

# Campus Firezone™

Monthly Newsletter for Campus Fire & Life Safety Professionals

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## Mass Notification ... *Making the Right Choices*

By Michael Knoll

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In past tragedies, such as the Virginia Tech campus shootings or the attack in Saudi Arabia at the Khobar Tower Embassy, a lack of critical communication and instruction further compromised the safety of those involved. In these emergency situations, the ability to communicate to everyone on a campus, in a building or those in transit should aid the execution of emergency plans and allow for reactive measures. Whether it is the safety of businesses and buildings from terrorism or the safety of young people and educators, there is a resounding call for mass notification systems (MNS) in facilities and campuses.

### WHAT IS A MASS NOTIFICATION SYSTEM?

A mass notification system is intended to communicate information about emergencies, including fire, terrorist activities, chemical spills, biological events or natural disasters. The first step of a

functioning MNS is to inform and notify building occupants and key personnel what the situation is and where it is taking place. Next, it provides directions about what actions to take. Third, it verifies that a specific message was heard by its recipients. Before an MNS can be installed and implemented, several steps must be addressed, beginning with the threat assessment.

### THREAT ASSESSMENT

Threat assessment is crucial in developing a mass notification system that meets the need of a specific campus, building, complex or area. A consultant must evaluate an entire campus and consider all situations in which a campus could become vulnerable. Examples include a major electrical outage to a shooter in the building.

Once all threats have been identified, a consultant will take inventory of all existing equipment and systems. This step is critical when it comes

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time to integrate the existing equipment with new additions. Once threats are identified and existing equipment is inventoried, a solution is proposed. The solution contains the integrated use of existing and new system components to meet the needs of the project, including security, fire, voice communications, visual indicators and use of recipient-based components, such as cell phones, PDAs and computers. Creating a multi-phased plan for design and installation will then map out the execution of an integrated MNS. Sub-emergency plans will also ensure MNS is complete.

### APPLICATIONS OF MASS NOTIFICATION

A successful approach to mass notification includes both integration and three layers of device groups: inside the building (e.g., PA systems, fire panels), outside the building (e.g., loudspeakers, sirens) and at your side (e.g., cell phones, PDAs, e-mail). For a message to reach all users, all three groups must be an integrated component of the plan. This is accomplished by using multiple technologies. Addressing these three layers in an MNS creates fault tolerance into the system's design and eliminates a single point of failure. This provides the best solution to reach the target audience when it is most important.

### TODAY'S CONVERSATION

Among senior managers today, much confusion remains regarding mass notification and how it applies to their business needs. Mass notification is a relatively new issue and reliable information can be difficult to find. When discussing mass notification, I advise these man-

agers to consider multiple factors, including codes, liability, risk management, budget constraints, political

pressure, public relations, and what is practical for their facility and employees.

For example, as the market continues to react to the urgent demand for mass notification solutions, new products and systems are constantly created. Add in difficult financial times,

which make the future utility of investments even more critical, and it is easy to understand why planning and purchasing decisions for these systems are complex. This is why finding a partner, not just a system provider, is essential to an effective emergency communications system. An integrated solutions provider will collaborate with engineers and building owners because they help drive code development, understand new technologies and are innovative in their approach.

### INTEGRATED WE STAND

While most understand that an MNS is now a building standard and a public demand, many organizations may not be looking at the best total solution.

For example, adopting mass paging systems to fulfill

### Factors Included in Creating a Mass Notification Solution

- Threat assessment of a specific campus, building, complex or area
- Inventory of existing systems (fire, security and communications)
- Solution layout
- Multi-phased plan for execution of design and installation
- Emergency operation plan

### Three Layers of Device Groups

#### Inside

- fire voice speakers
- flat-panel displays
- LED displays
- PA/intercom
- network PCs
- phone systems
- wired and wireless buttons
- indoor camera systems

#### Outside

- omni-directional speaker arrays

#### At Your Side

- directional speaker arrays
- pagers
- cell phones/smart phones
- personal e-mails
- instant message alerts
- duress alarms
- handheld radios

MNS needs is not a holistic approach to prepare for these types of situations. This product addresses only a single need and, depending on the type of messaging system chosen, may not even be a reliable option. This is where the risk analysis process and emergency operations plan come into play. After the risk analysis, plans must include an integrated product solution. System-to-system communication is just as important as system-to-people communication. Conflicting messages from various systems could quickly turn a crisis into chaos.

Not only are integrated solutions important for functionality, they are cost-effective for building owners. Integrated solutions that use a building's existing systems and infrastructure, yet allow for new technologies, will spare the building owner the expense of replacing functioning equipment for the sake of a system upgrade. Companies can blend a customer's existing equipment with new technology to meet the customer's current system-upgrade needs and ensure that their investment is functional in the future as new technologies come to market. Integration allows the building owner to meet current needs but also adapt without abandoning a previous purchase.

As a the head of sales for Siemens Industry's U.S. fire and life safety systems, my team and I plan to continue to work with code and regulation bodies such as NFPA and UL, to form the direction for future. Mass notification is an integral part of the 2010 edition of NFPA 72. A chapter is dedicated to emergency communication systems, and it includes MSN for the first time. The Chapter 24 technical committee, formed by NFPA and chaired by Wayne Moore of Hughes Associates, consists of industry and government representatives, engineers and building owners. Dan Finnegan, industry affairs manager for Siemens Fire and Life Safety is also a committee member.

Design standards, such as Unified Facilities Criteria (UFC; UFC 4-021- 01, Design and O&M: Mass Notification Guide for DOD facilities) and NFPA (NFPA; NFPA 72- 2010, Chapter 24: Emergency Communication Systems), address functional criteria and installation standards for emergency communications and

MNSs and have been the launch pad for emergency communication standards for buildings, hospitals and educational institutions.

### FUTURE NOTIFICATION

The next step will likely be setting messaging guidelines. As definitions of integrated solutions and emergency operation plans solidify, organizations must focus on



*In emergency situations, the ability to communicate to everyone on a campus, in a building or those in transit should aid the execution of emergency plans and allow for reactive measures.*

notification content. In the next few years, fire panels will likely evolve into emergency panels that will be used to communicate multiple messages other than just fire. Voice communications will become an industry standard for alarms. This is just a sampling of the many changes that will come as technology continues to broaden in this market. What does not change is the need to keep people safe in any building, no matter the threat.

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