



Partnership Alliance for Safer Schools

WHITE PAPER: Demystifying Communications Technology in Schools

The volunteers who make up the Partner Alliance for Safer Schools (PASS) bring together their research and expertise from the education, public safety and industry communities to develop and support a coordinated approach to make effective use of proven security practices for schools. The PASS team is also dedicated to developing white papers on specific, school-safety topics.

The content in these white papers may point to specific products, brands, or organizations as illustrations of how certain safety and security measures are implemented. PASS does not endorse specific products or brands. Together, the volunteers and partners of the PASS share a single vision: making all schools safer is both achievable and urgently needed.

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KEY TOPIC

Holistic approach to day-to-day and emergency communication technology implementation

PROBLEM SOLVED

Communication used in schools has continually evolved depending on the technology available. Decades ago, school intercoms were required, only to be replaced with VoIP phone systems. Now, Life Safety standards and some legislation require emergency communication technologies to be implemented. These transitions have resulted in a conglomeration of multiple technologies being used for one purpose, rather than the use of the capabilities of these technologies in a strategic and holistic approach. This white paper will provide some clarity on how to bring communication technology in the schools into an integrated, efficient platform.

RELEVANT PASS GUIDELINES SECTION/S

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- Communication Component33

Property Perimeter Layer
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Building Perimeter Layer
- Communication Component59

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MOST RELEVANT FOR:

- School administrators and safety officers
- Government safety administrators
- Public safety personnel
- School board members and other governance stakeholders
- Systems integrators and consultants

TIME TO READ:

10 minutes

Introduction

Communication is essential in all aspects of a school day, from how to educate students to how to provide critical information in the time of an emergency. We use multiple technologies to communicate: cell phones, computers, audio public addresses, emergency warning systems, and the list goes on and on. For the most part, schools have all established what technologies are used for teaching, emergencies, and day-to-day operations. However, many of these established communication technologies and processes are specific to the communication that needs to be provided.

The experts within the communication technology and process space, specific to schools, provide this white paper with some examples of how to best develop, evolve, and implement communication in a holistic and efficient manner.

Develop a process.

Many times, the decision to purchase and implement a communication technology is based on a single need. For example, two-way radios are needed for our security team to communicate. While this is a perfectly legitimate reason to purchase two-way radios, have the decision makers also examined whether it would be prudent to make sure the radios can also communicate with law enforcement?

Should radios also be used for staff who spend time with students outside the building (i.e. playgrounds, ball fields, stadiums, etc.)?

To assist in evaluating a new technology or already implemented technology, it is important that the district consider and incorporate the basic principles of communication:

- Who: Who needs the information?
- What: What information is needed?
- Where: Where does the information need to go?
- Why: Why does the information need to be communicated?
- How: What is the recipient of the information supposed to do?
- When: When does the information need to be communicated?

For a holistic approach to communication, districts should review the current processes and technology used in both day-to-day and emergency communication. By applying the principles above, districts will be empowered to find easy and efficient ways to streamline communication and the technologies used.

As an example of this review and application process, a school that has a 100-year-old building was required to install a fire alarm/voice evacuation system. The challenges to implement such a system in a building that old were extremely difficult. In addition, the school did not have a public address system, and the only way to communicate to staff and students was an old telephone system. The voice evacuation system was designed to allow the school to incorporate other day-to-day processes such as having a bell schedule and morning announcements, communicating weather emergencies more effectively, and also communicating other threats, such as active assailants. The only addition to the voice evacuation system was an interface to the telephone system so that it could be used to communicate other valuable information throughout the school.

PASS recommends that schools and districts look at how they communicate and the technology used and find ways to integrate or streamline the technologies already available to help make communication more efficient.

Identify communication needs.

Effective communication begins with properly identifying and classifying the communication needs. There are four classifications that assist in identifying the need for communication:

- External
- Internal
- Proactive
- Reactive

External and internal communication identify the “who” and “where” of the information being communicated. The “who” of external communication are individuals and organizations that the school and district need to communicate with. These include local law enforcement, emergency services, parents, and the community. The “who” of internal communication includes students, staff, and visitors that are inside or directly outside the school building.

External and internal communication assist in identifying the “where” communication principle.

External communication is for areas outside the school and/or district campus, while internal communication is focused on the inside and directly outside the school and district campus.

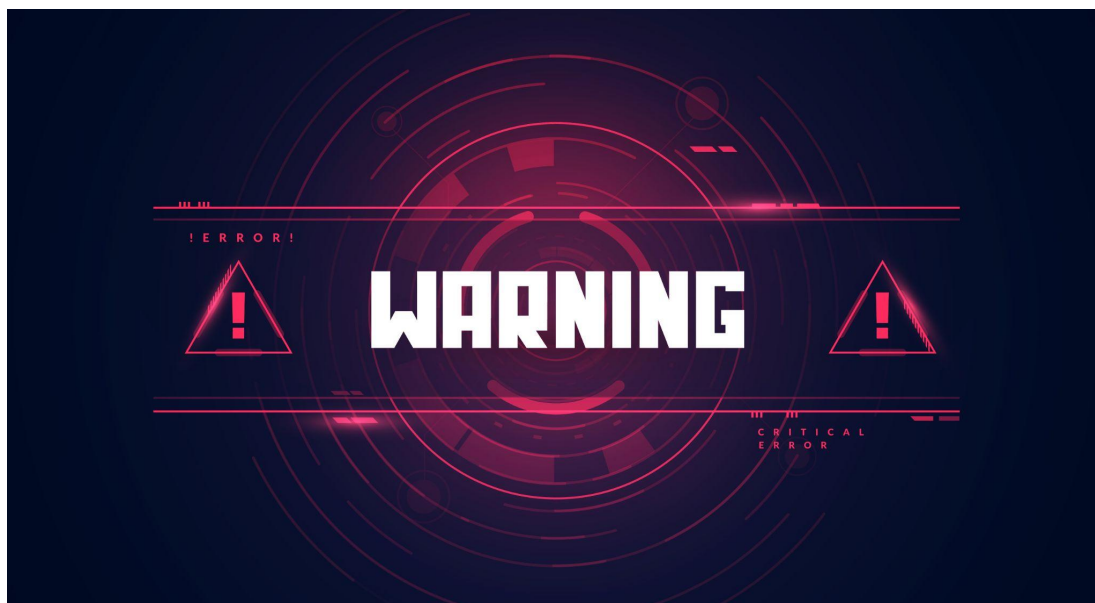
Proactive and reactive communication identify the “what” and “why” of communication. Proactive communication is classified as day-to-day communication that provides information that is needed on a day-to-day basis. This includes communication examples such as events, schedules, and early releases, as well as potential threats, such as severe weather or an active assailant event taking place off the school campus. Reactive communication is for the immediate event or threat information that is vital for safety and security. This would include imminent weather events, active assailants in the building or on the campus, a fire, etc.

Once the district has classified the communication needs, the district is able to review the current technologies and possibly investigate new technologies that can assist in enhancing the communication at the schools and district.

For example, a district wanted to increase the ability to provide a panic alert to law enforcement and comply with the new Alyssa’s Law. The district already had public address systems that had two-way intercom communication between classrooms, the main office, and nurses’ office. The classroom could hit one button to call the office or a second “emergency button” that called the nurses’ office. By modifying the process to empower the staff – and in some schools, the students – to use the emergency button for a panic alarm and changing the programming of the intercom system to call the office and local law enforcement when the button was pressed, the district was able to enhance the safety of staff and students and comply with new law.

Consider the visual aspect of communication.

The visual aspect of emergency communications has been predominantly reserved for fire alarm and indication of emergency service vehicles. Rarely have we used the visual aspect of communication in emergencies. However, the threat landscape of schools has changed, requiring that we provide specific information for emergency events, and with that, we have the technology to communicate those emergencies through the use of visual technology.



Districts and schools should evaluate the visual technology used today for learning purposes and find ways to use that technology for emergency communication, as well. Many schools have digital messaging boards, smart TVs in the classrooms, and other types of visual technology that can be easily adapted to help provide the necessary communication in the event of an emergency. Also, districts should be aware of some of the changes by the Americans with Disabilities Act (ADA) in regards to visual and textual recommendations for emergency communication.

Technology should meet communication needs.

There are so many ways and technologies that offer the ability to communicate almost any information to anyone. This does not mean that the technology is the right “fit” for the school or district. By developing the communication process and classifying the communication needs, schools and districts can now evaluate currently implemented technology and new technology to ensure that the technology fits the communication needs.

One key component to ensure the technology is appropriate for the school or district is whether it is capable of fulfilling multiple communication needs. Districts and schools should ask the question as to whether a technology meets multiple needs or just one. Many technology manufacturers will state the technology meets multiple needs, and this is correct. However, does it meet the needs that you as a school or district have identified? These questions will assist in paring down the technologies available to the technologies that are the best fit for the school and district.

The ability to unify communication technologies is also very important. Technologies that do not interface well with other technologies will not provide the advantage of continued improvement in communication. Schools and districts should be aware of how the technology can unify with other communication and security technologies AND whether those unification qualities enhance the school’s goal in efficient and effective communication.

For example, most schools have several stand-alone security systems that need to be operated independently. A district wanted to simplify the process of reacting to emergencies and therefore began connecting these into each other so that a single button press could daisy-chain multiple systems. For example, an emergency call button pressed by a teacher in the classroom was programmed to execute multiple steps simultaneously: initiate an emergency call to the main office, indicate on a facility map where the emergency is taking place, automatically lock doors, and turn on cameras in proximity. In the case of an active assailant scenario, where seconds matter, a coordinated response is invaluable in a faster resolution to the incident. In a general sense, integrating various technologies to work in unison allows schools to focus their efforts on their response.

A Tiered Approach to Unified Communication

The PASS Guidelines provide a tiered approach to a comprehensive and unified communication platform. Districts should recognize that just as teaching students has evolved, technology has also evolved; communications will evolve, as well. The goal of complete, comprehensive, and unified communication will not be reached in a day or in one project. This is a continual process as day-to-day and emergency communication needs change and technology progresses.

As Jim Collins states in his book *Good to Great*, the enemy of being great is being good. In order to be great, we must always be focused on what we can do better. Begin the tiered approach with the great, districtwide communication goal in mind. From there, review the current processes and technology for what works well, what works great, and what needs to improve.

One of the most important components in effective and efficient communication is the people you communicate with. Involving staff, students, law enforcement, EMS, parents, and the community on what, how, when, and why will be the district or school's greatest asset for ideas for process and technology improvements.



Blind Spots

With all technologies, and communications in particular, there are some things to consider when evaluating communication technology. These include cybersecurity, redundancy, mobile devices, and Life Safety Code requirements.

Many communication technologies are based in some part on IP infrastructure. While the internet has greatly increased the ease to communicate, there are risks that come with IP technology. Districts and schools should make sure that any communication system is properly secure from cyber attacks. In addition, traditional emergency communication systems have redundancies for power to make sure the system is still operational during a catastrophic event. It is important to make sure that redundant

power is implemented with any IP communication system.

Mobile devices are the “go to” for information in our society today simply because one can literally find any information anywhere at any time. However, while the use of a mobile device for communication is easy, the use of a mobile device or app in an emergency is not reliable. Cell towers and WiFi networks are typically not equipped to handle a large number of users at any one time. In an emergency, this type of communication technology is the first to be interrupted. It is important that districts understand that mobile apps, mass calling, and mass texting are not reliable in an emergency situation.

Districts and schools should always work with local safety and building officials when implementing communication technology. Life Safety Codes are requiring more emergency communication than ever before. Be aware of what your local and state codes are and how the codes may impact your technology decisions.

Summary

As a society, we have driven incredible technological advances simply for communication. No longer do we need to rely on a hardwired phone, a pull station, or other type of fixed device for communication. This brings not only a wealth of possibilities, but also challenges in creating an efficient and simple strategy for unified communications.

Unified communications are vital to all schools. Follow this strategy:

- Develop a unification process
- Identify communication needs
- Evaluate technology per the process developed
- Apply a tiered approach to implementation
- Continue to assess and improve communication

These guidelines will provide a robust, comprehensive communication platform that can easily be adapted for years.

References

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