Executive White Paper

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The ABC's of Security

An Overview of common security technology

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There are a variety of security technologies that are commonly deployed to protect business environment in the United States. For simplicity we'll describe the most common technologies and the basic functions that they provide.

Door Control & Alarm Systems

These systems have two main functions 1) monitor for intrusion and 2) limit access to authorized individuals. It is possible to purchase a system that performs either or both of these functions.

Alarms only systems range from stand alone devices which monitor a single door to sophisticated multi-zone alarm panels with can monitor many doors, window and motion sensors at the same time.

Single door alarm units provide protection for an individual door location such as a rear exit location. They are designed to emit an audible alarm to alert the occupants if the door is opened.

Multi-zone alarm systems provide the ability to monitor the status of doors, windows and other alarm points (motion detectors, temperature sensors, etc) from a central alarm panel. An alarm system is usually controlled (arm/disarm) from a keypad. In many cases the keypad also provides an indication of system status (open doors, alarm history, etc.). Alarm systems can have local sirens for annunciation of alarm and may be connected to a Central Station for monitoring 24 hours a day. Multi-zone alarm panels are typically used to protect the perimeter and interior spaces of a business. Alarm panels are connected to switches at doors and windows that provide an indication when they are opened. It is also possible to use motion detectors to sense if a person has entered into a protected area.

Alarm Monitoring Services are 3rd party companies (Central Stations) that supervise signals generated from your local alarm system. These Central Station services operate 24 hours a day to alert property owners of alarm signals (intrusion, fire, high temperature) and dispatch the appropriate first responder (police/fire/security guard).

Door Control Only systems range from non-computerized units that manage a single door to multi-door systems that are controlled via computer and software. To open the door a user enters a code or presents an authorized credential such as an access card. The door system is programmed to recognize the code or card and unlock the door for authorized users. Many systems also store records of pin & card use. Some multi-door systems have the ability to include alarm-monitoring functionality as an option.

Door Control + Alarm systems are available in single door or multi-door versions, which can manage tens, hundreds and even thousands of doors and alarm points. These systems combine door control and alarm capabilities in a single unit. Buyers have the option of choosing between several major types of computerized systems.

A **PC/Software** based platform is installed at your management location and connected to the field data-gathering panel via wires or your local area

network. It requires a computer with application software loaded to manage the platform.

A **Web Server** based platform holds its application software within the field data-gathering panel. Only a standard web-browser on a PC is required to manage the platform.

A **Remotely Hosted** Platform consists of a data-gathering panel installed on your site with the management software located in a 3rd party Central Station. In some systems, a local PC at your site can be used to manage the platform via application software or standard web-browser and an Internet connection.

Door Control & Alarm Devices

All of the systems in this category rely on a variety of devices to provide the complete function desired. Your Consultant or System Integrator can help you select appropriate devices depending on your preferences, budget and security objectives. Here are a few of the most common devices.

- Card readers: Used to verify access cards at entry locations.
- Keypads: Used in place of card readers where a PIN code entry is desired.
- Electronic locks: Provide the ability to secure the door and unlock upon command from the door control system.
- Alarm contacts: Provide status of the door open/closed to the alarm or door control + alarm system.
- Motion detectors: Monitor rooms, hallways and other spaces to detect the presence of individuals. Normally used with alarm systems.

Video Surveillance Systems

These systems have two main functions 1) provide a real-time view of areas that you wish to monitor from a central location and 2) document activities for later recall and research. To achieve this functionality you will need equipment with the following main functions:

Switching & Display systems process pictures captured by Closed Circuit Television (CCTV) cameras and organize them for display on video monitors. There is a rich array of switching and display components designed to meet most needs and budgets. Solutions range from systems that can display four cameras on a single monitor to those that can process and route video signals from hundreds of cameras to dozens of monitors located at multiple monitoring sites. Some Switching & Display systems have the ability to incorporate alarm triggers such as door alarms or video motion detection to cause specific cameras to be displayed. This is useful both for real-time viewing and post-event recall and research.

Recording & Storage systems capture video images onto tape or disks so that the images can be searched and viewed at a later time. Recording & Storage systems can take feeds from Switching & Display systems and record based on user-programmed times or in response to specific alarms in order to save storage space. Buyers can choose between analog systems that record to video cassette tape or digital systems that record to hard disk. Some systems can perform provide Switching & Display as well as Recording & Storage functionality in a single unit.

Video Alarm & Analysis systems monitor video signals from your cameras and trigger an alarm when the pre-programmed criteria are met. These triggers typically cause the camera to be displayed for operators and recording frequency to increase. Products range from relatively simple systems which detect motion based on the percent of change in a sample area to those which distinguish between types of motion, object size, direction of travel and even the behavior of subjects within the camera's view. Some digital recording and storage systems include video alarm and analysis functionality in one unit.

Video Surveillance Devices

All of the systems in this category rely on a variety of devices to provide the complete function desired. Your Consultant or System Integrator can help you select appropriate devices depending on your preferences, budget and security objectives. Here are a few of the most common devices.

- Cameras: Used to capture images
- Monitors: Used to display images from camera.
- Camera Housings & Mounts: Provide alternatives for camera placement and protection against the elements.
- Positioning devices: Allow the cameras field of view to be changed from a remote location
- Motion detectors: Monitor rooms, hallways and other spaces to detect the presence of individuals. Normally used with alarm systems.

ID Badging Systems

ID Badging systems are used to create credentials containing a person's name and picture. This credential is typically worn as evidence that a person is authorized to be on company property.

Manual Badging systems typically consist of a camera, photo cutter, laminator and backdrop. A picture is captured via Polaroid film, cut to size, inserted in a pre-printed blank and then laminated. These are useful for small organizations or those that need a very inexpensive badging solution.

Electronic Badging systems range from economical units consisting of a digital camera and stock printer to computer based systems that allow you to create numerous custom badge templates and store badge images for later retrieval. These systems print to one-sided or two-sided badge stock and can encode information on magnetic stripe.

The technologies you purchase and how you deploy them will vary greatly depending on the circumstances and requirements of your business. While there is no substitute for obtaining a professional risk assessment and security plan, it is possible to perform a preliminary self-assessment to determine which areas warrant your immediate focus. To learn more please view the Evaluweb white paper called the A Practical Guide to Business Security on www.evaluweb.com. To view and compare systems in more detail, please become a member of Evaluweb and use the Evalumatch engine for your comparison.

Reference:

R.J Fischer and G. Green, Introduction to Security, 6th ed. Boston: Butterworth-Heinemann, 1998

Synopsis

The ABC's of Security. An overview of common security technology

Businesses deploy three main security technologies to help them secure their work environments; Door Control & Alarm, Video Surveillance and ID Badging. The selections available to buyers in each of these categories are quite broad and can address requirements and budgets of various dimensions. Herein we explain the basics of each technology and the primary security benefits that they provide.