# Achieving a Common Operating Picture

by Kim Buike, Captain, U.S. Navy (retired), Depiction Inc.

A low cost, easy to implement solution using Depiction Mapping Software

When a disaster, emergency or some other significant event has occurred or is ongoing, one of the biggest challenges is keeping track of what is happening and where things are happening. An immediate goal of responding and supporting individuals, agencies and organizations is to gain and maintain some sort of situational awareness. Further, having a "shared" situational awareness contributes significantly to a more efficient and effective overall response. We call this "shared situational awareness" a Common Operating Picture; and as the word "picture" implies, maps are a key component. When everyone involved has a common visual and geographic representation of what's going on, communications, cooperation and coordination are enhanced.

http://www.depiction.com
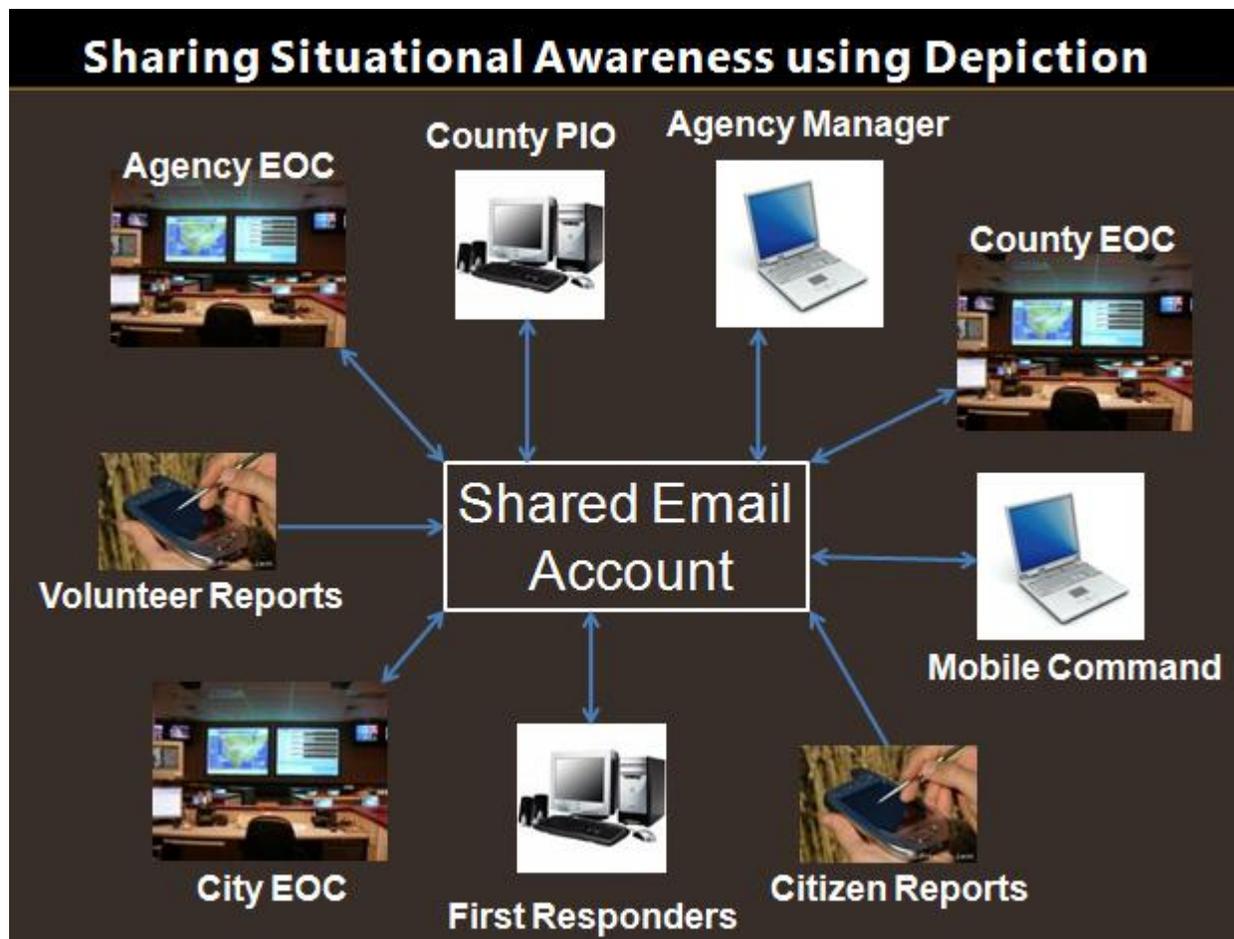
Let's say you're a Red Cross Chapter Disaster Manager responding to a regional disaster. You've got lots going on that you need to keep track of: shelters being set up; supplies and equipment are being moved; staff and volunteers checking in and being assigned. The locations and status of these resources are frequently changing and a flurry of reports are coming in from your people and from other agencies and organizations on whom you rely for important information and with whom you are sharing information. And by the way, you've got higher authorities that expect to be kept informed as well. Not surprisingly, information coming in over the phone or radio is often incomplete or misunderstood, has to be repeated or confirmed – all adding to a level of noise and confusion that adversely impacts your own and others' clear understanding of the situation.

Achieving a common operating picture among multiple agencies, organizations and even among key individuals of the same agency who are geographically dispersed is very hard to do – until now.

Depiction "What-if" Mapping Software makes it relatively easy, and very inexpensive to create and maintain a map that shows key resource information as well as events that are occurring. It's easy to add information to the map as it comes to your attention AND you can set up your Depiction to **automatically** receive and map information as it is reported by others.   You can even send information to others directly from Depiction. And all this exchange of information between and among the participants happens in near real time and is as easy as sending and receiving email. In fact, email is how Depiction exchanges information with others; whether they have Depiction or not.

Remember the Red Cross scenario? Now "What-if" routine information (like the locations and availability of your staff and volunteers) could be reported by email instead of voice, and what if the important voice communications (like the number of clients in a shelter) was augmented with an email containing additional details? And, what if all this information being reported by email automatically appeared on a situation map on your laptop display AND on the displays of everyone who needed that same information? And what if you could forward selected key information (and only the selected information) to all the agencies involved in the response and/or higher authority simply by clicking your mouse, and have that information be visually displayed on **their** map to achieve a Common Operating Picture? With Depiction "what-if" Mapping Software, this – and much, much more – is all possible. And it's extremely affordable.

How it works

1) Establish a shared email account to which you want your organization to send reports.
2) Have all those with a copy of Depiction configure their copy to read the emails in this shared account

Staying with the Red Cross Chapter example, let's create an account called reports@redcross.com. We can instruct all staff and volunteers to send all manner of reports (as long as they have some geographic information (i.e. can be mapped) to this email address. We'll also need to instruct them on

the format of these reports which is very simple: The subject line can pretty much be anything they want. The body of the message needs to contain some location information (in any of several formats) and may contain as much other information as the sender wants to include. If the user is familiar with Depiction, they can give their reports more meaning and precision by including properties that Depiction recognizes.

Here are two examples of reports; either of which Depiction can interpret and automatically plot:

From: Joestaffer@hotmail.com
To: reports@redcross.com
Subj: High School Shelter will soon be open
Location: 2727 164th St, Monroe, WA

From: Joestaffer@hotmail.com
To: reports@redcross.com
Subj: Shelter: Monroe High School
Street: 2727 164th St
City: Monroe
State: WA
Zipcode: 98242
Operating Agency: Red Cross
Shelter Manager: Joe Staffer
Capacity: 120

And for those who might be using their cell phone or PDA to send email, the location information can be included in the subject line: Subj: Shelter: Monroe High School, 2727 164th St Monroe WA 98242

Live Reports Web Form: We've also developed a way for people to submit reports by simply filling out a form on a web page. This requires only the link to the web page and no advance training of any kind. The Web Form capability provides a powerful, yet simple way for ANYONE to submit information that automatically appears in your geographic Depiction display.

Configuring Depiction to Receive Live Reports.   Selecting Depiction's Live Reports tab (Under Add content), the Red Cross Chapter Disaster Manager (or any other Depiction user who also needs this information) enters the information for the email account to be read by his/her copy of Depiction (including the email account password), selects "auto-detect" in the element definition tab and clicks Add. Depiction will begin periodically scanning this email account every 30-60 seconds looking for new emails and will plot the reported information on the display using the appropriate icon for the element type that was specified in the report or a Point of Interest icon for reports not specifying an element type.   The icon will also pulse to alert the user that a new report has been received. The first sample message above yields a point of interest and the second yields a shelter icon. For more details on Live reports email formatting options, please see the Help documentation.

Clicking on the icon acknowledges the alert and the icon will stop pulsing. Double-clicking on the element icon opens its information box where you can see all the properties associated with that

element as well as the email information: who sent the report, who they sent it to, when they sent it and what they sent.

Let's say the Disaster Manager wants to send the above shelter report to non Red Cross agencies. He/She can open the element information box and make whatever edits/changes might be desired and even add comments in the Additional Notes property; then click on Email. A fill in the blank box opens up requiring the user to enter the email account or accounts to send the report to and the account information for the account the user is using to send the email. Let's say all the community agencies are using an email account called agencyreports@county.com for sharing information. You can also have multiple addressees just like with any email system separated by a "comma". Hitting the Send button sends the email to agencyreports@county.com. Now, if the other agencies have set their copies of depiction, using the Live Reports feature, to scan agencyreports@county.com, they will each receive the email report of the shelter and it will automatically plot on their displays with all the information associated with that element. The Disaster Manager could have chosen to send the report to an individual's personal email as well.   You don't need to have Depiction in order to receive and understand the information in an email sent from Depiction; but without a copy of Depiction, you can't see **where** the element is.

Depiction's Live Reports (email scanning) and Email (outgoing email) features constitute a two-way email based communications capability. Since Depiction Live Reports can be set to scan several email accounts at the same, a system of reporting networks or "nets" can be established to control what individuals, agencies and organizations receive which email reports. Here's a diagram of how such a system might be structured for a county during a regional disaster or emergency:

http://www.depiction.com
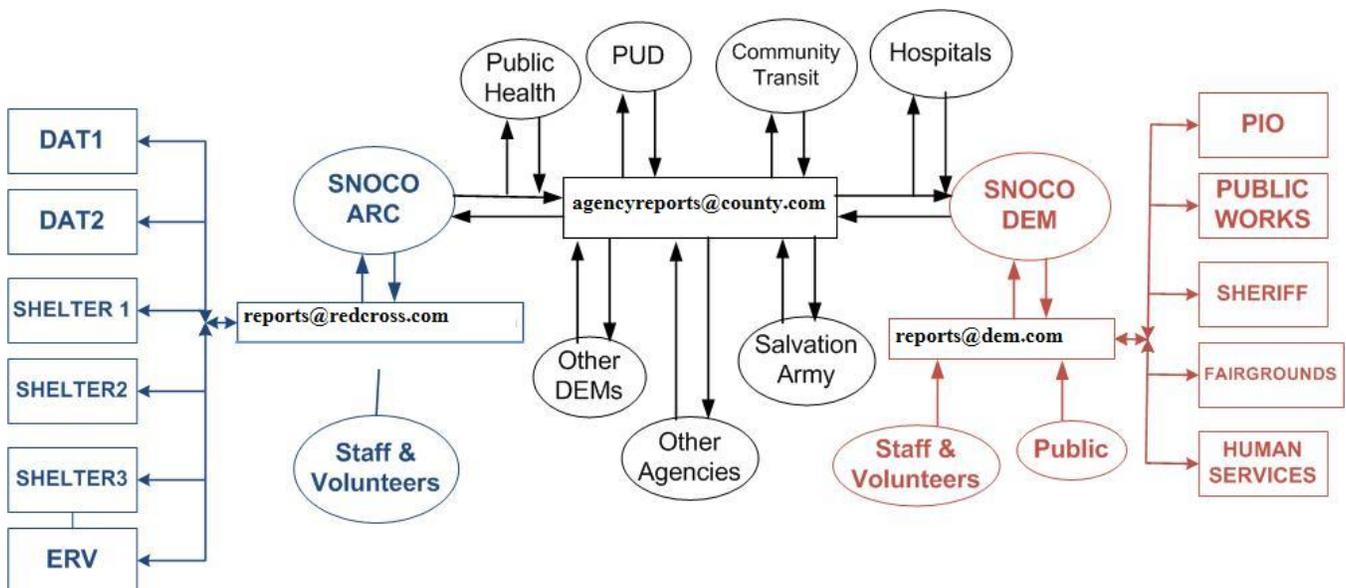
This shows how each agency (in this case, Red Cross and County DEM) would have their own internal reporting network email account while they would also participate in the County-wide multi-agency reporting network. Of course it is also likely that each of the agencies contributing to the common reporting network would also have their own internal network.

There are some additional benefits of this Depiction-enabled, email-based information exchange network:

1) Updating existing element information and sharing that update (including the updated location of moving elements) with all Depiction users "on the net" is easy to do using a unique EID (Element ID) property.   When a Depiction user receives a Live report containing an EID property, the software looks to see if an element already exists with that EID. If so, Depiction updates the information and location for that specific element AND causes the element's icon to pulse to show that it has been updated. EIDs can be pre-assigned by users OR Depiction will create an EID automatically for any element sent or received by a depiction user.

2) When someone joins the network by launching their copy of Depiction and setting up Live Reports to read the appropriate email account(s), Depiction will read all the emails and in just a few moments, the Depiction display will be up to date and reflect the most current information – no need to read back through a stack of messages to get "up to speed" on the situation.

3) The various email account(s) constitute an "event log" of sorts containing every email report that was sent during the incident. These emails show: What was reported; Who reported it; Who it was reported to; and When it was reported – No need to keep a separate chronological event log except to document those events not reported by email.

4) Using the "Save as" feature of Depiction, users could periodically Save their Depiction to capture the situation at that given moment and store it on their desktop as "Situation_at_290600.dpn" for example. Saved "dpn" files can then be recalled to reconstruct events in support of post-event analysis, to capture lessons learned and to better train for future events.

Using Depiction and email networks as described above, good Situational Awareness and a Common Operating Picture are achievable! And, of course, this same communications structure could be used to conduct table top exercises and scenario based training.

Authored by:

Kim S. Buike
Captain, U.S. Navy (retired)
kimb@depiction.com
www.depiction.com

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