

LEVERAGE Detect™

LEVERAGE Detect is the brains behind the LEVERAGE Video Management Suite (VMS). Detect is responsible for executing the predetermined behaviors and analytics for processing and viewing the surveillance video. It also provides the ability to manage the surveillance and viewing nodes and is the interface to external systems. LEVERAGE Detect optionally provides automated incident recognition, notification and response. The power of LEVERAGE Detect's event-driven features enables Law Enforcement to effectively police areas even when officers are not present. LEVERAGE Detect event modules add an additional level of automation to any LEVERAGE VMS implementation. Integration with third party event software (i.e. ALPR, CAD, E911 or gunshot detection) will trigger the rotation and positioning of surveillance cameras to predetermined location settings (called presets) when predefined events occur.

LEVERAGE Detect Product Description

With LEVERAGE Detect, operators control Pan-Tilt-Zoom cameras to get an intuitive map based view of incidents in progress. Detect automated event modules (i.e. ALPR, CAD, E911 or gunshot detection) provides command center operators with real time situational awareness and more freedom to execute other tasks while manning the viewing console. Detect uses a rules engine that automatically executes predetermined camera behavior based on events that have been predefined within the system. When the system detects that a defined event has occurred, a physical alarm sounds in the command center, a window pops up on the viewing screen and associated cameras rotate and zoom to their predetermined settings. This action automatically provides immediate notification as well as a clear view of the cause of the incident.

By adding LEVERAGE Detect automated event modules to a LEVERAGE VMS implementation, the expanded system becomes infinitely more powerful. The combined surveillance solution not only continuously monitors designated hotspot locations within a city, it also adds incident detection and location as well. Through LEVERAGE Detect, Law Enforcement has increased its ability to maintain a safe community by utilizing technology as its force multiplier.

LEVERAGE Detect Key Features and Benefits

Force multiplier – continuous policing without officer involvement

Improved effectiveness – calls attention to incidents that could otherwise go undetected

Proactive incident responses – rule based alerts produce faster response action

Reduced incident handling errors – well defined automated processes ensure consistency

Highly Available Architecture

The Detect Appliance is easily replicated for high availability through a primary and secondary system configuration. Primary and secondary Detect Appliances independently collect information from all network viewing devices, camera nodes and external systems. In the background, the secondary appliance receives a health status of the primary. If the primary system fails, the secondary appliance moves into primary position. Because operators are connected to both primary and secondary systems, they never experience a loss of capability.

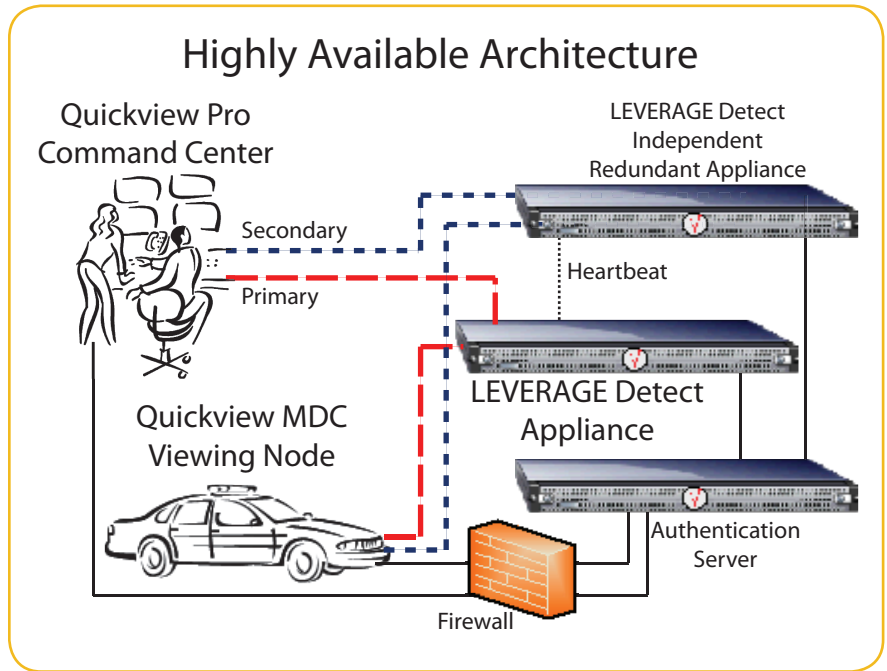
Guaranteed Camera Focus

LEVERAGE Detect employs a concept for Intelligent Camera Response known as camera range or camera coverage. Maintaining camera coverage prevents operators from viewing obstacles to the video. Each camera can be preconfigured to provide "Intelligent Views" based upon its range (which is strictly distance from the camera).

Combining Intelligent Camera Response with Intelligent Views means cameras which are automatically positioned based on a predetermined response will never be out of focus.

Rule-Based Incident Detection

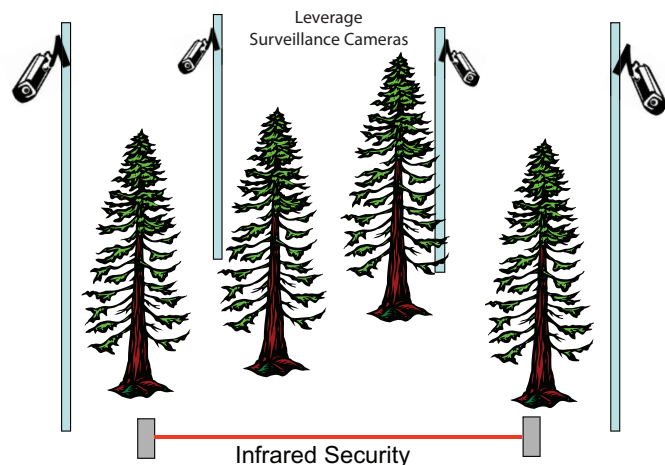
At the heart of LEVERAGE Detect lies a rules engine. It is within this rules engine that events and corresponding camera behavior responses are defined and linked together. Detect events are defined through the QuickView Pro interactive administrator's console. Detect rules are stored and maintained on the LEVERAGE Authentication Server located securely behind the firewall within the command center. Detect integrates with third party event systems (i.e. ALPR, CAD, E911 or gunshot detection) using an industry standard interface. Information about an incident is retrieved from one of these third party event systems by Detect. Detect then processes the incident and communicates with LEVERAGE VMS to manage camera positions based on the associated response rule definition.



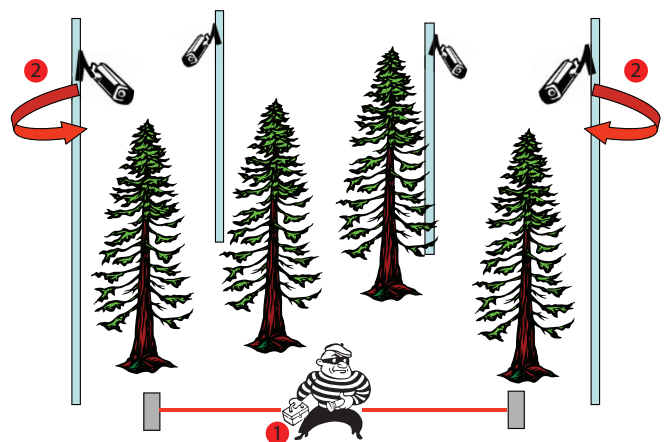
Detect Event

An incident definition (Detect Event) and response is added to the LEVERAGE Detect rules engine that will move the two closest surveillance cameras in the direction of a predetermined location (also called a preset) if the infrared beam is breached.

LEVERAGE VMS Implementation



Intruder Caught on Camera



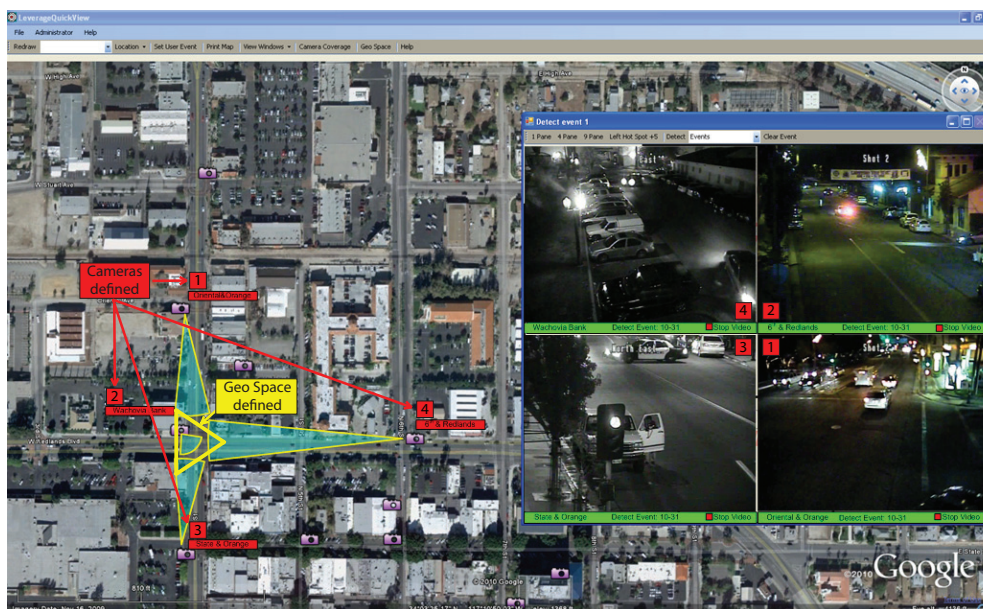
1. LEVERAGE Detect is notified that infrared security has been tripped by an intruder.
2. LEVERAGE Detect automatically repositions the closest surveillance cameras to their pre-set locations.
3. Intruder is caught on surveillance camera.

Event Definition

LEVERAGE Detect emulates human intelligence gathering when incidents occur in areas under surveillance by LEVERAGE VMS. By recording the event as it happens, it is not necessary that officers be present to witness the event. And there is no limitation to the type and number of event definitions and responses that can be defined within the LEVERAGE Detect rules engine. The process of defining an event is multistep.

Select the type of event: Detect is able to process events from many different sources (i.e. ALPR, CAD, E911 or gunshot detection). In the case of gunshot, vendor specific acoustic microphones are placed in a designated area prone to this type of incident. LEVERAGE surveillance cameras are installed in locations that enable the widest range of viewing options. If a gunshot incident occurs within this designated area, the third party event module computes location of the shot and sends the coordinate information to Detect. Detect processes the information and moves into action by following the predefined rules for this event and positioning the surveillance cameras accordingly. All of this happens instantaneously.

Identify geographic boundaries: To obtain the most optimum effectiveness, select a geographic area that tends to have repeatable incidents and generate a GEO Space or Hot Spot. The figure below illustrates a “GEO Space” Detect event. In general, a GEO Space is a term used in Spatial Analysis that refers to a defined area within a specified geography. In this example, A GEO Space polygon was created by the Leverage Detect Administrator at the intersection of Redlands Blvd and Orange Street. If a predefined event occurs within this GEO space, all cameras connected to this event will automatically rotate to the preset position that has been associated with the event. An alert event window will pop up on the monitoring screen that displays, in real time, what each camera is viewing. Notice in this example the four cameras that are selected to automatically rotate and view the incident, and notice that they are also moved (pan, tilt, zoom) to a predetermined “Intelligent View”.



Simulated Detect Event

Detect events

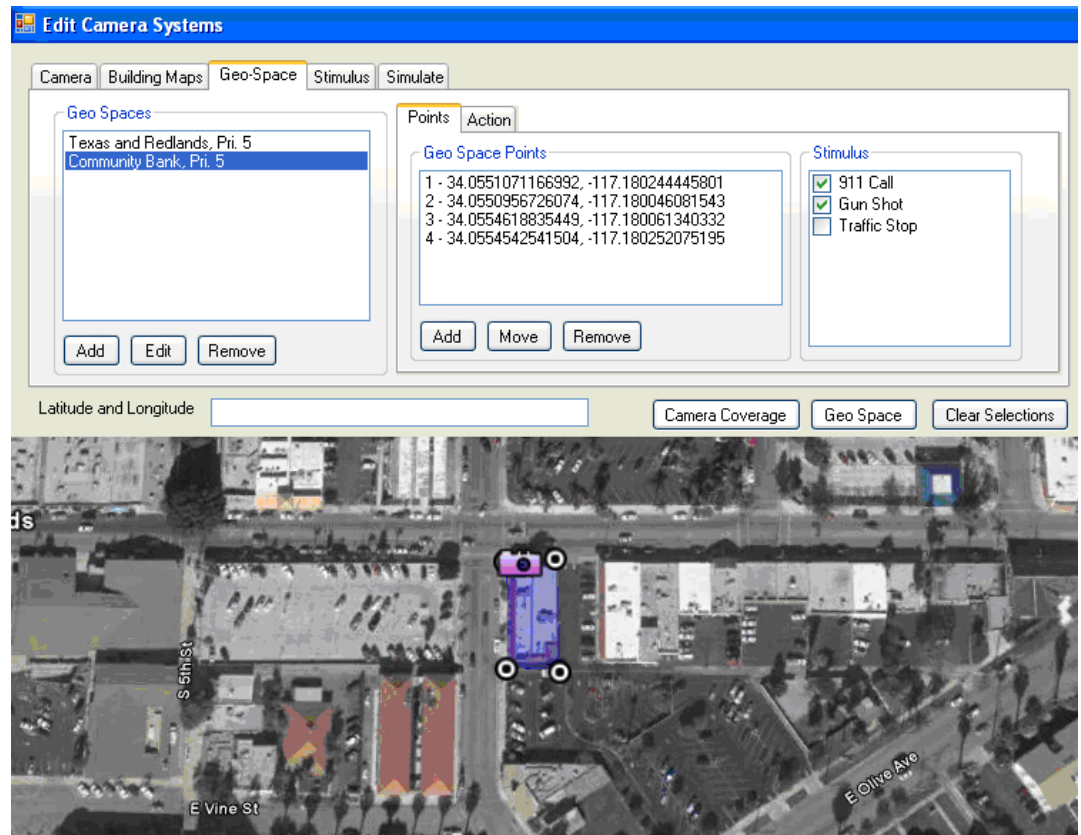
- Geo Space Location is defined at the intersection of Redlands and Orange
- An event and behavior response is defined within the LEVERAGE Detect rules engine
- Four cameras are defined to respond to the event

1. Oriental and Orange
2. 6th and Redlands
3. State and Orange
4. Wachovia Bank

When event is triggered

- An alarm is sounded in the Command Center
- Four cameras automatically rotate to their preset location
- Alert window pops up on monitoring screen – displays camera's real-time view of the incident

Define event and response behavior: Using the QuickView Pro administration console, defining the event and its associated response behavior is a point-and-click process.



Items such as incident type, source, location and response are easily defined to the system and then managed for future event tracking. Detect event management allows rules to be established for handling simultaneous Detect Events. The Administrator can control the Detect Management environment to keep specific events online while others occur.

Dispatch is a critical function that has many important simultaneous tasks associated with it – such as viewing cameras, receiving 911 calls and communicating with officers in the field. Sounding an audible alarm and instantaneously popping camera views upon the viewing screen during a predefined incident draws immediate dispatch attention to the event regardless of their current activity. LEVERAGE Detect allows dispatch to operate at peak efficiency with all tasks at all times.

LEVERAGE VMS is a patent-pending intelligent and robust IP Surveillance architecture. The product suite has been designed specifically to provide proactive incident response capabilities to Law Enforcement and Public Safety officials. Utilizing LEVERAGE Detect's automated approach to incident management reduces the possibility for human error while improving response times and increasing Law Enforcement effectiveness.



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