



Defentect Operation Golden Phoenix Results

Operation Golden Phoenix Disaster Response Training Event San Diego, CA July 21 – 24, 2008

The Defentect gamma radiation detection network was chosen to participate in Operation Golden Phoenix's real world disaster response laboratory environment in San Diego, July 21 – 24. Federal, state and local agencies engaged in a large-scale terrorism training event led by U.S. Department of Homeland Security Customs and Border Protection, the County of San Diego, the City of San Diego and U.S. Marine Corps Aircraft Group-46.

The objectives of Operation Golden Phoenix '08 were to demonstrate technologies and coordinated team response to threats as participating agencies cooperatively practiced command, communication and logistical skills for handling natural and man-made disasters.

Defentect worked with a group of strategically aligned manufacturers and solution providers who together demonstrated a wide range of incident expertise including team lead Epsilon Systems Solutions, Inc.; Polimatrix, Inc.; TW Mobile Engineering; QuickSet International, a Moog Company; Global Mesh Technologies; SightLogix, Inc., URS Washington Division and Orsus.

Operation Golden Phoenix focused on simulated bio-weapon and dirty bomb attacks in the Southern California region. Defentect participated in two scenarios in collaboration with its partners, whose technologies included video surveillance, video analytics, visual and thermal imaging, target tracking, wireless mesh network infrastructure, mobile sensor platforms, radiation detection sensors and license plate and facial recognition systems.

The four-day multi-agency collaborative training event was designed to assist federal, state and local agencies with large and complex incident response scenarios and integrate emergency management planning into mainstream policy-making and operational systems. The exercise implemented FEMA's concept of an all-hazards approach to emergency management fostering every level of government to partner to achieve common goals. The lead agency for Golden Phoenix '08 was U.S. Customs and Border Protection. Many national and international participants and observers from over 100 federal agencies attended. These included DHS, DOD (U.S. Navy), DEA, FBI, DOJ, DOE, Marine Corps Reserve, California National Guard, NGOs and industry partners.

The goal for the integration of the partners' solutions was to logistically support the multiple emergency responding agencies with a truly interoperable communication and sensor system that could be rapidly deployed regardless of terrain and availability of infrastructure. The team solution was to provide fusion of video, sensors and data via the wireless mesh, enable interagency communication, create situational awareness at a local, regional and/or national level to manage resources and allow first responders and others to share incident specific information for response coordination.

At Brown Field Airport, U.S. Customs and Border Protection and Marine Aircraft Group-46 staffed a security checkpoint where Defentect's Gammatect Plus™ sensors monitored threat-level radiation ¼ mile from a designated area. The integrated Defentect DM3™ network detected radiological check sources' proximity to the security entrance and alerted authorities to their presence on cell phones, PDAs and pagers. At San Diego's Scripps Memorial Hospital La Jolla, Gammatect Plus™ sensors were positioned 50' from the main entrance in a public safety exercise by the San Diego Police and Fire Departments and Hospital personnel.

At Brown Field Airport and Scripps Memorial Hospital different configurations of the total solution were used based on the training event requirements. The solution included Defentect's Gammatect™ and Gammatect Plus™ radiation detection sensors that were fixed point, with Defentect's DM3™ messaging capabilities.

Defentect DM3™ was selected as part of an integrated Operation Golden Phoenix solution because of its exceptional CBRNE (Chemical, Biological, Radiological Nuclear, Explosives) software/sensor applications and unique messaging functionality. Defentect's Gammatect™ and Gammatect Plus™ gamma radiation sensors were used as fixed point sensors in the training exercises for their ability to detect and identify the type of radiation source or isotope and its level (mRhr).

Polimatrix personal portable belt mounted sensors were chosen as part of the integrated solution for their sensitive, small and power safe gamma and nuclear materials detection solutions. Defentect fixed point sensors and software and Polimatrix portable sensors were integrated so that the Defentect DM3™ management, monitoring and messaging system could receive messaging from individual Polimatrix units.

The operational task for the Brown Field Airport implementation included the management of radiation detection along with isotopic identification of the source to alert interested parties to the presence of threat level radiation while not causing alarm for relatively harmless low energy or medical isotopes.

At Brown Field, a directional Defentect Gammatect Plus™ sensor was deployed alongside a Gammatect™ omni directional sensor to test different deployment protocols. When radiation was detected the concept of operations (CONOPS) was to capture the alert on the Defentect DM3™ control panel and execute the alert messaging as defined on the control panel. These particular alerts consisted of SMS messages to individual cell phones, XML messages to other systems and e-mail messages to additional interested parties. The system captured all of the alerts in the local database for reporting.

Defentect Participation Objectives/Accomplishments - Provide Dirty Bomb Tactical Checkpoint Sensors

At Brown Field, team lead Epsilon Systems integrated a Defentect Gammatect Plus™ fixed point radiation detection sensor to a Quickset Tripod. A Quickset Gemini camera was also affixed on the tripod to be activated once the sensor detected a source of radiation, so the operator of Situator deployed in the Epsilon Systems Mobile Command and Control Unit could receive a visual output of the event as it was occurring.

At San Diego's Memorial Hospital La Jolla, a tactical mobile command kit from partner TW Mobile Engineering was successfully used as the central control for Defentect DM3™ management, monitoring and messaging from the Gammatect Plus™ sensor that was deployed at the Hospital entrance checkpoint.

Demonstrating Isotope Classification For Threat Identification And Assessment

Operationally, the Defentect DM3™ control panel provided support for inbound and outbound messages from a variety of sensors, and in the case of Operation Golden Phoenix, specifically, radiation sensors. The team was able to integrate Polimatrix sensor data with Gammatect Plus™ sensor data into Defentect's DM3™ and send it to handheld end user devices and to Situator for response Standard Operating Procedures. At both Brown Field and Scripps Memorial Hospital checkpoints, a radiation source was used to trigger radiation sensors. Defentect DM3™ received the input from the Gammatect Plus™ sensors. DM3™ interpreted the data and determined the isotope to be C-137 at various levels based on distance from the sensor, and in each case forwarded a message with this data to the control panel. This in turn activated the logging of the event and execution of the pre-defined rules for notification. (Note: The notification rules were changed many times over the course of testing to include more and more people that showed interest in receiving notifications from the sensors.) Through the application of pre-defined rules, notification of events and messaging of the results of the sensor alerts were sent in real time to the staff assigned to react during training exercises at both Brown Field and Scripps Memorial Hospital.

Defentect's DM3™ control panel was operated at Scripps Memorial Hospital checkpoint using a rapidly deployable mobile tactical kit designed and built by TW Mobile Engineering. The Defentect control panel was activated when a radiation source in a moving vehicle passed the Gammatect Plus™ sensor placed 50 feet from the checkpoint at the Hospital entrance.

Evaluate Performance Under Various Environmental Conditions

Brown Field was hot, windy, and dust was constantly blowing sand into the equipment. None of these conditions adversely affected the performance of the sensors in any way.

Demonstrate Interoperability With Other Golden Phoenix Participants' Solutions Including Epicenter Situational Management Software Solution

In addition to the individual alerts executed at Brown Field, the Defentect DM3™ control panel successfully notified the Situational Management System, via pre-programmed XML, at the integrated team Epsilon Systems local Command and Control Mobile Unit. The Defentect DM3™ control panel was able to communicate the type of alert, the isotope and its level and GPS coordinates. Once received by Situator, the appropriate camera (Quickset GeminEye and/or the SightLogix thermal), was put into alarm status and was able to provide video, audio and operational cues to the operator controlling the system. A set of Standard Operating Procedures (SOP's) predefined for this type of radiation, C-137, was presented automatically to the operator for proper response and recovery. In addition, first responder personnel listed in the predefined response matrix received notification of the alert, radiation type and level.

Demonstrate Effective Response To Terrorist Or Border Crossing Threats

At the Brown Field checkpoint, Defentect's Gammatect Plus™ sensors identified remote sources of radiation and alerted personnel manned with Polimatrix handheld units that threat-level radiation was identified in vehicles approaching the checkpoint. This information allowed the checkpoint staff to immediately take the proper measures in handling the vehicles carrying radioactive sources. In all instances where a sensor had set off an alert, pre-defined notifications were made to individuals assigned to receive alerts.

Defentect DM3™ is an unattended gamma radiation detection network that integrates data from a wide-area pervasive grid of sensors to an incident command center. Defentect DM3™ is networked using IP and managed over the Web. When high-energy gamma rays from dirty bomb components interact with Gammatect™ sensors, Defentect's DM3™ proprietary algorithms analyze the data and alert authorities to radiation that may pose a security threat. Communication features of Defentect DM3™ provide the ability to receive and process data over a network from the radiation sensor to the command center and to generate notifications to PDAs, cellphones, pagers and other systems. The addition of strategically placed Gammatect Plus™ sensors enables Defentect DM3™ to identify radiation-emitting isotopes and provide control over false positive alarms. Defentect is a business unit of Splinternet Holdings, Inc., (OTC BB: SLNH). <http://www.defentect.com/> <http://www.splinter.net/>

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