the nation's history.

Interoperable state-wide alerting systems like Pennsylvania's AlertPA are also being implemented that enable officials to quickly send emergency text and e-mail alerts and other important notifications to the public.

Security professionals can adopt this trend by working with their county and state emergency management personnel to develop a regional MNS that can be interoperable with local fire, police and public health, schools and businesses. Companies that are considered part of the critical infrastructure based on hazardous or valuable products and its effects on the public could be eligible for DHS grant funding under the Urban Area Security Initiative or through the Buffer Zone Protection Program.

Mass Notification Codes. The latest fire codes apply to more than fire situations and now affect a range of departments in an organization, including security and emergency management. When the Department of Defense was developing requirements for MNS, they discovered that most fire alarm systems were unable to communicate with people in non-fire emergencies such as severe weather. They petitioned the National Fire Protection Association (NFPA) to develop MNS requirements. As a result, the NFPA added Annex E Mass Notification Systems as recommended guidelines for MNS in the National Fire Alarm Code 2007 edition. In the 2010 NFPA 72 National Fire Alarm and Signaling Code, Annex E became Chapter 24 Emergency Communications Systems (ECS) - the first mass notification code for the private sector.

NFPA 72 Chapter 24 is a complete set of requirements for Emergency Communications Systems, including In-Building, Wide-Area, and Distributed Recipient MNS, which consists of mass dialing systems such as automated voice calls, text messages and e-mail alerts. According to the NFPA, an Emergency Communications System must be installed in occupancies where required by the Authority Having Jurisdiction (AHJ) or other applicable governing laws, codes or standards. Regardless of whether an ECS is required by the AHJ or voluntary, installing a code-compliant system ensures that the ECS system has achieved a level of performance tested to the rigorous standards of the latest codes.

Specific markets are also recognizing the need for mass notification requirements. Due to the vulnerability of college campuses, the federal government passed the Higher Education Opportunity Act (HEOA) in 2008, which requires all colleges to immediately notify the campus community in an emergency. By October 2010, colleges are required for the first time to include emergency response and evacuation procedures in their Annual Security Report.

Implementing or Upgrading an MNS

Completing a vulnerability and risk assessment provides security professionals with a scope of their current situation and enables them to develop a master plan that integrates protection

systems, MNS and emergency action plans to address the needs of their facility.

With the cutting-edge technology available today, building a successful, effective and code-compliant Mass Notification System does not have to be a difficult endeavor and can be accomplished by starting with these steps:

1. Begin with a vulnerability and risk assessment.
2. Develop a Master Plan that integrates protection systems, Mass Notification Systems and Emergency Action Plans.
3. Implement the system on a phased basis.
4. Leverage existing systems and equipment.

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