Information Sharing with Unified Incident Command & Decision Support (UICDS™)

What is UICDS?

UICDS™ is a Department of Homeland Security, Directorate of Science and Technology, initiative for information sharing to support the National Response Framework and the National Incident Management System (NIMS).

UICDS is free **"middleware"** which means that it enables your software applications to talk to other agency software applications. It allows organizations to share and receive just the right fraction of data that they need during an incident to coordinate their efforts with other agencies. Results: organizations have more complete information and improve decision making.

Information Shared Through UICDS

- ✓ **Incident Data** (Type, Date/Time, Location, Description)
- ✓ **Alerts** (Identifier, Sender, Date/Time, Status, Type, Scope, Category, Event, Urgency, Severity, Certainty)
- ✓ **Map Data** (Geospatial Data, Layer Data, Title, Model Results)
- ✓ **Incident Command** (Organization Name, Type, Role/Position, Person in Charge)
- ✓ **Tasking** (Task List, Responsible Person, Description, Priority, Assignor, Accepted, Date/Time)
- ✓ **Resource Management** (Resource Name, Type, Quantity, Schedule, Location)
- ✓ **Sensor** (Sensor Name, Description, Location, Measurement)
- ✓ **Incident Action Plan** (ICS Forms and Next Period Plan)

NLE 11 UICDS Technology Showcase

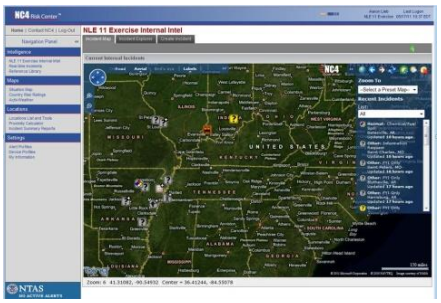
If you have been following UICDS, you've heard that "It's all about collaborative content." Information sharing technologies are only as valuable as the content they deliver. In the UICDS NLE 11 case study below, you will see how the interaction of previously isolated data turns into valuable information through UICDS.

So follow the path as alerts are shared with their map location that results in tracking of response vehicles and the modeling of a toxic plume that requires new staging locations for a response vehicle. This is a composite of activities that took place among several pilots, all shared through UICDS to produce comprehensive shared content to support decisions made collaboratively among responding agencies.

Monitoring the NLE 11 Exercise and Producing CAP Alert Messages

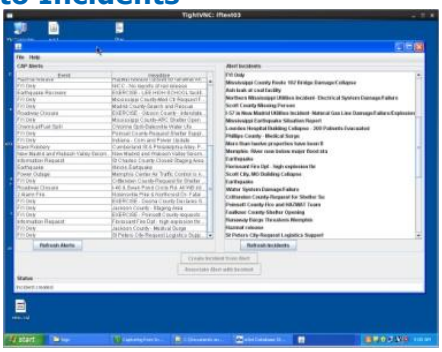
NC4's External Situational Awareness (ESA™) was used to capture information generated by the NLE 11 exercise and produce Common Alerting Protocol (CAP) standard messages that were posted to UICDS for further collaboration.

CAP Alert Contains Location



Part of the CAP standard calls for providing location information (latitude and longitude points or areas) about the location of the alert. Shown here is NC4's ESA locating an alert on the Risk Center™ map.

Significant Alerts Elevated to Incidents



The U.S. Army Armament Research, Development and Engineering Center (ARDEC) UICDS Core consumed ESA CAP messages (left panel above) and elevated significant ones to become UICDS incidents (right panel). In this case a Hazardous Materials spill is shared among UICDS Cores.

Applications Share Incidents for Common View

Incident management applications, shown here is WebEOC™, consume incidents from UICDS as well as provide incidents to UICDS for sharing among other applications. Here the Hazardous Materials incident turns out to be an ammonia release into the air, shown as an Open incident. New information that WebEOC adds about the incident then is shared back through UICDS

For more information see www.UICDS.us

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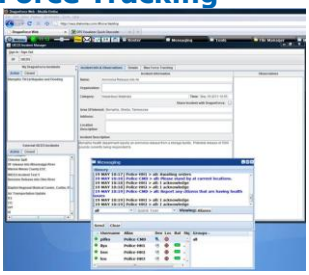
Ammonia Release into the Air Incident First Reported as a Point on a Map

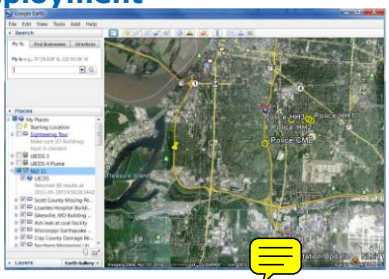
An ammonia spill was initially reported as a CAP message containing a location. Shown above is an ESRI™ Flex Viewer that consumes UICDS incidents. The location and brief description of the ammonia spill is indicated by the pop-up window.

Police Get Word of the Release and Their Response is Seen on Blue Force Tracking



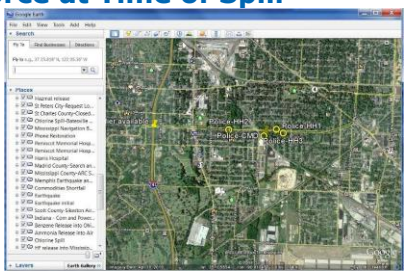
The Drakontas™ Dragon Force™ Blue Force Tracking application shows Police cars with GPS that are constantly reporting their location. Responding units are associated with the incident response. Their locations are shared with other applications through UICDS.

Police Command Vehicles is On the Move Leading Protective Deployment



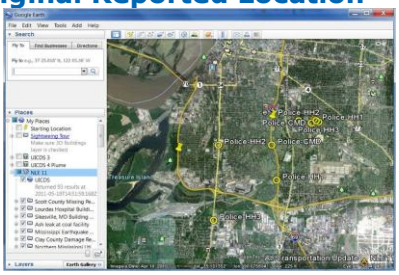
First on the move is the Police command vehicle (CMD) heading south on I-240, tracked by GPS in Dragon Force and shared through UICDS as Sensor Observations.

Blue Force Tracking Shares Original Location of Police Force at Time of Spill



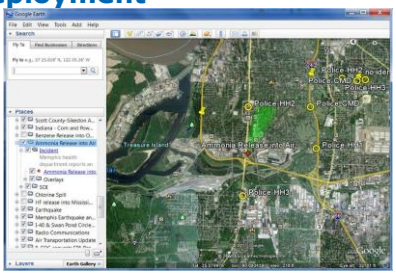
Here is where some key police resources were located based on GPS at the time of the spill as provided to UICDS by Drakontas' Dragon Force and shared to other connected applications, in this case Google Earth.

Police Deployed for Spill Traffic Control Based on Original Reported Location



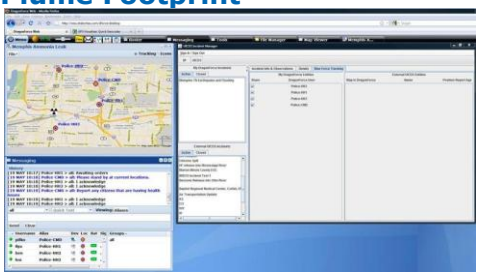
Now we see the full deployment of police vehicles (HH1, HH2, HH3 and CMD), again tracked by GPS through Dragon Force, shared to UICDS, and shared to all other subscribing applications, in this case, Google Earth™.

ALOHA Plume Shared Through UICDS Raises Questions About Deployment



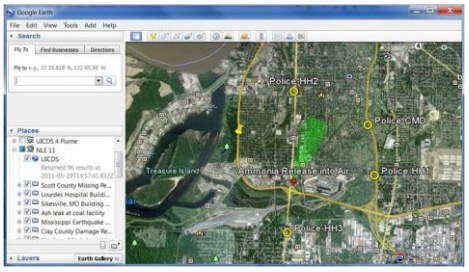
One application receiving spill information from UICDS in NLE 11 was a (simulated) environmental agency or local unit which proceeded to use the ALOHA™ plume from the U.S. EPA to model the airborne effects of the release, shown above.

Police Forces Redeployed for Officer Safety Based on Plume Footprint



When the ALOHA plume is shared through UICDS as shown on Google Earth, it became clear to those operating the Blue Force Tracking tool from Draknotas that one unit (Police HH2) had been dispatched into the area of potential ammonia contamination.

New Police Deployment Provides Traffic Control at Safe Margin Around Possible Plume



Able to see the location of the plume because it was shared through UICDS, police can redeploy HH2. The unit's movement out of the possible release area is tracked by GPS in Dragon Force and shared through UICDS.

Become a UICDS Pilot - Join Information Sharing from DHS

Tired of watching and want to get involved? Are you a government agency that knows you should share information better? Critical infrastructure owner/operator in need of coordination with governments? Technology provider who wants to better serve emergency management and response organizations?

Are you ready to become a UICDS Pilot?

Go to www.UICDS.us to enroll.

For more information see www.UICDS.us