

SECTION 28 07 00

INTEGRATION OF ELECTRONIC SAFETY AND SECURITY

PART 1 - GENERAL

1.01 DESCRIPTION

- A. General Description: This specification section covers the provision of mechanisms which will support the exchange and recognition of information and commands between various Access Control systems of the Owner.
- B. Contractor shall coordinate with providers of systems listed herein to provide equipment, software, and configuration that will support the required functionality and performance.

1.02 TECHNICAL REQUIREMENTS, ACCESS CONTROL SYSTEM INTEGRATION

A. General:

- 1. The Contractor shall be responsible for providing hardware and software interfaces to achieve the specified system performance described herein and, by reference, realize absolute and seamless compatibility with the related component systems.
- 2. The Contractor shall ensure system additions and modifications provided under this scope of work have no negative effect on the individual components and systems, and their core functionality, and no permanent effect beyond that specified or implied by the scope of work.

B. Purpose:

- 1. Integration is the process of designing, deploying, and configuring independently operating systems with the ability to request, receive, extract, process, and act upon information from other systems.
- 2. Successful system integration must address three fundamental issues:
 - a. Functionality: What information is needed, how it is to be requested and processed, and what functions or activities need to occur upon receipt of the information.
 - b. Connectivity: How systems will be connected together to support the communication of information and commands. (Special interfaces, wiring, networks, databases.)
 - c. Communication: How information will be communicated between systems. (Instruction sets, language, protocols, formats, priority.)

C. Environment:

- 1. Integration components shall generally comprise special elements of independent subsystems, and shall be located within, or in close proximity to, the processing components of each independent subsystem. Where subsystems require special hardware or communications interfaces to support integration, the special hardware should be located near the independent subsystem processing components or network appliance, based on the manufacturers' recommendation. See the drawings for details on mounting locations.
- 2. Components of the main integration system operating shell may be distributed throughout the site / facility, in relation to the other integrated subsystems. System programming, rules configuration and control shall occur at a location designated by the Owner.
- 3. Infrastructure and Connectivity:
 - a. Devices/Appliances: Appliances and devices shall be connected to their respective systems via the applicable communications network.
 - b. System LAN/WAN Connectivity: System Servers and microprocessor-based Control Panels, shall reside on the Local Area Network (LAN) or Wide Area Network (WAN) tier designated for integrated components.

- c. Enterprise: LAN networks will be connected to the DPS Wide Area Network, to establish connectivity between sites and the DPS Command Center.

D. Attributes:

1. The attributes of the integrated environment are primarily defined by the subsystems that are to be integrated. Verify existing system components to be expanded by this project.
2. Integrated systems comprise the processors, software, electrical control panels, data gathering panels, special data interfaces, and converters required to allow systems to communicate with each other, process information, and allow users to program and perform operations.
3. The following systems will be a part of the integrated environment:
 - a. Electronic Access Control System (EACS)
 - b. Security Intercom System (SIS)
 - c. Emergency Phone System (EPS)
 - d. Video Management System (VMS)

E. Functions:

1. Graphical Mapping: The system shall employ a graphical user interface, with simple pull-down menus, to display information and available commands.
2. The system shall provide the following automated processing rules, at a minimum:
 - a. The object of “Access Control system integration” is to automatically configure the system to display, record and report appropriate system activity to various elements of the system. Automatic configuration can free operators from difficult control tasks, give the operator more time to respond to events, reduce operator error, and insure critical system tasks occur consistently.
 - b. Access Control system elements (EACS/VMS/EPS) shall be electronically integrated in such a way as to enable video, video detection, database records and/or event-initiated instructions to be communicated between system components, to initiate recording, display, communication, and control activities.
 - c. Event-Initiated Interface, General:
 - 1) The system shall support the capability to send and receive alarm and control messages between the EACS and VMS systems via a LAN communications link, using API, XML, or other industry-standard communication languages and formats, and shall act upon those messages received.
 - 2) Where integration may require the implementation of RS-232 interfaces, Contractor shall propose such integration to the Owner for approval, before proceeding with the work.
 - 3) All software routines required to accomplish the required data-interface with external equipment and controls will be fully developed, installed, tested and supported by the Contractor.
 - 4) Communication of event information between systems shall take place automatically and immediately, when the event is sensed by the system.
 - 5) “Hard-wired” interfaces used to support interactive video surveillance cameras, intelligent video, threat-based control, and other event-initiated functions shall not be acceptable, except as otherwise noted herein or shown on the design drawings.
 - d. Intercom / Emergency Phone Integration
 - 1) Upon activation of the pushbutton the system shall record an event in the
 - a) EACS for date and time
 - b) Activate a [indicate if existing site camera is to be called up] video camera where required by the owner

- c) Start the process for voice communication with responding department
- 2) Hardwire interface between Intercom / Emergency Phone systems and EACS is acceptable.
- e. VMS Event-Initiated Control
 - 1) Upon receiving event/alarm information from the EACS, the VMS system shall transmit camera pre-positioning commands to applicable pan/tilt/zoom cameras, and shall cause the system to process, display, and record applicable cameras.
 - 2) The system shall automatically position and focus one or more cameras, or sequence of cameras, on nearby alarm locations. Coordinate with the Owner on initial and alarm preset camera views and programming.
 - 3) Configure systems to automatically send camera positioning and display commands from the EACS systems to the VMS Virtual Switching and Recording Software, based upon EACS event data. The system shall
 - a) Automatically select, position, and focus one or more cameras on areas of concern;
 - b) Automatically re-configure recording for the selected cameras, to record them in an enhanced format, at the highest available resolution, frame rate, and quality (all other cameras remain at their pre-programmed format);
 - c) Automatically display the selected cameras on one or more monitors, client workstations, and other display devices, in a pre-selected configuration (single or multi-camera views).
 - 4) This interface shall be implemented using the integration scheme described herein.
 - 5) VMS/Camera Control: Configure the EACS to allow control of the VMS system. At a minimum, the EACS should support the following VMS system functionality:
 - a) Link alarms or events to a camera, with programmable pre-and post-alarm recording sequences.
 - b) Fast-forward, rewind, pause, and print, pre-recorded video.
 - c) View recorded video “tagged” or associated with EACS alarms or events.
 - d) Access a Windows-style Tree view of connected cameras.
 - e) Select camera icon from map to view live video.
 - f) View a single live video feed in full-screen.
 - g) Receive and display digital video recorder generated alarms such as video loss and motion detection.
 - h) Trigger conditional commands on digital video generated alarms.
 - i) View recorded video from History Activity report, and/or Alarm Monitor window.
 - j) Identify alarms and events that have associated video available for review.
 - k) Full video playback available at all EACS clients.
 - l) View associated video from the Alarm Monitor window, based on reported alarms.
 - m) Provide both manual and preset pan-tilt-zoom control.

END OF SECTION 28 07 00