The Incident Command System
And The Need For External Information

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The Incident Command System (ICS) is a systematic tool used for the command, control, and coordination of emergency response. ICS allows agencies to work together using common terminology and operating procedures controlling personnel, facilities, equipment, and communications at a single incident scene.[1]

While the ICS is well established and its procedures standardized, use of the system during an emergency does not occur in a vacuum. Incident Commanders (IC) and subordinate personnel often need external information during an emergency. For example, the Intelligence Section, a distinct functional area of an ICS organization, is charged with analysis and sharing of information and intelligence during an incident.

Additionally, the Planning Section (another functional unit of ICS management structure) collects and evaluates operational information about the incident, including the current and forecasted situation and the status of assigned resources. This information is needed to understand the current situation, predict a probable course of incident events, and prepare alternative strategies for mitigating incident effects. This section will need external information to incorporate into incident-specific (on-scene) data for use in decision-making.

Intelligence can include national security or classified information but also can include operational information such as risk assessments, medical intelligence, weather information, structural designs of buildings and toxic contaminant levels. The IC may need to assign this role to other parts of the ICS organization. Under the National Incident Management System (NIMS) ICS, the intelligence and information function may be assigned within the Command Staff; as a unit within the Planning Section, as a branch within the Operations Section; or as a separate General Staff Section.[2]

External information also is needed, albeit less urgently, in pre-incident planning. Large scale or complex incidents require use of a written Incident Action Plan. A Plan describes the overall strategy for managing an incident. It describes an organized course of events necessary to address all phases of incident control within a specific time.

Sources Of External Information

This White Paper considers three major topics of value to the ICS community.

- Live Internet research and automatic information feeds via Internet
- Collections of documents, reference information and data on CD-ROMs & DVDs
- Real-time input from Human Sources

The Internet is universally accepted as an immense source of information. Its boundaries are almost unimaginable. According to one source as of early 2006 there were 65,408,355 U.S. registered domain names.[3] Google indexes billions of web pages worldwide.[4]

"Hidden Pathways" (non-web Internet communication channels) are significant. There are approximately 3.5 million Yahoo Groups. A single group may have thousands of members. By some counts there are 150,000 Usenet Newsgroups worldwide. A single newsgroup can have more than a half-million messages, some dating back more than 20 years.

A document from a U.S. Government web site may have much more veracity than single item of unsubstantiated information found in a Yahoo Group message. However, the latter ***could be*** a critical piece of information in a large-scale puzzle. We leave it to the user to judge the quality of information in any specific situation.

Automatic Systems

Over the past couple of years a growing variety of "Automatic Systems" have become available via Internet. These free services allow the user to define very specific criteria and receive immediate updates when information is discovered that meets user criteria. Sometimes referred to as "intelligent agents" these systems can be mated to notification services so if a critical piece of information becomes available the user can be notified via a mobile device.

What about "Information Overload?" If an automatic system is successfully operating only desired information would be directed to the user. However, in some circumstances the flow of information may be substantial. In this scenario filtering systems can be established to route incoming information to specific folders for reference when needed.

Anyone who has been at the scene of a major disaster or emergency has heard the characteristic cacophony of crackling radio messages, broadcast radio or TV audio, loud discussions (in-person and via telephone) merging with the occasional shouted directions. This high-volume audio mix can cause significant distraction for decision-makers. Efforts are made to segregate this furious activity from the IC and direct reports.

Electronic communication via computer can provide significant efficiencies and highly organized information input while minimizing the aural frenzy.

For example, a new generation of "Broadband Fax[5]" machine enables information to be "faxed" to email. No more busy signals at the transmission end or frantic searches for ink or toner cartridges at the receiving end. Instead this technology provides seamless routing and distribution along with an electronic, time-stamped "paper trail."

Unbeknownst to many, common email reader-software such as Microsoft Outlook or Lotus Notes as well as web-based email systems provide "filtering" mechanisms. These functions can be used to automatically sort, store and route inbound email. Couple this to mobile devices and you have a potent blend of information management and availability.

Drowning In Paper?

We're all familiar with the ubiquitous three-ring binders neatly filled with pages of information and organized for reference. The "emergency plan" may fill a one-inch binder in a manager's office or an entire wall of binders may be found in a major Emergency Operations Center (EOC). Over the past several years state and federal government agencies have distributed standardized reference material and training courses on CD-ROM and now DVD discs. But will the right information be at the fingertips of the end user when needed?

Thousands of pages of potentially useful information can be gathered via Internet and easily converted to standard Adobe Portable Document Format files. Planners can obtain and frequently update information specific to their geographic area and circumstances. This reduces cost and space requirements while providing a wider range of potentially critical reference data or background information.

Inexpensive devices can replace a wall of three-ring binders with a four or five pound, highly portable, space saving library. A "Meda Carousel[6]" can organize up to 150 discs. Software is provided to build a searchable database and automatically serve up the desired information in seconds. Once the electronic information is found the user can instantly distribute it to where it's needed. The end user has a variety of options. Projecting it on the huge LCD screens increasingly found in EOCs or simply copying and using a paragraph from a document could be accomplished quickly and easily.

Analysis

Displaying detailed information graphically permits that information to be easily digested. Consider a list of addresses for a certain type of business. Displaying those addresses as points on a map make the information more useful that looking at a list.

[1] http://ops.fhwa.dot.gov/publications/ics_guide/glossary.htm#ics

[2] http://www.fema.gov/txt/nims/nims_ics_position_paper.txt

[3] http://www.zooknic.com/Domains/counts.html

[4] http://investor.google.com/pdf/2005_Google_AnnualReport.pdf

[5] http://www.sharpusa.com/about/AboutPressRelease/0,1130,C611,00.html

[6] http://www.cyberguys.com/templates/searchdetail.asp?productID=4667