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Regional Technology Inventory

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DRAFT

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INTRODUCTION

In 2009, a regional technology inventory was developed through the Houston-Galveston Regional Catastrophic Planning Initiative (RCPI). This inventory was critical in developing a common operating picture for emergency preparedness, response, and recovery. The existing inventory is now outdated, and, through the RCPI, an update to the regional technology inventory is being conducted.

The purpose of this project is to identify and assess existing emergency management support technologies in the region, make recommendations for the improvement of these systems, and recommend how to fill in the remaining gaps.

The first phase of the project involved updating the region's existing emergency management support technology inventory through input from members of the Regional Catastrophic Planning Team (RCPT), the Urban Area Working Group (UAWG)—Regional Collaboration Technology Subcommittee, and other subject matter experts. Research was conducted on the systems identified as currently being used within the region for emergency preparedness, response, and recovery. This technology inventory report summarizes the results of the first phase of the project.

The second phase of the project will consist of a critical analysis of technology systems. The technologies inventoried in this phase will be evaluated to determine whether programs are being used efficiently and effectively. The advantages and disadvantages of each technology, usability, and interconnectivity currently used, as well as expansion capabilities of those systems will also be presented. Another report will be developed that details recommendations for the leverage, interconnectivity, expansion, and/or consolidation of existing technologies to achieve greater efficiency and organizational effectiveness.

Both reports will be made available to all members of the RCPT, UAWG, and other stakeholders, as appropriate.

METHODOLOGY

To identify and assess technology systems used in the region, the team—consisting of representatives from IEM, the RCPT, and the UAWG—conducted the first survey in a two-part process that will assist IEM in completing the inventory phase (Phase 1) of this project.

The survey helped to identify emergency management technology systems used in the Houston-Galveston region, and in documenting the patterns of usage of these systems. In particular, the survey aimed to achieve an understanding of which technologies were being used across the region, and to find out how and to what degree the systems are being used. These surveys were answered by emergency managers in multiple

jurisdictions, and were answered to the best of their knowledge. Jurisdictions that completed the survey are listed in Table 1.

Table 1: Jurisdictions that Completed the Survey

Jurisdictions	
Austin County	Brazoria County
Colorado County	Fort Bend County
Galveston County	Harris County
Montgomery County	Walker County
Waller County*	City of Deer Park
City of Houston	City of La Porte

**Survey not fully completed*

The survey was organized around a basic set of questions designed to generate discussion regarding the following topics or issues: technologies used throughout the region, frequency of usage, context of usage (e.g., incident management and collaboration), how the system(s) support(s) or does not support job function and needs, and what functions of each system were being used. The duration to complete the survey was approximately 30 minutes.

After the first surveys were completed, IEM performed a review and assessment of the systems and prepared a technology report documenting the findings of each system used in the region. The results of this report will be used to support the second phase of this project to obtain additional information required to conduct a critical analysis of selected technologies.

RESULTS

Capabilities

~~Based on responses from the surveys, the technologies listed in Table 2 were determined to be used by jurisdictions in the region to accomplish the primary capabilities listed.~~

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Table 2: Technologies Used to Accomplish Primary Capabilities (Based on Survey Results)

Capability	Digital Sandbox	EMCredential	EMResource	EMTrack	AreGIS	Everbridge	FirstCall	I-INFO	PIER Systems	Radiant RFID	Rapid Responder	VTC	VJPO	WebEOC
Badging								X						
Citizen surveys and inquiries									X					
Credentialing								X						
Donations management														
Dynamic-risk management														
General population mass notifications					X			X	X	X				
Hazard vulnerability simulations					X									
Healthcare notifications		X												
Hospital statuses			X	X								X		
Incident documentation				X	X					X				X
Infrastructure statuses	X				X									
Inter-discipline communications									X			X	X	X
Internal document sharing (availability)									X				X	X
Internal document sharing (versioned)													X	
Internal mass notifications									X					
Near-real-time situational awareness			X	X			X		X	X	X	X	X	X
Onsite incident management	X		X	X	X					X	X	X		X

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Capability	Digital Sandbox	EMCredential	EMResource	EMTrack	AreGIS	Everbridge	FirstCall	†-INFO	PIER Systems	Radiant RFID	Rapid Responder	VTC	VJPO	WebEOC
Patient/evacuee tracking			X	X				X		X				X
Personnel tracking				X	X									
Planning					X	X			X			X	X	
Privileging														
Public communications					X				X					
Resource requests														X
Resource/equipment cataloging	X				X			X						
Resource/equipment tracking			X		X			X				X		X
Other					X				X			X	X	

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Systems Inventory

Table 3 is a technology summary sheet of selected technology systems to be evaluated in Phase 2 of this project. It includes a brief description of the functions of each system and identifies which jurisdictions use the system(s) based on information derived from the survey, as well as jurisdictions in the region that have access to the system. More detailed information on each technology system can be found in the “Systems Selected for Analysis” section.

Table 23: Technology Summary Sheet—Systems Selected for Analysis in Phase 2

Title	Function(s)	Technologies Used by:	Technologies Available to:
Digital Sandbox	Suite of analytic software and services that enable public safety risk managers to assess, prioritize, and manage their risks	<ul style="list-style-type: none"> ▪ Harris County ▪ City of Houston 	Currently in limited release; will be available to Urban Area Security Initiative (UASI) jurisdictions
EMCredential	Registers, verifies credentials, notifies, and manages volunteers who are called on to provide support for large-scale emergencies	<ul style="list-style-type: none"> ▪ Brazoria County 	Available to all UASI jurisdictions
EMResource	Communications and resource management software that streamlines communications between medical response teams and healthcare providers	<ul style="list-style-type: none"> ▪ Brazoria County ▪ City of Houston ▪ City of La Porte ▪ Fort Bend County ▪ Galveston County ▪ Harris County ▪ Montgomery County ▪ Walker County 	Available to all UASI jurisdictions
EMTrack	Supports the tracking of evacuees, patients, pets, and associated property and equipment using triage tags or disposable bar-coded wristbands	<ul style="list-style-type: none"> ▪ Brazoria County ▪ City of Deer Park ▪ City of Houston ▪ City of La Porte ▪ Fort Bend County ▪ Galveston County ▪ Harris County ▪ Montgomery County ▪ Walker County 	Available to all UASI jurisdictions
Everbridge	Incident communication systems	<ul style="list-style-type: none"> ▪ City of Houston ▪ Galveston County ▪ Walker County 	Individually purchased by each jurisdiction

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Title	Function(s)	Technologies Used by:	Technologies Available to:
FirstCall	Emergency notification system	<ul style="list-style-type: none"> ▪ Walker County 	Individually purchased by each jurisdiction
GIS (ArcGIS)	Geographic information system (GIS)	<ul style="list-style-type: none"> ▪ Brazoria County ▪ City of Deer Park ▪ City of Houston ▪ City of La Porte ▪ Colorado County ▪ Fort Bend County ▪ Galveston County ▪ Harris County ▪ Montgomery County ▪ Walker County 	Implementation is dependent on the individual licensing per jurisdiction
i-INFO	Provides detailed tracking of resources, features for mass notification, an event calendar, and library for documents	<ul style="list-style-type: none"> ▪ Brazoria County ▪ City of Houston ▪ Fort Bend County ▪ Galveston County ▪ Harris County ▪ Montgomery County ▪ Walker County 	Available to all UASI jurisdictions
PIER Systems	All-in-one, Web-based system for crisis communications management, public and media mass notification and relations, and business and employee communications	<ul style="list-style-type: none"> ▪ Brazoria County ▪ City of Houston ▪ Fort Bend County ▪ Galveston County ▪ Harris County ▪ Montgomery County ▪ Walker County 	Available to all UASI jurisdictions
Radiant RFID	Evacuation management, asset tracking, and student accountability	<ul style="list-style-type: none"> ▪ Galveston County ▪ Walker County 	Individually purchased by each jurisdiction
Virtual Joint Planning Office (VJPO)	Federally-supported documentation and application portal system to support joint planning	<ul style="list-style-type: none"> ▪ City of Houston ▪ Fort Bend County ▪ Harris County ▪ Montgomery County ▪ Walker County 	
VTC	Video conference systems	<ul style="list-style-type: none"> ▪ Brazoria County ▪ City of Houston ▪ City of La Porte ▪ Fort Bend County ▪ Galveston County ▪ Harris County ▪ Montgomery County ▪ Walker County 	Implementation is dependent on vendor choice of each jurisdiction

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Title	Function(s)	Technologies Used by:	Technologies Available to:
WebEOC	Web-enabled, locally-configurable incident and event management system	<ul style="list-style-type: none"> ▪ Austin County ▪ Brazoria County ▪ City of Deer Park ▪ City of Houston ▪ City of La Porte ▪ Colorado County ▪ Fort Bend County ▪ Galveston County ▪ Harris County ▪ Montgomery County ▪ Walker County ▪ Waller County 	Available to all jurisdictions

Table 4 is a technology summary sheet of other technologies used in the region grouped by function. More detailed information on each technology can be found in the “Additional Systems Used in the Region (by Function)” section.

Table 34: Technology Summary Sheet—Additional Systems (by Function)

Functions	Systems
Mass communication/notification systems	<ul style="list-style-type: none"> ▪ Blackboard Connect ▪ Emerge/Enotify ▪ Neighborhood Early Warning System (NEWS)
Public health systems	<ul style="list-style-type: none"> ▪ Real Outbreak Detection System (RODS) ▪ Public Health Information Network (PHIN) ▪ Syndromic Surveillance (Health Care Standard)
Hazardous materials incident management systems	<ul style="list-style-type: none"> ▪ Automated Decision Aid System for Hazardous Incidents (ADASHI) ▪ Computer-Aided Management of Emergency Operations (CAMEO) ▪ Aerial Locations of Hazardous Atmospheres (ALOHA) ▪ Mapping Applications for Response, Planning, and Local Operational Tasks (MARPLOT) ▪ LandView
Computer-aided dispatch, mobile communications, and records management systems	<ul style="list-style-type: none"> ▪ Rapid Responder ▪ SAFER Systems ▪ Wireless Information System for Emergency Responders (WISER) ▪ Tiburon Mission Critical Public Safety and Security Solutions ▪ EnRoute Emergency Systems

Functions	Systems
Other	<ul style="list-style-type: none"> ▪ INQUISIQ EX ▪ Total Visibility ▪ netPlanner ▪ Texas Regional Response Network (TRRN) ▪ Emergency Managers Weather Information Network (EMWIN)

Regional Implementation and Use

Usage by Jurisdiction

Figure 1, Figure 2, and Figure 3 detail the percentages of use and the frequency of use (e.g., daily; frequently, but not daily; actual event/incident; or N/A) based on information derived from the survey. Figure 1 shows each technology in both the percentage of usage chosen by the survey participants and how many jurisdictions chose that percentage. Figure 3 shows how many jurisdictions chose a particular frequency. More detailed information about a particular jurisdiction’s usage can be found in the “Systems Selected for Analysis” section.

Commented [TFS1]: The figures below are derived from the answer from the survey, and may not show accurate percentages, but I don’t think leaving these figures in would make anyone look bad. What do you think?

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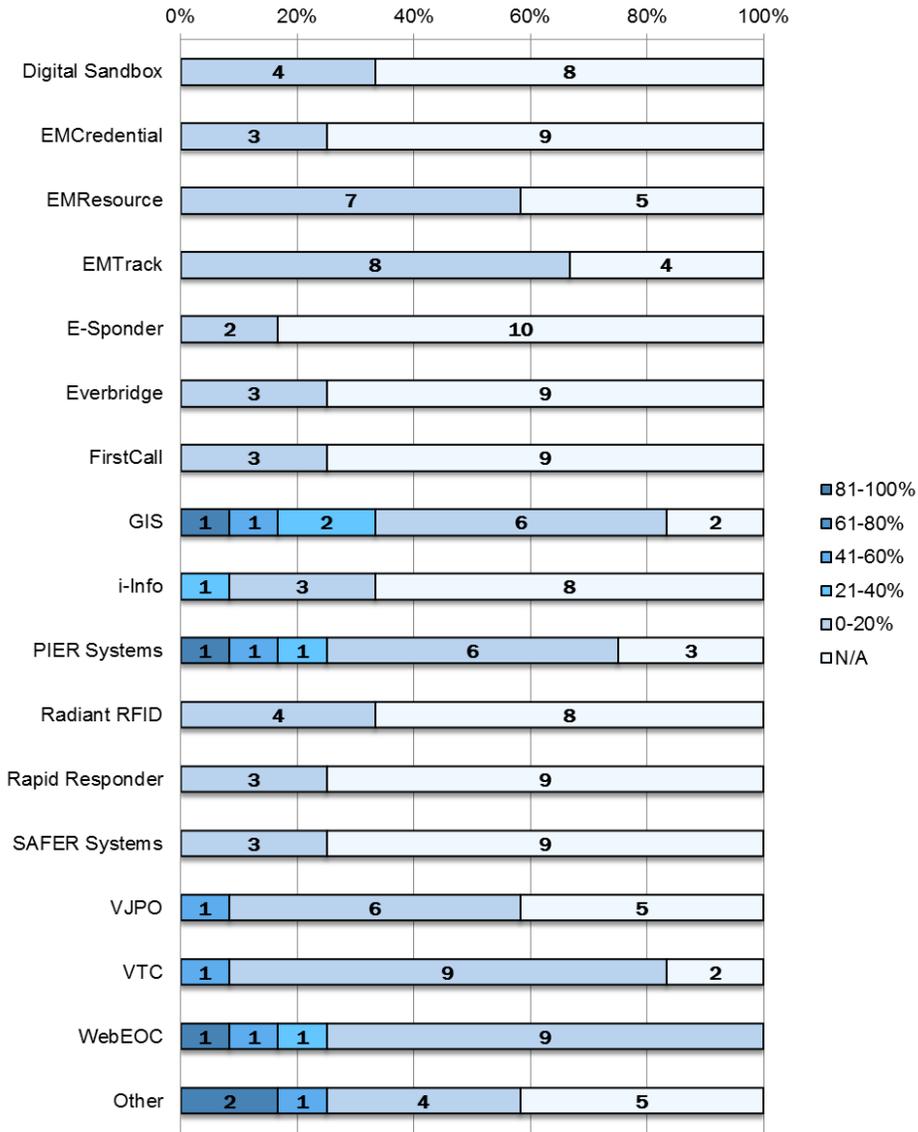


Figure 1: Percentage of Daily Use

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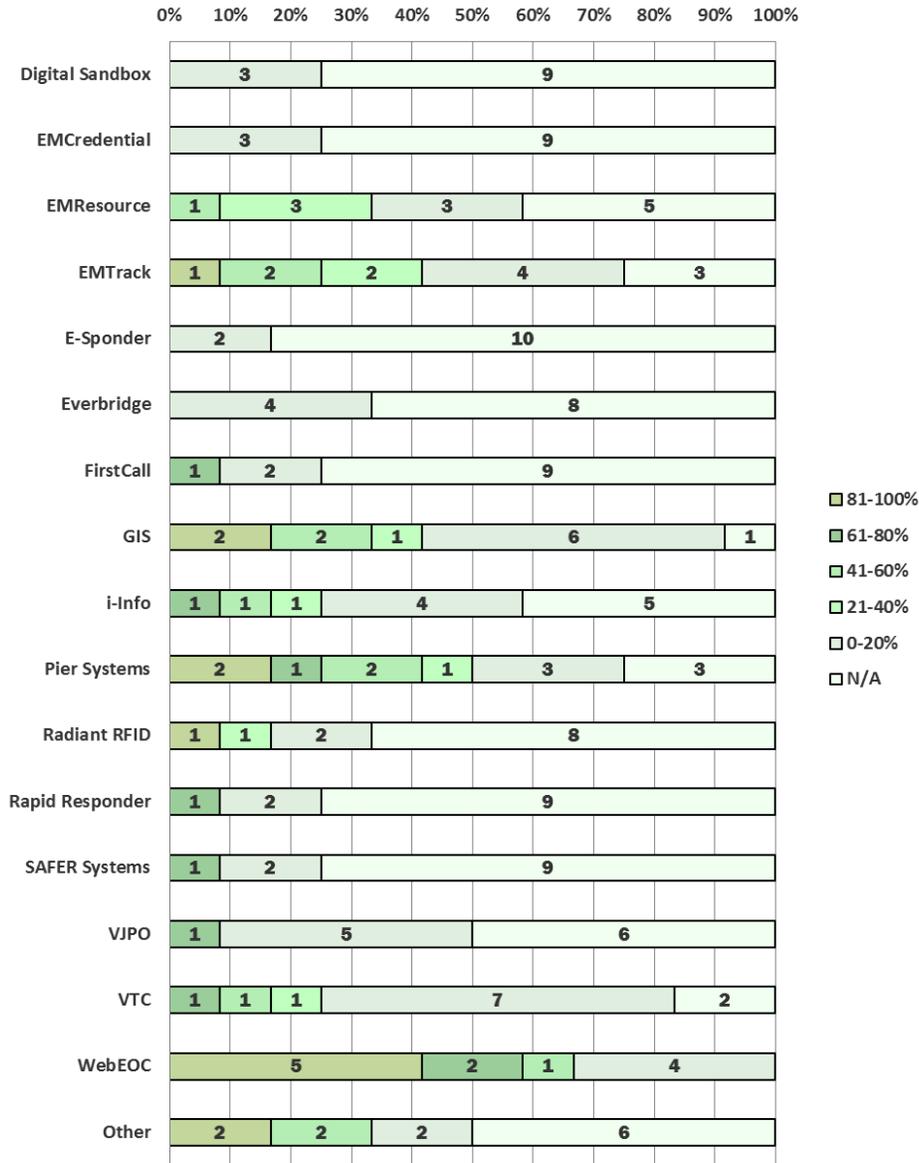


Figure 2: Percentage of Use during Actual Event/Incident

HOUSTON RCPI—REGIONAL TECHNOLOGY INVENTORY

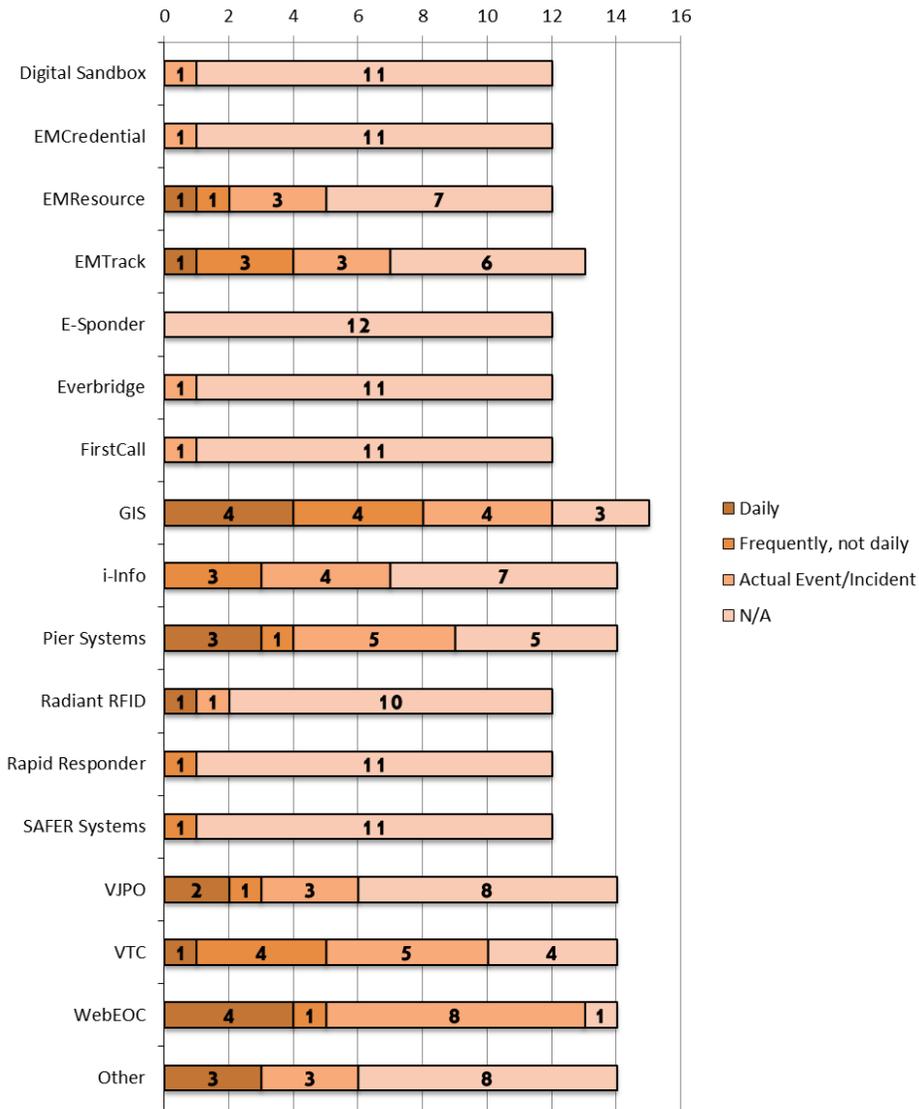


Figure 3: Frequency of Use

Systems Selected for Analysis

Digital Sandbox¹

Digital Sandbox's Risk Analysis Center (RAC) supersedes its earlier risk management offering, Site Profiler, and now enables end-to-end management of the risk readiness cycle. Consisting of a risk analysis software application, the RAC is designed for federal, state, and local risk managers to assess, prioritize, and manage their risks.

The RAC is a subscription-based product that uses the software-as-a-service (SaaS) model. It can be installed as a standalone product on the customer's network, or accessed through the Web (according to permissions granted by administrator).

The RAC is available 24/7 in any location where there is Internet access; a connection via mobile devices is also available through the optional RAC Mobile Monitor. RAC subscribers automatically receive version updates at no charge. Program administrators have complete control over user definition and access.

Contact Information

Digital Sandbox, Inc.
8260 Greensboro Drive, Suite 450
McLean, VA 22102
Phone: (571) 297-3800
Email Sales: sales@dsbox.com
Email Customer Service: customerservice@dsbox.com
Website: <http://www.dsbox.com/>

System Functionality

The RAC allows users to:

- Measure, manage, and prioritize critical assets and threats
- Use authoritative, quantitative threat and risk models
- Quantify and justify strategic, operational, and real-time risk management decisions
- Assess capabilities and measure gaps based on risk
- View asset, population, and risk data geospatially
- Produce customized risk reports covering assets, population, threats, vulnerability assessments, capability levels, and risk management program status
- Create comprehensive visualizations of risk information and analysis

¹ Source: <http://www.dsbox.com/products.html>, accessed September 25, 2011.

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- Access critical infrastructure and key resources (CIKR), threat, and risk data securely, according to assigned roles

The latest release of the RAC, Version 6, provides functionality in the areas of intelligence data management, critical infrastructure protection, and special events management.

Features

- Data management
- Analysis
- Monitoring
- Program management
- Administration
- Threat monitor
- Threat likelihood analytic matrix
- Interactive threat matrix
- Fire rescue module/pre-fire plan
- Improved natural hazards analytics
- Extended Comprehensive Cooperative Agreement Monitoring System (CCAMS)/Automatic Continuous Air Monitoring System (ACAMS) integration
- Protected critical infrastructure information (PCII) data marking
- Improved authorized equipment list (AEL) integration
- Enhanced geographic information system (GIS) monitoring
- Address validation
- Improved system security

Additional Available Features

- RAC mobile applications
- RAC mobile monitor
- RAC mobile indicator
- RAC mobile threat monitor

Frequency and Extent of Usage (as Perceived by Survey Participants)

Table 45: Frequency and Extent of Usage of Digital Sandbox

Commented [TFS2]: Although this table is a “perceived by survey participants”, I don’t think it would make anyone look bad. Plus it reiterates the figures above that I commented on. Do you want to keep?

Average Daily Use	Average Use During Actual Event/Incident	Used For	Used By
20%	20%	<ul style="list-style-type: none"> ▪ Infrastructure statuses ▪ Onsite incident management ▪ Resource/equipment cataloging 	<ul style="list-style-type: none"> ▪ Harris County ▪ City of Houston ▪ Montgomery County

~~System Strengths (as Perceived by Survey Participants)~~

- ~~▪ None identified~~

~~System Weaknesses (as Perceived by Survey Participants)~~

- ~~▪ Lack of access~~

~~Other Issues (as Listed by Survey Participants)~~

- ~~▪ Digital Sandbox is not regionally deployed and needs widespread usage in order to effectively take advantage of its emergency management features and capabilities.~~

EMCredential²

EMSystems[®] EMCredential is an integrated system for advanced registration and credentialing of healthcare professionals and volunteers to support the response to medical emergencies. EMCredential is an Emergency System for the Advance Registration of Volunteer Health Professionals (ESAR-VHP)/National Incident Management System (NIMS)–compliant volunteer registry solution that registers, verifies credentials of, notifies, and manages volunteers who are called on to provide support for large-scale emergencies.

Contact Information

Intermedix EMSystems
 135 South 84th Street, Suite 150
 Milwaukee, WI 53214
 Phone: (888) 367-9783
 Fax: (414) 721-9600
 Website: www.emsystems.com

² Source: <http://www.emsystem.com/info/emcredential.html> , accessed September 25, 2011.

System Functionality

EMCredential allows users to:

- Register volunteers online, including “just-in-time” volunteers
- Credential emergency volunteers through a Web-service interface to state or national licensing board databases
- Verify and track volunteers, process volunteer check-in or check-out, and create teams
- Customize rights and privileges within the application
- Create standard and ad-hoc reports
- Create automated notification reminders for expiring licenses and credentials
- Create automated notification for important news or upcoming training classes
- Customize Web and team portal pages
- Customize data entry forms
- Comply with the Health Insurance Portability and Accountability Act (HIPAA)
- Create a data center with failover capability

Features

- Mutual aid response
- Volunteer validation automation
- Event management
- Interfacing capabilities
- Data management utilities

Frequency and Extent of Usage (as Perceived by Survey Participants)

Table 56: Frequency and Extent of Usage of EMCredential

Commented [TFS3]: Same comment

Average Daily Use	Average Use During Actual Event/Incident	Used For	Used By
20%	20%	▪ None identified	▪ Brazoria County

System Strengths (as Perceived by Survey Participants)

- —None identified

~~System Weaknesses (as Perceived by Survey Participants)~~

- ~~• None identified~~

~~Other Issues (as Listed by Survey Participants)~~

- ~~• EMCredential needs to be deployed and integrated with other credentialing agencies.~~

EMResource³

EMResource is a Web-based communications and resource management system that facilitates coordination between medical response teams and healthcare providers through its monitoring of healthcare assets, emergency department capacity, and behavioral health and dialysis bed status.

EMResource facilitates National Disaster Medical System (NDMS) and Hospital Available Beds for Emergencies and Disasters (HAVBED) reporting and broadcasting. It has real-time communications, GIS, and alert and event notification capabilities that equip medical response teams, service facilities, and dispatch centers to effectively respond to emergency incidents and disasters. It also allows the tracking of additional incident-specific resources, such as decontamination capability, ventilators, pharmaceuticals, and specialty services.

Contact Information

Intermedix EMSsystems
135 South 84th Street, Suite 150
Milwaukee, WI 53214
Phone: (888) 367-9783
Website: www.emsystems.com

System Functionality

EMResource is a browser-based system that:

- Addresses mass casualty incidents
- Delivers Assistant Secretary for Preparedness and Response (ASPR) grant guidance compliance for statewide HAVBED polls
- Provides day-to-day ambulance diversion and hospital resource bed availability reporting
- Offers hospital evacuation and repatriation status reporting, as well as critical asset needs and infrastructure integrity assessments
- Performs text and email urgent event alerting, health alert broadcasting, and missing persons and be-on-the-lookout (BOLO) alert broadcasting

³ Source: <http://www.emsystem.com/info/emresource.html>, accessed September 25, 2011.

- Incorporates Hospital Preparedness Program (HPP) situational awareness for flu response
- Provides GIS interactive mapping
- Delivers multiple systems interoperability
- Performs equipment, supplies, and blood products on-hand queries
- Provides detailed summary and trending data aggregation, shelters and shelter-in-place reporting and management, and mental health and dialysis services availability reporting
- Performs emergency operations center (EOC) activation status notification

Frequency and Extent of Usage (as Perceived by Survey Participants)

Table 6-7: Frequency and Extent of Usage of EMResource

Commented [TFS4]: Same comment

Average Daily Use	Average Use During Actual Event/Incident	Used For	Used By
20%	47%	<ul style="list-style-type: none"> ▪ Hospital statuses ▪ Near real-time situational awareness ▪ Patient/evacuee tracking ▪ Onsite incident management ▪ Healthcare notifications ▪ Resource/equipment tracking 	<ul style="list-style-type: none"> ▪ Brazoria County ▪ Fort Bend County ▪ City of Houston ▪ City of La Porte ▪ Walker County

System Strengths (as Perceived by Survey Participants)

- ~~Ease of monitoring~~
- ~~Its ability to manage situational awareness~~
- ~~Its ability to manage communication and share information in real time~~

System Weaknesses (as Perceived by Survey Participants)

- ~~Very limited user training~~

Other Issues (as Listed by Survey Participants)

- ~~Survey participants recommended improving the usability and functionality of EMResource, as well as providing additional training.~~

EMTrack⁴

The EMTrack system is a solution that supports the tracking of hospital evacuations, regional evacuation, mass casualty incident (MCI) patient tracking, large event manager, flu clinics and points of distribution (PODs), pandemic responses, and daily patient tracking. Other entities that can also be tracked include pets, property, and equipment by using triage tags or disposable bar-code wristbands.

EMTrack supports interoperable communication with different agencies and organizations to coordinate response and support teams to continuously track, coordinate, and manage patient movement throughout the continuum of their care from incident scene, to transportation, to healthcare facility placement.

EMTrack's tracking abilities assists emergency medical services (EMSs), hospitals, and healthcare organizations in managing critical resources, patient care, and valuable assets, including time.

Contact Information

Intermedix EMSsystems
135 South 84th Street, Suite 150
Milwaukee, WI 53214
Phone: (888) 367-9783
Website: www.emssystem.com

System Functionality

- Hospital evacuation
- Regional evacuation
- MCI patient tracking
- Large event management
- Flu clinics and PODs
- Pandemic response
- Daily patient tracking

⁴ Source: <http://www.emssystem.com/info/emtrack.html>, accessed September 25, 2011.

Frequency and Extent of Usage (as Perceived by Survey Participants)

Commented [TF55]: Same comment

Table 78: Frequency and Extent of Usage of EMTrack

Average Daily Use	Average Use During Actual Event/Incident	Used For	Used By
20%	50%	<ul style="list-style-type: none"> ▪ Hospital statuses ▪ Near real-time situational awareness ▪ Patient/evacuee tracking ▪ Onsite incident management ▪ Personnel tracking ▪ Resource/equipment tracking 	<ul style="list-style-type: none"> ▪ Brazoria County ▪ Fort Bend County ▪ City of Deer Park ▪ City of Houston ▪ City of La Porte ▪ Galveston County ▪ Walker County

~~System Strengths (as Perceived by Survey Participants)~~

- ~~▪ Capability of the real time tracking of patients, evacuees, and resources~~

~~System Weaknesses (as Perceived by Survey Participants)~~

- ~~▪ EMTrack is a complicated system that still has significant programming bugs~~

~~Other Issues (as Listed by Survey Participants)~~

- ~~▪ Survey participants recommended improving the usability and functionality of EMTrack, as well as its deployment and integration with other credentialing agencies.~~
- ~~▪ Gaps identified included the integration of EMTrack with PIER Systems, WebEOC, i INFO, Texas Regional Response Network (TRRN), and GIS.~~

Everbridge⁵

The Everbridge system provides mass notification solutions to corporations, government agencies, and healthcare and educational institutions. It allows institutions to provide mass notification to advise groups via phone, email, pager, fax, instant messenger, short message service (SMS), and personal digital assistant (PDA). Everbridge offers three different products, including:

- Everbridge Aware
- Everbridge Matrix
- Everbridge SmartGIS

⁵ Source: <http://www.everbridge.com/by-product>, accessed September 25, 2011.

Contact Information

Everbridge—World Headquarters
 505 North Brand Boulevard, Suite 700
 Glendale, CA 91203
 Phone: (818) 230-9700 or (888) 366-4911
 Website: <http://www.everbridge.com/>

System Functionality

Everbridge Aware

- Resolve incidents more quickly
- Increase awareness and safety
- Reduce communication costs
- Gain operational efficiencies
- Improve compliance and reporting

Everbridge Matrix

- Communicate, report, and remedy business interruptions based on incident type, location, and severity level
- Generates a pre-defined message and distributes communications to the designated response team

Everbridge SmartGIS

- Interactive, map-based communication platform
- Enables contact to thousands of people via all forms of communication, including home phones, mobile phones, email, text messaging, instant messaging, pagers, fax, BlackBerry, and more
- Built on a Web 2.0 platform

Frequency and Extent of Usage (as Perceived by Survey Participants)

Table 89: Frequency and Extent of Usage of Everbridge

Average Daily Use	Average Use During Actual Event/Incident	Used For	Used By
20%	20%	<ul style="list-style-type: none"> ▪ Planning 	<ul style="list-style-type: none"> ▪ City of Houston ▪ Walker County

Commented [TFS6]: Same comment

System Strengths (as Perceived by Survey Participants)

- None identified

System Weaknesses (as Perceived by Survey Participants)

- None identified

Other Issues (as Listed by Survey Participants)

- None identified

FirstCall Emergency Notification System⁶

FirstCall provides high-speed emergency notifications to municipalities, local and state agencies, schools, and corporations. FirstCall delivers emergency notifications by regular phone, cell phone, SMS, email, information lines, pagers, teletypewriter (TTY)/telecommunication device for the deaf (TDD), computers, Windows mobile devices, and digital signage. Notifications are provided by providing GIS map and/or fixed list notification using FirstCall's user interface.

Another way to provide alerts is through the use of BlurtAlert for desktops. This feature will override the regular running application and display real-time, visible instant emergency notification pop-ups on all personal computer (PC) screens, digital signage, and Windows-based phones. Another tool for providing notifications is the inbound community information line service, which is an inbound toll-free service that allows emergency professionals to provide the community with timely recorded information about emergencies in the surrounding area. Yet another important service is the digital signage emergency services, which incorporate selected features of the Blurt Desktop for instant pop-up with an easy-to-use content creation, content management, and high-definition playback interface.

Contact Information

FirstCall Network, Inc.
5432 Galeria Drive
Baton Rouge, LA 70816
Phone: (800) 653-9232
Website: <http://www.firstcall.net/main/index.php?page=home>

System Functionality

- Emergency notification service
- BlurtAlert for desktops

⁶ Source: http://www.firstcall.net/main/inside.php?page=about_firstcall, accessed September 25, 2011.

- Inbound community information line service
- Digital signage emergency service

Frequency and Extent of Usage (as Perceived by Survey Participants)

Commented [TFS7]: Same comment

Table 940: Frequency and Extent of Usage of FirstCall

Average Daily Use	Average Use During Actual Event/Incident	Used For	Used By
20%	50%	<ul style="list-style-type: none"> ▪ Near real-time situational awareness ▪ Mass notification 	<ul style="list-style-type: none"> ▪ Walker County

System Strengths (as Perceived by Survey Participants)

- None identified

System Weaknesses (as Perceived by Survey Participants)

- None identified

Other Issues (as Listed by Survey Participants)

- None identified

GIS (ArcGIS)⁷

GIS is a computer-based system that integrates hardware, software, and data for capturing, managing, analyzing, and displaying all forms of geographically-referenced information. It allows the user to view, understand, question, interpret, and visualize data in many ways that reveal relationships, patterns, and trends.

Typically, GIS is used for handling maps of one kind or another. These might be represented as several different layers where each layer holds data about a particular kind of feature. Each feature is linked to a position on the graphical image on a map and a record in an attribute table. GIS can relate otherwise disparate on the basis of common geography, revealing hidden patterns, relationships, and trends that are not readily apparent in spreadsheets or statistical packages, often creating new information from existing data resources.

GIS technology can be integrated into any enterprise information system framework and helps the user answer questions and solve problems by looking at data in a way that is quickly understood and easily shared.

⁷ Source: <http://www.esri.com/software/arcgis/index.html>, accessed September 25, 2011

Various types of clients (e.g., GIS desktops, Web browsers, and mobile devices) can be connected to a web of GIS services, providing information from thousands of GIS and mapping organizations worldwide.

ESRI, the most widely used vendor in the Houston-Galveston region, offers many different GIS products.

- ArcGIS Desktop
 - ArcView
 - ArcEditor
 - ArcInfo
- ArcGIS Server
- ArcGIS online
- Mobile GIS
- ArcGIS Explorer
- ArcGIS.com

Contact Information

ESRI Headquarters
380 New York Street
Redlands, CA 92373
Phone: (909) 793-2853
Website: <http://www.esri.com/>

Houston, TX, Satellite Office
11200 Westheimer Road, Suite 630
Houston, TX 77042-3229
Phone: (713) 401-0658

System Functionality

ArcGIS is a system for working with maps and geographic information. It integrates hardware, software, and data for numerous functions, such as those outlined in the following.

Map Locations

- Mapping where things are lets the user find places that have the features that are being looked for, and to see where to take action.
- Mapping allows people to see where or what an individual feature is.
- Mapping results in patterns emerging when looking at the distribution of features on a map instead of just an individual feature.

Map Quantities

- Mapping can be used to find where the most and least are, find places that meet certain criteria, and take action, or to see the relationships between places. This gives an additional level of information beyond simply mapping the locations of features.

Map Densities

- A density map lets the user measure the number of features using a uniform areal unit, such as acres or square miles, so the distribution can be clearly seen. This is especially useful when mapping areas.

Map Specific Areas

- Mapping specific areas includes monitoring what is happening and taking specific action by mapping what is inside a specific area.

Map Change

- Mapping change in an area can be done to anticipate future conditions, decide on a course of action, or to evaluate the results of an action or policy.
- By mapping where and how things move over a period of time, the user can gain insight into how they behave.
- Mapping change in an area can be done to anticipate future needs.
- Mapping conditions before and after an action or event can be done to see the impact.

Frequency and Extent of Usage (as Perceived by Survey Participants)

Commented [TFS8]: Same comment

Table 1044: Frequency and Extent of Usage of ArcGIS

Average Daily Use	Average Use During Actual Event/Incident	Used For	Used By
40%	50%	<ul style="list-style-type: none"> ▪ Planning ▪ Dynamic risk management ▪ Hazard vulnerability simulations ▪ Resource/equipment tracking ▪ Resource/equipment cataloging ▪ Incident documentation ▪ Onsite incident management ▪ General population mass notifications ▪ Infrastructure statuses ▪ Public communications 	<ul style="list-style-type: none"> ▪ Brazoria County ▪ City of Deer Park ▪ City of Houston ▪ City of La Porte ▪ Colorado County ▪ Fort Bend County ▪ Galveston County ▪ Harris County ▪ Montgomery County ▪ Walker County

- Personnel tracking

~~System Strengths (as Perceived by Survey Participants)~~

- ~~Its ability to visualize complex data for situational awareness~~
- ~~Its mapping and planning ability~~
- ~~Its ability to display raw data into logical manner~~

~~System Weaknesses (as Perceived by Survey Participants)~~

- ~~Its inaccessibility for the average user~~
- ~~The cost of updating maps~~
- ~~The limited resources in Galveston County to support GIS~~
- ~~The lack of knowledgeable and competent GIS personnel~~

~~Other Issues (as Listed by Survey Participants)~~

- ~~To improve the usability and functionality of GIS, users recommend the staffing of GIS personnel and provision of regionwide map updates. Users also recommended a more wide spread use of GIS in the RCPI area, not just in county engineering.~~
- ~~Gaps were identified in i-INFO/GIS PIER Systems enhancements and integration with WebEOC.~~

i-INFO⁸

i-INFO from Apex Innovations, Inc. provides patented tools for online, real-time information access, information management, communication, and collaboration within and between organizations, to assist member agencies with daily functions and emergency capabilities. The system is designed to automate processes for collaborative use and to selectively and securely share information between organizations. i-INFO includes many different applications for use.⁹

- Mi-Profile
- Mi-Communications
- Mi-Documents
- Mi-People
- Mi-People Lite

⁸ Source: http://www.apex-innovations.com/products_services/index.html, accessed September 25, 2011.

⁹ Source: <https://www.i-info.com/index.htm?i=634528661468750000&>, accessed September 28, 2011.

HOUSTON RCPI—REGIONAL TECHNOLOGY INVENTORY

- Mi-Resource Map
- Registry event management

Contact Information

Apex Innovations, Inc.
 19951 West 162nd Street
 Olathe, KS 66062
 Phone: (913) 254-0250
 Website: <http://www.apex-innovations.com/index.html>

System Functionality

- Instant access to organizational contact information
- Up-to-date contact information
- Credentialing and badging management
- Shared and private assets control
- Registration management
- Communications streamlined
- Document management
- Event calendar
- Resource maps

Frequency and Extent of Usage (as Perceived by Survey Participants)

Commented [TFS9]: Same comment

Table 1142: Frequency and Extent of Usage of i-INFO

Average Daily Use	Average Use During Actual Event/Incident	Used For	Used By
30%	60%	<ul style="list-style-type: none"> ▪ Resource/equipment tracking ▪ Resource/equipment cataloging ▪ Citizen surveys and inquiries ▪ Patient/evacuee tracking ▪ Credentialing ▪ Badging ▪ General population mass notifications 	<ul style="list-style-type: none"> ▪ Brazoria County ▪ City of Houston ▪ Fort Bend County ▪ Harris County ▪ Montgomery County ▪ Walker County

System Strengths (as Perceived by Survey Participants)

- Support for patient registry for mass dispensing and badging

- Support for badging, credentialing, mass notification, and resource tracking

System Weaknesses (as Perceived by Survey Participants)

- Limited accessibility, lack of proper user interface, and security concerns
- Overtly complicated and has not been fully developed in some jurisdictions

Other Issues (as Listed by Survey Participants)

- To improve the usability of i-INFO, users recommended the integration of a dashboard.
- Users identified gaps in the integration of i-INFO with PIER Systems, WebEOC, EMTrack, TRRN, and GIS. Other gaps identified were in areas such as i-INFO's user interfaces and the badging and credentialing functionality, which could be eliminated by a proper development and integration of i-INFO.

PIER Systems¹⁰

PIER Systems is an all-in-one, Web-based solution for crisis communications management, public and media mass notification and relations, business and employee communications, and more. PIER Systems integrates the technology needed to communicate during routine events, minor and major incidents affecting the public, private employees, and stakeholders.

Contact Information

PIER Systems—An O'Brien's Company
1204 Railroad Avenue, Suite 200
Bellingham, WA 98225
Phone: (800) 395-8081
Website: <http://www.piersystems.com/go/site/1533>

System Functionality

- Mass notification
- Crisis communications
- Employee emergency communication center
- Public relations
- Business continuity

¹⁰ Source: <http://www.piersystems.com/go/doc/1533/260628/>, accessed September 26, 2011.

Frequency and Extent of Usage (as Perceived by Survey Participants)

Table 1243: Frequency and Extent of Usage of PIER Systems

Average Daily Use	Average Use During Actual Event/Incident	Used For	Used By
40%	60%	<ul style="list-style-type: none"> ▪ Public communications ▪ General population mass notifications ▪ Internal mass notifications ▪ Internal document sharing (availability) ▪ Inter-discipline communications ▪ Citizen surveys and inquiries ▪ Near real-time situational awareness ▪ Planning 	<ul style="list-style-type: none"> ▪ Brazoria County ▪ City of Houston ▪ Fort Bend County ▪ Galveston County ▪ Harris County ▪ Montgomery County ▪ Walker County

System Functions and Subunits Used Daily¹¹

- Publishing documents and events
- Sending alerts to media, the public, and social media
- Sharing information with office of emergency management (OEM) partners
- Communicating with the public

Capabilities and Subunits Used during an Actual Event/Incident

- Publishing documents and events
- Sending alerts to media, the public, and social media
- Sharing information with response partners (more extensively and intensely than daily)
- Pushing out news releases and updates
- Communicating internally/externally
- Disseminating information internally/externally

Internal Posted Content with PIER Systems

- Situational awareness reports

¹¹ The following is responses to questions specifically requested by the PIER Systems workgroup to be included in the survey.

- Meeting minutes
- Agendas
- Surveys
- Incident information
- Emergency notifications

External Posted Content with PIER Systems

- Alerts
- News releases
- Safety tips and recommendations
- Warnings
- Preparedness information
- Emergency public information
- General preparedness information
- Press releases
- Public service announcements (PSAs)
- Emergency information sharing

System Strengths (as Perceived by Survey Participants)

- Mass notification
- Information sharing
- Planning
- Ease of use
- Compatibility with other platforms

System Weaknesses (as Perceived by Survey Participants)

- Lack of integration with other regionally used emergency management software
- No interactive voice response (IVR), slow to upgrade, and inefficient customer support
- Difficult to use and lack of a user friendly interface
- Lack of proper and sufficient training, which results in users having a difficult time operating it
- Lack of proper and consistent administration

Commented [TFS10]: This one is a little different because it includes the extra set of questions regarding what content they use PIER for and what functions of PIER do they use. I don't think it shows anything bad here. Delete or not?

Other Issues (as Listed by Survey Participants)

- Recommendations to improve PIER Systems functionality include staffing the public information officer (PIO) position, which budget restriction is preventing.
- In addition, users feel that additional training on how to use the system is needed to effectively carry out their duties in using the system.
- Users identified gaps in the integration of PIER Systems with i-INFO, WebEOC, EMTrack, TRRN, and GIS.

Radiant RFID¹²

Radiant RFID is a radio frequency identification (RFID) system for tracking people and assets. Radiant RFID uses microchip-embedded wristbands to tag items that need to be tracked, and uses special reader monitors and RFID connectors to manipulate and display data. Radiant RFID has the capability of integrating with most SQL-based systems (e.g., WebEOC) through the use of Web services to share data in real-time.

Contact Information

Radiant RFID Headquarters
12912 Hill Country Boulevard
Suite #F-245
Austin, TX 78738
Phone: (512) 351-4915
Website: <http://www.radiantrfid.com/>

System Functionality

- Evacuation management
- Asset tracking
- Student accountability
- Mass notification

¹² Source: <http://www.radiantrfid.com/solutions.html>, accessed September 25, 2011.

Frequency and Extent of Usage (as Perceived by Survey Participants)

Table 1344: Frequency and Extent of Usage of Radiant RFID

Commented [TFS11]: Same

Average Daily Use	Average Use During Actual Event/Incident	Used For	Used By
20%	67%	<ul style="list-style-type: none"> ▪ Public communications ▪ General population mass notifications ▪ Internal mass notifications ▪ Patient/evacuee tracking ▪ Incident documentation ▪ Near real-time situational awareness ▪ Onsite incident management 	<ul style="list-style-type: none"> ▪ Galveston County ▪ Harris County ▪ Walker County

~~System Strengths (as Perceived by Survey Participants)~~

~~▪—None identified~~

~~System Weaknesses (as Perceived by Survey Participants)~~

~~▪—None identified~~

~~Other Issues (as Listed by Survey Participants)~~

~~▪—To improve the usability and functionality of Radiant RFID, users recommend the availability of additional training.~~

Virtual Joint Planning Office (VJPO)

VJPO is a federally-supported documentation and application portal system to support joint planning. Using a combination platform of Microsoft SharePoint, Microsoft Lync, and Microsoft Silverlight, VJPO allows users to share information with others, manage documents from start to finish, and publish reports by using a single interface that unites document sharing, voice communications, instant messaging, audio, video, and Web conferencing.

Because VJPO is a federally-supported system, users must be invited by another user to access the system. User registration and approval are required.

Contact Information

Website: <https://www.vjpo.org/default.aspx>

Additional information can be obtained from Melanie Bartis, City of Houston, Melanie.Bartis@houstontx.gov.

System Functionality

- Documentation and application portal system
- Instant messaging
- Audio, video, and Web conferencing
- Mobility across personal computers, laptops, browsers, telephones, and mobile phones
- Enterprise voice
- Group chat

Frequency and Extent of Usage (as Perceived by Survey Participants)

Commented [TFS12]: Same

Table 1445: Frequency and Extent of Usage of VJPO

Average Daily Use	Average Use During Actual Event/Incident	Used For	Used By
27%	80%	<ul style="list-style-type: none"> ▪ Planning ▪ Inter-discipline communications ▪ Internal document sharing (versioned) ▪ Internal document sharing (availability) ▪ Near real-time situational awareness 	<ul style="list-style-type: none"> ▪ City of Houston ▪ Fort Bend County ▪ Harris County ▪ Montgomery County ▪ Walker County

System Strengths (as Perceived by Survey Participants)

- ~~Ease of use~~
- ~~Document and data manipulation capabilities~~
- ~~Planning capabilities~~

System Weaknesses (as Perceived by Survey Participants)

- ~~Limited training available~~

Other Issues (as Listed by Survey Participants)

- ~~Additional training for the use of these systems is recommended by survey participants.~~

WebEOC^{®13}

WebEOC is a flexible and customizable Web-based emergency management system developed by ESi[®] Acquisition, Inc. It provides real-time information sharing and has the ability to integrate with other systems used regionally, and at the state and federal levels to improve the efficiency and quality of decision making during times of emergencies and crises.

WebEOC comes in a range of different software products offered by ESi.

- WebEOC Professional
- WebEOC ST
- WebEOC Air
- WebEOC for Hospitals
- WebEOC Town Square™
- WebEOC Mapper Professional
- ESiWebFUSION™
- WebEOC Resource Manager
- WebEOC Team Manager
- Boards Talk™
- ESi ContinuityPlanner™

Contact Information

ESi Acquisition, Inc.
International HQ
823 Broad Street
Augusta, GA 30901
Phone: (800) 596-0911 or (706) 823-0911
Website: <http://www.esi911.com/esi/>

System Functionality

- WebEOC Professional
 - WebEOC status boards
 - Activity log and significant events
 - After action review (AAR)
 - Checklists
 - Contacts

¹³ Source: http://esi911.com/esi/index.php?option=com_content&task=view&id=14&Itemid=30, accessed September 25, 2011.

HOUSTON RCPI—REGIONAL TECHNOLOGY INVENTORY

- Damage assessment
- File library
- Hospitals
- Press release
- Resource request/task assignments
- Road closures
- Logged in
- Shelters
- Situation report (SitRep)
- Incident action plan
- Incident Command System (ICS)/Federal Emergency Management Agency (FEMA) forms
- Specialized modules
 - Calendar
 - Chat
 - Checklists
 - Contacts
 - Messaging
 - Mapper Lite
 - MapTac™
- Tools
 - Links
 - Common alerting protocol (CAP)
 - Archives
 - Import/export
 - Audit logs
 - Hypertext markup language (HTML) editable
 - Data linking
 - Simulator
 - Scroller
- WebEOC for hospitals
 - Incident action plan
 - Job action sheets

HOUSTON RCPI—REGIONAL TECHNOLOGY INVENTORY

- Hospital Incident Command System (HICS) forms
- WebEOC Town Square
 - Standard boards
 - Activity log
 - Significant events (with activity log)
 - Incident action plan
 - Press release
 - Resource request/task assignments
 - SitRep
 - ICS forms
 - FEMA forms
 - Logs of who logged in
 - Contacts
 - File library
 - Messages
 - Chat
 - Categorical status boards
 - AAR
 - Damage assessment
 - Hospital activity
 - Road closure
 - Shelter status
 - Additional capability included
 - CAP messaging
 - WebEOC Mapper Lite
 - MapTac™
 - Optional plug-ins and products
 - WebEOC Mapper Professional
 - WebEOC Resource Manager
 - ESiWebFUSION
- ESiWebFUSION
 - Remote board and dual-commit functions

- Communicate with other WebEOC servers, or extensively to third-party systems, by acting as the central communications hub to route messages to intended recipients
- ESi@ContinuityPlanner

Frequency and Extent of Usage (as Perceived by Survey Participants)

Table 1546: Frequency and Extent of Usage of WebEOC

Average Daily Use	Average Use During Actual Event/Incident	Used For	Used By
27%	65%	<ul style="list-style-type: none"> ▪ Near real-time situational awareness ▪ Resource request ▪ Hospital statuses ▪ Incident documentation ▪ Onsite incident management ▪ Internal document sharing (availability) ▪ Resource/equipment tracking ▪ Patient/evacuee tracking ▪ Inter-discipline communications 	<ul style="list-style-type: none"> ▪ Austin County ▪ Brazoria County ▪ City of Deer Park ▪ City of Houston ▪ City of La Porte ▪ Colorado County ▪ Fort Bend County ▪ Galveston County ▪ Harris County ▪ Montgomery County ▪ Walker County ▪ Waller County

System Functions and Subunits Used Daily

- Situational awareness testing
- Sentinel duties
- Training
- Incident management

System Capabilities and Subunits Used during an Actual Event/Incident

- Documentation
- Situational awareness
- Resource request
- Information sharing
- Status boards
- Local and regional significant events
- Real-time communication

- Incident documentation

Most Often-Used Functionality

- Resource request
- Situational awareness
- Incident documentation
- Status boards
- Jurisdiction events and significant events
- Position logs
- Significant events monitoring (local, regional, and state)
- Daily logs
- Recording of actions taken

Commented [TFS13]: This one again is a little different because it shows the functions that they use. Delete or not?

System Strengths (as Perceived by Survey Participants)

- Versatility
- Expandability and ability to integrate with other regionally used technology
- Ease of use
- Real time communication and collaboration capabilities
- Ability to handle situational awareness and resource requests

System Weaknesses (as Perceived by Survey Participants)

- Incomplete or incorrect implementation of the system, which makes it vulnerable to errors and unable to handle them properly
- Lack of proper and sufficient training, which results in users having a difficult time operating it
- Lack of proper and consistent administration

Other Issues (as Listed by Survey Participants)

- WebEOC implementation needs to be improved to make the system more robust and stable to prevent failures during actual emergencies and crises.
- It was suggested that additional WebEOC servers might add some redundancy and reduce failures.
- Users identified gaps in the integration of WebEOC with i-INFO, PIER Systems, EMTrack, TRRN, and GIS.

Additional Systems Used in the Region (by Function)

Video Teleconferencing (VTC) Systems

VTC is a communications technology that allows two or more locations to communicate via live, simultaneous two-way video and audio transmissions. This can be as simple as a conversation between two people in private offices (point-to-point) or involve several sites (multi-point) with more than one person in large rooms at different sites. Besides the audio and visual transmission of meeting activities, videoconferencing can be used to share documents, computer-displayed information, and whiteboards. Users see and hear each other in real-time, allowing natural conversations that are not possible with voice-only communications technology.

There are basically two kinds of video teleconferencing systems:

- **Dedicated systems** have required components packaged into a single piece of equipment, usually a console with a high-quality remote-controlled video camera.
- **Desktop systems** are add-ons to normal personal computers, transforming them into video teleconferencing devices. A range of different cameras and microphones can be used that are dependent on the hardware and/or software.

Each jurisdiction, whether using a dedicated system or a desktop system, is required to purchase applicable hardware and/or software in order to participate in video teleconferences.

Contact Information

Numerous VTC systems are used by the jurisdictions in the region.

Table 1647: VTC Systems Users

Systems	Vendor	Used By
LifeSize Systems	LifeSize Communications, a division of Logitech 1601 S. MoPac Expressway, Suite 100 Austin, Texas 78746 Phone: (512) 347-9300 or (877) 543-7593 Website: http://www.lifesize.com/Products.aspx	<ul style="list-style-type: none"> ▪ City of Houston ▪ Fort Bend County
Houston TranStar VCC Client	Houston TranStar 6922 Katy Road Houston, Texas 77024 Phone: (713) 881-3000 Website: http://www.houstontranstar.org/	<ul style="list-style-type: none"> ▪ City of Houston ▪ City of Brazoria

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Systems	Vendor	Used By
Scopia Desktop Client	RADVISION Inc. 17-17 State Highway 208, Suite 300 Fair Lawn, NJ 07410-2819 USA Phone: (201) 689-6300 Website: http://www.radvision.com/	<ul style="list-style-type: none"> ▪ City of Houston ▪ Brazoria County
Polycom	Polycom, Inc. Pleasanton, CA Phone: (925) 924-6000 or (800) 765-9266 Website: http://www.polycom.com/	<ul style="list-style-type: none"> ▪ Galveston County
Tandberg	Cisco TelePresence Technology Group 1755 Wittington Place, Suite 350 Dallas, TX 75234 Phone: (972) 481-5500 or (888) 308-7595 Website: http://www.tandberg.com/	<ul style="list-style-type: none"> ▪ Fort Bend County
Tangent	Tangent, Inc. 191 Airport Boulevard Burlingame, CA 94010 Phone: (650) 342-9388 or (800) 342-9388 Website: http://www.tangent.com/	<ul style="list-style-type: none"> ▪ City of La Porte
Skype	Skype Technologies S.A. 23-29 Rives de Clausen L-2165 Luxembourg Website: http://www.skype.com/intl/en-us/homepage	<ul style="list-style-type: none"> ▪ Brazoria County ▪ Chambers County

System Functionality

There are basically two kinds of videoconferencing systems:

- Dedicated systems have all required components packaged into a single piece of equipment, usually a console with a high-quality, remote-controlled video camera. These cameras can be controlled at a distance to pan left and right, tilt up and down, and zoom. They became known as pan tilt zoon (PTZ) cameras. The console contains all electrical interfaces, the control computer, and the software- or hardware-based codec. Omnidirectional microphones are connected to the console, as well as a TV monitor with loudspeakers and/or a video projector. There are several types of dedicated videoconferencing devices:
 - Large-group (e.g., large rooms and auditoriums) videoconferencing equipment is non-portable, large, and more expensive.
 - Small-group (e.g., small meeting rooms) videoconferencing equipment is non-portable or portable, smaller, and less expensive.

- Individual videoconferencing equipment is usually portable, meant for single users, and has fixed cameras, microphones, and loudspeakers integrated into the console.
- Desktop systems are add-ons (hardware boards, usually) to normal PCs, transforming them into videoconferencing devices. A range of different cameras and microphones can be used with the board, which contains the necessary codec and transmission interfaces. Most of the desktops systems work with the H.323 standard. Videoconferences carried out via dispersed PCs are also known as e-meetings.

Frequency and Extent of Usage (as Perceived by Survey Participants)

Commented [TFS14]: Same

Table 1748: Frequency and Extent of Usage of VTC Systems

Average Daily Use	Average Use During Actual Event/Incident	Used For	Used By
27%	47%	<ul style="list-style-type: none"> ▪ Inter-discipline communications ▪ Planning ▪ Internal document sharing (availability) ▪ Near real-time situational awareness ▪ Onsite incident management ▪ Resource/equipment tracking ▪ Hospital statuses 	<ul style="list-style-type: none"> ▪ Brazoria County ▪ City of Houston ▪ City of La Porte ▪ Colorado County ▪ Fort Bend County ▪ Galveston County ▪ Harris County ▪ Montgomery County ▪ Walker County ▪ Waller County

System Strengths (as Perceived by Survey Participants)

- ~~Ease of use~~
- ~~Ability to host conferences~~
- ~~Real-time communication and information capabilities~~
- ~~Situation awareness functionality~~
- ~~Planning capabilities~~
- ~~Training capabilities~~

System Weaknesses (as Perceived by Survey Participants)

- ~~Technology limitations and poor (lack of) integration, without regional administration~~
- ~~Lack of compatibility with other emergency management technologies currently used~~

Other Issues (as Listed by Survey Participants)

- None identified

Mass Communication/Notification Systems**Table 1849: Mass Communication/Notification Systems Users**

Systems	Vendor	Used By
Blackboard Connect	Blackboard, Inc. 650 Massachusetts Avenue N.W., 6 th Floor Washington, DC 20001-3796 Phone: (202) 463-4860 Website: http://www.blackboard.com/Platforms/Connect/Overview.aspx	<ul style="list-style-type: none"> ▪ City of Deer Park ▪ City of La Porte ▪ Galveston County
Neighborhood Early Warning System (N.E.W.S.)	Sponsored by: Greater Harris County (GHC) 9-1-1 Emergency Network Website: http://911.org/NEWS.asp	<ul style="list-style-type: none"> ▪ Fort Bend County ▪ Harris County ▪ City of Houston

Blackboard Connect (Connect-CTY, Connect-GOV)¹⁴

Blackboard Connect offers a range of communication channels to reach the audience when it matters most—from recorded voice, text-to-speech, SMS, email, TTY, Facebook, Twitter, really simple syndication (RSS), to fax, pager, and CAP.

Blackboard Connect assigns to each client a dedicated client care representative who is committed to their long-term success through the delivery of proactive, comprehensive service. Client care means more than just rapid case resolution and true, 24/7 access to live experts; it is also about having a personalized understanding of the community and serving as a trusted communications counselor.

System Functionality

Blackboard Connect is used as a mass communications and notifications system.

- Multimodal messaging
- Language translations
- Smartphone application
- Automated weather alerts
- Certifications

¹⁴ Source: <http://www.blackboard.com/Platforms/Connect/Products/Blackboard-Connect/Features.aspx>, accessed September 15, 2011.

N.E.W.S.¹⁵

N.E.W.S. is an emergency notification system available for participating jurisdictions to notify citizens of an emergency situation. It is designed for small notifications (5,000 to 15,000), and serves all participating jurisdictions served by GHC 9-1-1, Harris and Fort Bend Counties, and 49 cities.

System Functionality

- Participating jurisdictions are not required to use N.E.W.S.
- Additional tool available to jurisdictions for the protection of their citizens and not in lieu of other existing tools
- The GHC 9-1-1 N.E.W.S system uses its own database (of phone records), which is monitored and updated daily
- Other languages (recorded made by jurisdictions)
- Reporting capabilities
- Internal system is available to contact jurisdictional personnel; many jurisdictions are already using this

Public Health Systems

Table 1920: Public Health Systems Users

Systems	Vendor	Used By
RODS	RODS Laboratory—University of Pittsburgh 100 Technology Drive, Suite 550 Pittsburgh PA 15219 Phone: (412) 647-7113 Website: http://www.health.pitt.edu/rods	<ul style="list-style-type: none"> ▪ All 13 H-GAC counties ▪ City of Houston
Centers for Disease Control and Prevention (CDC) PHIN	CDC PHIN National Center for Public Health Informatics Phone: (770)-454-4863 Website: http://www.cdc.gov/phinf/index.html	<ul style="list-style-type: none"> ▪ All 13 H-GAC counties ▪ City of Houston

Real Outbreak Detection System (RODS)¹⁶

RODS is free software for public health surveillance. RODS collects and analyzes disease surveillance data in real-time and has been in development since 1999 by the RODS Laboratory. At present, health departments and other groups nationally and internationally use the software.

¹⁵ Source: <http://911.org/NEWS.asp>, accessed September 26, 2011.

¹⁶ Source: <http://www.health.pitt.edu/rods>, accessed September 26, 2011.

System Functionality

RODS examines aggregate and de-identified data routinely collected by clinical and other information systems automatically and in real-time for trends and anomalies suggestive of disease outbreaks. It is used by health departments or urban regions to monitor clinical data, data about sales of OTC medications, and other types of data. At present, the clinical data comprises de-identified emergency department visit abstracts, and the software monitors increases in patients with symptoms of the flu, respiratory illnesses, diarrhea, and skin rashes. Using data that indicates spatial distributions of cases, RODS software can assist public health officials to identify the location of an outbreak. A spike in hospital admissions from a neighborhood, or a message that something is strange by RODS standards, could merely indicate the presence of a flu bug, or it could mean that a chemical or biological weapon has been released.

CDC Public Health Information Network (PHIN)¹⁷

The CDC Public Health Information Network (PHIN) is a national initiative to improve the capacity of public health to use and exchange information electronically by promoting the use of standards and defining functional and technical requirements.

System Functionality

PHIN strives to improve public health by enhancing research and practice through best practices related to efficient, effective, and interoperable public health information systems. CDC's role in PHIN is:

- Supporting the exchange of critical health information between all levels of public health and healthcare
- Developing and promulgating requirements, standards, specifications, and an overall architecture in a collaborative, transparent, and dynamic way
- Monitoring the capability of state and local health departments to exchange information
- Advancing supportive policy
- Providing technical assistance to state and local health departments
- Facilitating communication and information sharing within the PHIN community

¹⁷ Source: <http://www.cdc.gov/phn/index.html>, accessed September 26, 2011.

Hazardous Materials Incident Management Systems

Table 2024: Hazardous Materials Incident Management Systems Users

Systems	Vendor	Used By
ADASHI	OptiMetrics, Inc. 3115 Professional Drive Ann Arbor, Michigan 48104 Phone: (734) 973.1177 Website: http://www.adashi.org/about.html	<ul style="list-style-type: none"> ▪ City of La Porte ▪ Harris County
CAMEO	U.S. Environmental Protection Agency (EPA) OEM Ariel Rios Building (5104A) 1200 Pennsylvania Avenue, NW Washington, D.C. 20460 Phone: (202) 564-8600 Website: http://www.epa.gov/osweroe1/content/cameo/index.htm	<ul style="list-style-type: none"> ▪ City of La Porte ▪ Galveston County
ALOHA	U.S. EPA OEM Ariel Rios Building (5104A) 1200 Pennsylvania Avenue, NW Washington, D.C. 20460 Phone: (202) 564-8600 Website: http://www.epa.gov/osweroe1/content/cameo/aloha.htm	<ul style="list-style-type: none"> ▪ City of La Porte
MARPLOT	U.S. EPA OEM Ariel Rios Building (5104A) 1200 Pennsylvania Avenue, NW Washington, D.C. 20460 Phone: (202) 564-8600 Website: http://www.epa.gov/emergencies/content/cameo/marplot.htm	<ul style="list-style-type: none"> ▪ City of La Porte
LandView	U.S. Census Bureau 4600 Silver Hill Road Washington, DC 20233 Phone: (301) 763-4636 or (800) 923-8282 Website: http://www.census.gov/geo/landview/	<ul style="list-style-type: none"> ▪ City of La Porte

Automated Decision Aid System for Hazardous Incidents (ADASHI)¹⁸

ADASHI is a comprehensive software platform for managing, communicating, responding to, and reporting critical incidents. It combines incident response and incident command capabilities in a networked emergency management system for coordinated use across all agencies, departments, and staff levels.

¹⁸ Source: <http://www.adashi.org/products.html>, accessed September 25, 2011.

There are three ADASHI platforms available.

- ADASHI Lite
- ADASHI First Response
- ADASHI Command Post

System Functionality

- Mapping, tracking, and automatic vehicle location/computer-aided dispatch AVL/CAD features
- Local data integration features
- Data recording and communications features
- Routing option features

Computer-Aided Management of Emergency Operations (CAMEO)¹⁹

CAMEO® is a software tool for emergency planning and response. The CAMEO software suite is a collection of software programs designed to assist first responders and emergency planners to:

- Access chemical property and response information
- Model potential chemical releases
- Display key locations and release predictions on a map
- Manage planning data (especially data required by the Emergency Planning and Community Right-to-Know Act [EPCRA])

System Functionality

The complete CAMEO suite consists of two kinds of components:

Modules

- Eight modules (or databases) are included in the CAMEO program, which can be used for response and planning record-keeping. The CAMEO modules are: facilities, chemicals in inventory, contacts, incidents, special locations, routes, resources, and screening and scenarios.

Programs

- Three programs can be used with the modules: CAMEO chemicals, ALOHA, and MARPLOT.

Aerial Locations of Hazardous Atmospheres (ALOHA)²⁰

ALOHA is a computer program designed especially for use by people responding to chemical releases, as well as for emergency planning and training. ALOHA models key

¹⁹ Source: <http://www.epa.gov/osweroel/content/cameo/index.htm>, accessed September 25, 2011.

²⁰ Source: <http://www.epa.gov/osweroel/content/cameo/aloha.htm>, accessed September 25, 2011.

hazards—toxicity, flammability, thermal radiation (heat), and overpressure (explosion blast force)—related to chemical releases that result in toxic gas dispersions, fires, and/or explosions.

System Functionality

ALHOA models three hazard categories: toxic gas dispersion, fires, and explosions. ALOHA employs several different models, including an air dispersion model that it uses to estimate the movement and dispersion of chemical gas clouds. From this model, ALOHA is able to estimate the toxic gas dispersion, the overpressure values from a vapor cloud explosion, or the flammable areas of a vapor cloud. ALOHA uses additional models to estimate the hazards associated with other fires and explosions. ALOHA can solve problems rapidly and provide results in a graphic, easy-to-use format. This can be helpful during an emergency response or planning for such a response.

Mapping Applications for Response, Planning, and Local Operational Tasks (MARPLOT)²¹

MARPLOT is the mapping application. It allows users to “see” their data (e.g., roads, facilities, schools, and response assets), display this information on computer maps, and print the information on area maps. The areas contaminated by potential or actual chemical release scenarios also can be overlaid on the maps to determine potential impacts. The maps are created from the U.S. Census Bureau’s topologically integrated geographic encoding and referencing system (TIGER)/Line files and can be manipulated quickly to show possible hazard areas.

System Functionality

MARPLOT is a program to create, view, and modify maps of a community that show roads, facilities, schools, response assets, and other information useful for response and planning tasks.

LandView²²

The LandView database system allows users to retrieve Census 2000 demographic and housing data, U.S. Environmental Protection Agency (EPA) Envirofacts data and United States (USGS) Geographic Names Information System (GNIS) information. The GNIS contains over 1.2 million records that show the official federally-recognized geographic names for all known places, features, and areas in the United States that are identified by a proper name.

System Functionality

The LandView database software:

- Uses the population estimator function to calculate Census 2000 demographic and housing characteristics for user defined radii

²¹ Source: <http://www.epa.gov/emergencies/content/cameo/marplot.htm>, accessed September 25, 2011.

²² Source: <http://www.census.gov/geo/landview/>, accessed September 25, 2011.

- Creates simple thematic maps of Census 2000 data
- Allows users to browse and query the Census, EPA, or USGS databases and show the query results on the map
- Provides the capability to locate a street address or intersection on a map based on TIGER/Line® 2000 road features and address ranges

Computer-Aided Dispatch, Mobile Communications, and Records Management Systems

Table 2122: Computer-Aided Dispatch, Mobile Communications, and Records Management Systems Users

Systems	Vendor	Used By
Rapid Responder® Crisis Management System	Prepared Response, Inc. One Union Square 600 University Street, Suite 1525 Seattle, WA 98101 Phone: (206) 223-5544 or (800) 705-1856 Website: www.preparedresponse.com	▪ Walker County
SAFER Systems	SAFER Systems, LLC 5284 Adolfo Road, Suite 100 Camarillo, CA 93012 Phone: (800) 621-7237 Website: http://www.safersystem.com/	▪ Walker County
Wireless Information System for Emergency Responders (WISER)	Office of Communications and Public Liaison National Library of Medicine 8600 Rockville Pike Bethesda, Maryland 20894 Phone: (301) 496-6308 Website: http://wiser.nlm.nih.gov	▪ Harris County
Tiburon Mission Critical Public Safety and Security Solutions	Tiburon, Inc. 6200 Stoneridge Mall Road, Suite 400 Pleasanton, CA 94588 Phone: (800) 428-5534 or (925) 621-2700 Website: http://www.tiburoninc.com/	▪ Fort Bend County
EnRoute Emergency Systems	EnRoute Emergency Systems 3501 East Frontage Road, Suite 350 Tampa, FL 33607 Phone: (813) 207-6911 Website: http://www.enroute911.com/index.shtml	▪ Harris County

Rapid Responder® Crisis Management System²³

Rapid Responder Crisis Management System is an enterprise, Web-based, interactive and comprehensive crisis management system designed to collect, organize, and securely disseminate critical information needed during an emergency. The system provides information to first responders and stakeholders with instant access to 300 data points per building, geospatial (GIS) data, as well as access to emergency response plans that can be viewed en route via mobile data terminals, laptops, and other mobile devices in police cars and fire trucks.

System Functionality

Rapid Responder provides police, fire, and other responders with access to:

- Aerial and exterior photos
- Best access routes
- Floor plans and utility shut-offs
- Incident-specific response plans
- Hazardous material inventories
- Containment, evacuation, and family reunification locations

SAFER Systems²⁴

SAFER Systems are chemical emergency management systems, offering advanced plume measurement and monitoring solutions that integrate real-time weather and sensor data. The company's state-of-the-art solutions incorporate patented technologies and are designed to detect and accurately predict in real-time the dispersion of accidental or intentional releases of toxic chemicals. They provide situation analysis enabling better command and control decision making during a chemical event and greater post-event analysis. Software products include:

- SAFER Central
- SAFER Real-Time®
- SAFER TRACE™

System Functionality

- Fixed facility emergency response
- Transportation and pipeline emergency response
- Enterprise solutions
- Analysis tools

²³ Source: <http://www.preparedresponse.com/products/default.html>, accessed September 26, 2011.

²⁴ Source: <http://www.safer-system.com/>, accessed September 26, 2011.

Wireless Information System for Emergency Responders (WISER)²⁵

WISER is a system designed to assist first responders in hazardous material incidents, and provides a wide range of information on hazardous substances, including substance identification support, physical characteristics, and human health information, and containment and suppression advice.

System Functionality

- Mobile support
- Comprehensive decision support, including assistance in the identification of an unknown substance
- Guidance
- Access to over 460 substances from the U. S. National Library of Medicine's (NLM) Hazardous Substances Data Bank, which contains detailed information on over 4,700 critical hazardous substances
- Rapid access information about a hazardous substance by an intelligent synopsis engine and display called "Key Info"
- Visualization of protective distance zones on an interactive map
- Radiological support, including radioisotope substance data, tools, and reference materials
- Biological support, including biological agent data, tools, and reference materials
- General tools, including an electronic version of the U.S. Department of Transportation Emergency Response Guidebook

Tiburon Mission Critical Public Safety and Security Solutions²⁶

Tiburon is an integrated product suite of scalable computer-aided dispatch, mobile, records management and corrections management systems for state, local, and federal law enforcement, fire and rescue, and corrections agencies.

System Functionality

- TotalCommand CAD
- TotalCommand MobileCOM
- TotalCommand LawRECORDS
- TotalCommand FireRECORDS
- TotalCommand JailRECORDS
- DispatchNow

²⁵ Source: <http://wiser.nlm.nih.gov>, accessed September 25, 2011.

²⁶ Source: <http://www.tiburoninc.com/>, accessed September 25, 2011.

EnRoute Emergency Systems²⁷

EnRoute Emergency Systems provides computer-aided dispatch and records management systems (RMS) for law enforcement and toll highway agencies, fire/EMS departments, and ambulance service providers.

System Functionality

Law Enforcement

- EnRoute law enforcement CAD
- EnRoute law enforcement records
- EnRoute law enforcement mobile
- EnRoute law enforcement I-STATUS
- EnRoute field-based reporting (FBR)
- EnRoute mapping

Fire/EMS

- EnRoute fire/EMS CAD
- EnRoute fire/EMS mobile
- EnRoute fire/EMS I-STATUS
- EnRoute mapping

Ambulance

- EnRoute ambulance CAD
- EnRoute ambulance mobile
- EnRoute ambulance I-STATUS
- EnRoute mapping

Other Systems

Table 2223: Other Systems Users

Systems	Vendor	Used By
Inquisiq EX	ICS Learning Group 8221 Ritchie Highway Pasadena, MD 21122 Phone: (410) 975-9440 Website: http://www.inquisiq.com/	▪ Fort Bend County

²⁷ Source: <http://www.enroute911.com/index.shtml>, accessed September 25, 2011.

HOUSTON RCPI—REGIONAL TECHNOLOGY INVENTORY

Systems	Vendor	Used By
Total Visibility	Delta Development Group, Inc. 2000 Technology Parkway, Suite 200 Mechanicsburg, PA 17050 Phone: (717) 441-9030 Website: http://www.total-visibility.com/Home/tabid/36/Default.aspx	<ul style="list-style-type: none"> Fort Bend County
netPlanner	netEOP 6317 Raytown Road Raytown, MO 64133 Phone: (866) 963-8367 Website: http://www.netplanner2009.com/Default.aspx?page=Online_Emergency_Planning	<ul style="list-style-type: none"> City of La Porte
TRRN	The TRRN site is administered and maintained by the Texas Division of Emergency Management (TDEM). Website: https://www.trrn.state.tx.us/trrn/index1a.aspx	<ul style="list-style-type: none"> Fort Bend County
Emergency Managers Weather Information Network (EMWIN)	Website: http://www.weather.gov/emwin/index.htm	<ul style="list-style-type: none"> Harris County

Inquisiq EX²⁸

Inquisiq EX is offered by ICS Learning Group. It is a learning management system, which is available as a hosted service or as a behind-the-firewall installation.

System Functionality

Inquisiq EX has all of the basic features of a learning management system. Features include:

- Upload and track shareable content object model (SCORM)–compliant lessons
- Manage information for live training sessions
- Manage users and groups (or connect to an external user directory)
- Organize courses in a course catalog, and more

Total Visibility²⁹

Total Visibility is a suite of emergency preparedness, response, and recovery software tools created by Delta Development Group’s Emergency Preparedness and Information Technology divisions. It is a functional, flexible, and user-friendly Web-based package of

²⁸ Source: <http://www.inquisiq.com/>, accessed September 26, 2011.

²⁹ Source: <http://www.total-visibility.com/Home/tabid/36/Default.aspx>, accessed September 25, 2011.

enterprise software applications providing resource management, special needs registry, damage assessment, and patient tracking tools. The system is designed to enhance an organization's effectiveness in preparing for, responding to, and recovering from an emergency.

System Functionality

- Special needs registry tool
- Resource management system
- Patient tracking system
- Emergency preparedness, response, and recovery
- Damage assessment

netPlanner³⁰

netPlanner is a browser-enabled database application that centrally stores emergency plans and allows plan stakeholders with proper login permissions to make suggestions and updates to sections of the plan. Emergency planners may add, edit, and delete the text that is submitted for approval. The finished plan may be saved, printed, and easily distributed to plan users.

System Functionality

- Combination of emergency planning guidance and software designed to assist planners in developing emergency plans
- Web-based, allowing multiple users to access plans simultaneously from anywhere with an Internet connection; this feature allows users to make plan suggestions or changes and easily distribute them to all plan users
- Allows users to add and edit information online, as well as save and print out their online plan
- Includes references and a cross walk to lead organizations through the process of creating emergency plans that address NIMS, the Emergency Management Assistance Program (EMAP), and other guidance provided by local, state, and federal agencies and organizations
- Addresses the National Planning Scenarios, Target Capabilities, and Universal Tasks prescribed in the National Preparedness Goal
- Includes an evaluation tool allowing those responsible for the plan to provide feedback to planning team members and other plan users
- Integrates with Web-based EOC information management tools and GIS mapping tools

³⁰ Source: http://www.netplanner2009.com/Default.aspx?page=Online_Emergency_Planning, accessed September 26, 2011.

- Automatically creates organizational charts, responsibility matrices, and personnel rosters based on planning team assignments

TRRN³¹

TRRN is a Web-based application developed for the Governor’s Division of Emergency Management (GDEM) that provides a central, Web-based system to organize and coordinate resources in response to such incidents.

System Functionality

The function of the TRRN Web application is to provide a central, Web-based system to organize and coordinate resources in response to natural or man-made disasters.

EMWIN³²

EMWIN is a service that allows users to obtain weather forecasts, warnings, and other information directly from the National Weather Service (NWS) in almost real-time. EMWIN is intended to be used primarily by emergency managers and public safety officials who need timely weather information to make critical decisions.

System Functionality

EMWIN basically consists of two things:

- A round-the-clock data feed of current weather warnings, watches, and images from the National Environmental Satellite, Data, and Information Service (NESDIS), as well as advisories, forecasts, and other products issued by the NWS
- A suite of methods to obtain this data feed and display the products on a PC

³¹ Source: <https://www.trrn.state.tx.us/trrn/index1a.aspx>, accessed September 26, 2011.

³² Source: <http://www.weather.gov/emwin/index.htm>, accessed September 25, 2011.

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