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Crafting Your **EMERGENCY** Response System By Leveraging Technology Already Onsite

By: **The Setronics Technology Group**

Our modern era of emergency response has its roots in cold war civil defense preparedness. Children were trained by "Duck & Cover" (a film produced by the National Education Association) to dive under their school desks in response to sirens which would notify of a nuclear event. Today the threat most clearly defined is that of the lone gunman - disgruntled to the point of murderous intent, often unstable and typically bristling with lethal weaponry. A common thread between then and now is the threat of random destruction inflicted without human compassion.

Just as the archetypal threat is now reduced to a local individual, emergency preparation and response by local personnel can reduce or avert harm. Similarly, the technical tools now common on campus for very specific applications – fire alarm voice evac, emergency phones, surveillance, networked communications, AV systems

– can be more broadly applied for an integrated response to such threats.

We will discuss *emergency response system design* and technical elements which should be considered today. While regulations and strategies are the most advanced in terms of colleges, what is discussed may also be applied to other institutions such as healthcare or corporate campuses. And while the armed gunman is one threat scenario, there are often dozens of other possible threats to general well being that should be considered in a response plan and for which this technology has application.



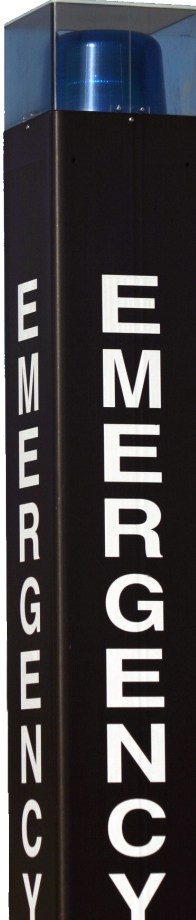
Regulatory and Standards Development

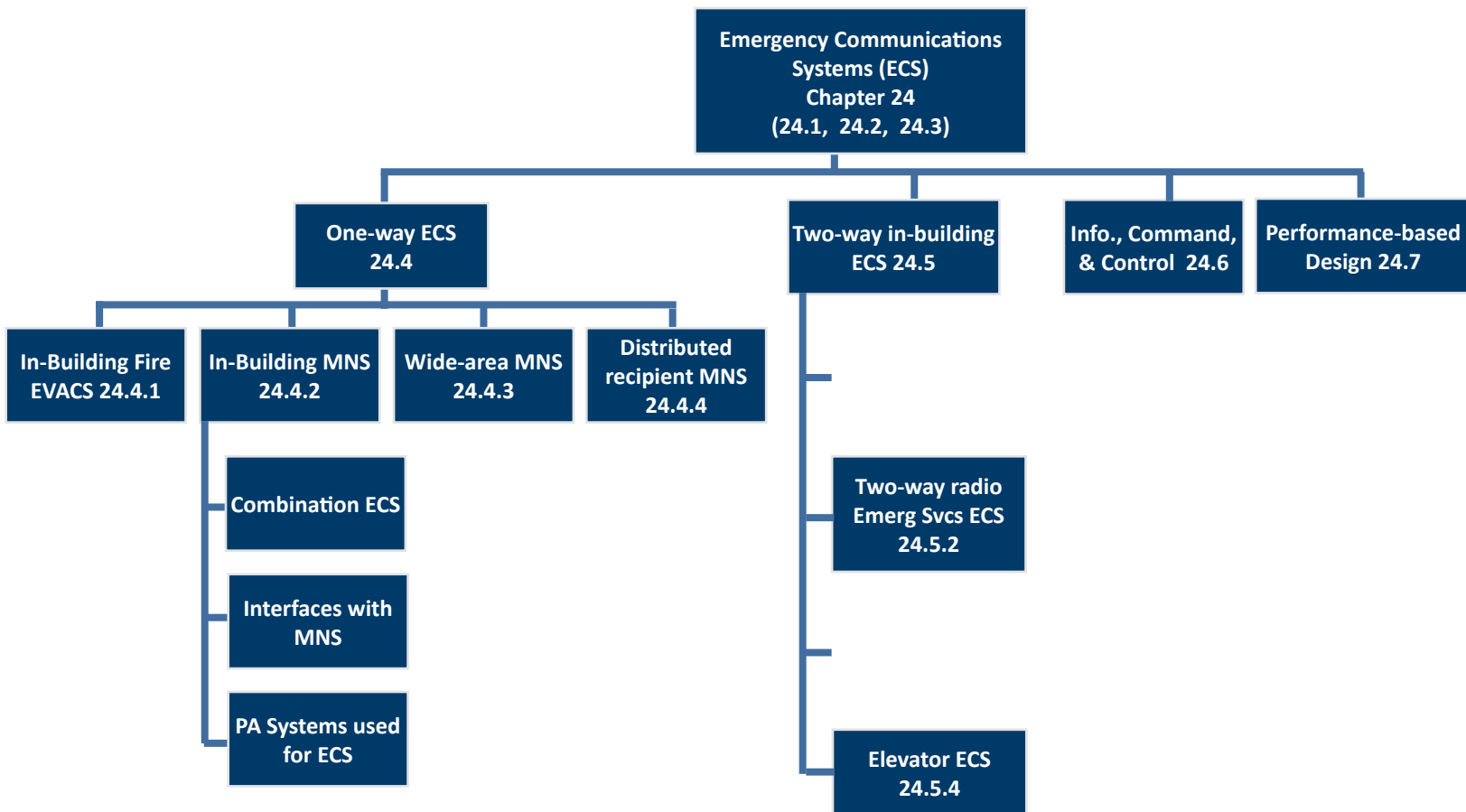
Charles Whitman, the Bell Tower Sniper of Texas A&M, established in our national consciousness the threat of an angry man on campus. The frequency of such events grew over the decades but have recently accelerated to the point that since 2000 there have been more shooting events and fatalities than the 40 years before. The shooting deaths of 32 at Virginia Tech led to the Virginia Tech Victims Act which was folded into the reauthorization signing by President Bush of the Higher Education Opportunity Act of 2008 (HEOA). Section 488 of the bill states that college administrations will be required to "immediately notify the campus community upon the confirmation of a significant emergency or dangerous situation ... unless issuing a notification will compromise efforts to contain

the emergency." Initially a 30 minute notification window was specified but this was modified before final legislation.

Early attempts at compliance involved mass notification by cellular service or the civil defense style speaker arrays. These proved limited as solutions. Often less than 50% subscribed to the fee based services and even then the certainty that phones would be present and responded to was not high. Early campus coverage with siren towers proved costly, especially when requirements for message intelligibility and building penetration were included.

NFPA 72 - 2010 Chapter 24 took on a more comprehensive approach to emergency communication. The chapter diagram indicates the elements involved. Chapter 24 establishes minimum required levels of performance, reliability and quality of installation for emergency communications systems but does not establish the only methods by which these requirements are to be achieved.





The broadened purpose of the system is described as follows: “An emergency communications system is intended to communicate information about emergencies including, but not limited to, fire, human-caused events (accidental and intentional), other dangerous situations, accidents, and natural disasters.”

The specification covers design aspects such as the risk analysis and application development leading to a performance based design that crafts a system from various sources which will typically be custom to the site requirements. Specifications for In-Building, Wide-Area and Distributed Notification are added to those previously established for fire evacuation systems. Emergency Communication System availability, medium pathway and survivability,

message intelligibility and priority are some of the areas covered.

Scenario Arising From a Well Crafted Emergency Response System

Lets illustrate just how a system which leverages and extends safety systems often already deployed on campus can be critical to the successful outcome of a threat scenario.

A student is walking from her dorm to a class along a parking lot when she notices at a distance an out-of-place looking young man in a long dark coat lifting a duffle bag out the trunk. During the movement the bag seems to partially reveal the profile of at least one semiautomatic rifle as he swings the bag around his shoulder. She doesn't have her cell phone on her but discreetly veers

off to an emergency phone at the end of the lot and punches the handsfree call button. By this point the man has draped a blanket over the bag and has begun to walk toward the campus center via a lesser walkway, unnoticed by the few passersby.

She quickly details her concern to the answering dispatcher who then immediately scans for the man using the pan tilt and zoom camera which had spun to view her location the instant the call button was pushed.

The dispatcher quickly sights the man just as he turns the corner out of view. A field officer is dispatched while the visual on the man is regained by finding the next online view selected from a video wall graphical site map.

As the field security officer approaches, the dispatcher and the shift commander look in on the scene via video feed. The young man's immediate response once he sights the officer convinces them of his intent and the programmed emergency response begins with a button push.

The access control system immediately locks all building exterior doors and reduces access privileges to emergency responders. A few seconds later a message is relayed by the fire voice evacuation systems in classroom buildings as well as dorm room lobby intercoms and emergency phone speakers. In addition a few additional speaker arrays help sound the general grounds.

SMS text messages stream to cell phones, as well as onsite and offsite student and staff email, voicemail and Twitter accounts. Similar messaging alerts municipal and state police in the area as well as all campus staff. AV news feed displays are replaced with a warning message which also extends to the exterior digital signage and the campus website. A followup message indicates manned rally points on campus for those on the grounds outside and the access system releases the main doors in those buildings. Some security officers head there to provide protection.

Meanwhile the young man - unable to reach and set up at his intended objective of the heavily populated campus union dining hall - instead opens fire in the open at the officer with a handgun previously concealed under his coat. He next attempts to enter the nearest building. Unable to enter the door he fires wildly into the lobby in full panic. This is all being observed from dispatch and the relevant camera view streams to cruiser laptops and personnel smartphones while verbal description of the events are given on emergency radio communications.

In parallel, another department staff

officer reviews the archive of the parking lot to locate the vehicle the gunman came from as well as identify its path onsite. He not only determines the gunman was truly alone but captures the plate information as it was captured by the LPR (license plate recognition) system. The car owner is identified and state police are soon enroute to his known address.

Back to the gunman: the campus police - joined by other local authorities - stream to the perpetrator guided by image and radio information. Within 5 to 10 minutes of that first emergency phone call button punch he is surrounded and contained. The event enters its final phase and without loss of innocent life.

System Elements of the Successful Response

Granting the above is a scenario with a very positive conclusion but it is by no means implausible; the capability is increasingly within the reach of colleges and universities.

Improved Response to Threats is at Hand

For the last five years higher education has been developing current generation emergency response plans for a number of threat scenarios.

This has been mandated by legislation specifically in reaction to the mass shootings by violent individuals. A number of sites have added communication and response systems in support of these plans already but more comprehensive systems and guidelines have more recently been developed. By building on safety systems already in place a more robust capability is more affordable and quickly achieved. The qualified system integrator can support those responsible for campus safety in developing a system design which supports their emergency response plan. The most successful solution can be developed in phases and leverages

other safety systems and infrastructure onsite. Today the occupancy category for which emergency response systems are mandated is higher education and the successful solutions will be applied in whole or in part elsewhere as well. ■

The Setronics Technology Group is an industry-leading team of Engineers whose combined collective security experience exceeds more than 60 years for regional, national and international clients. The Group has designed thousands of integrated access control and video solutions spanning markets that include retail, healthcare, and education among others.

MORE NEWS FROM SETRONICS

Setronics, Billerica MA - is pleased to announce its recent award of the FAC64 - Statewide Contract for Security, Surveillance and Access Control Systems. This contract was created by the Commonwealth of Massachusetts Operational Services Division (OSD) as the primary means to provide competitively priced security systems from qualified providers to state, municipal, public service and nonprofit agencies.

Can you use this contract? *In addition to state executive departments, cities and towns, the FAC64 contract can be used by public and charter schools, state colleges and universities, public libraries and hospitals and even state registered nonprofits. Other states also have access.*

Why should you use FAC64? *Obtaining services from Setronics via this contract enables eligible entities to procure well designed security systems efficiently and at best value without the need for an extensive public bid development and procurement process.*

Setronics will be adding details to our website to provide more information as well as easy access to our FAC64 Security Surveillance and Access Control System pricing and prompt pay discount rates. Please contact any individual listed below if you have any questions about the FAC64 program or would like to schedule a consultation.

CONTACT OUR SALES TEAM

P: 800-640-4550

Below is a table of the systems involved (roughly in order of appearance) and the other applications for which they may already be installed or in development on campus.

Table: System Elements of a Unified Emergency Response System

Component System	General Application	Emergency Response Feature
Emergency Phone	Emergency Communication for General and Individual Emergencies	<ul style="list-style-type: none"> • Communication Leading to Threat Detection • Mass Notification Sounding
Campus Surveillance	General Campus Safety System	<ul style="list-style-type: none"> • Tracking of Suspect • Review of Gunman's Path • LPR ID of car registration
Access Control	General Regulation of Building Access	<ul style="list-style-type: none"> • Emergency Phone/CCTV Integration • Automated Shutdown • Mass Notification Initiation
Radio Communication	General Campus System	<ul style="list-style-type: none"> • Dispatcher Communication to field • Mass Notification Medium
Fire Voice Evacuation	Code required for Places of Assembly, Occupants Greater than 300	<ul style="list-style-type: none"> • Mass Notification Initiation • Possible to add even if not required by fire code
Intercoms	General Entrance Communication at Buildings and Parking Lot Gates	<ul style="list-style-type: none"> • Mass Notification Sounding
Siren Towers	General Campus Communication	<ul style="list-style-type: none"> • Mass Notification Sounding
Messaging System	General Campus Communication	<ul style="list-style-type: none"> • Mass Notification

MHEC 05 Security & Emergency Communications Contract Awarded to Setronics

Setronics, Billerica MA - is excited to announce its recent multi-year award of the MHEC 05 Security & Emergency Communications Contract. The Massachusetts Higher Education Consortium (MHEC), established in 1977, is a nonprofit purchasing consortium dedicated to providing members of education-based organizations with high-quality, competitively-priced purchasing agreements and represents over 400 member organizations throughout New England.

MHEC membership is open to all public and private institutions of higher education, municipalities including elementary and secondary schools and not for profit organizations including technical, vocational, charter schools and educational facilities throughout Massachusetts, Maine, Vermont, New Hampshire, Rhode Island and Connecticut.

"Being awarded as an approved vendor on this contract is viewed as an asset and we look forward to working with the MHEC members who procure security services through us under this agreement."

Setronics' strength lies in the solid commitment to our customers. We set ourselves apart from other security integrators by always placing the customer first, understanding each unique need and building trust through long lasting relationships. We offer turnkey custom engineered security solutions and outstanding customer service from the initial concept of design through and beyond the final stages of project completion. Not only do we promise superior service, we deliver it – just ask our customers.

Setronics will be adding details to our website soon to provide you with more information. Please contact us if you have any questions or would like to schedule a consultation.

“Our **commitment** to the **security** of your business
does not end with **implementation**. It begins there.”



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