Improvised Explosive Device Network Analysis
• IED\textsuperscript{NA} utilizes network analysis methods to fill gaps in the understanding and visualization of IED networks.

Typical network analysis of illicit networks focuses on the human participants:

• In the case of IED networks these would be emplacers, financiers, bomb-makers, etc.

• This is problematic because the intelligence relied upon (HUMINT, SIGINT) is frequently incomplete and/or inaccurate because it is subject to deception efforts.

• Typical intelligence sources are also much more demanding from the perspective of time:
  – HUMINT sources need to be vetted
  – SIGINT sources need to be translated
  – Multiple sources are needed to be valuable for the end-user

A typical map of IED “atmospherics”:
• How useful is this?
• How can I “attack the network?”
**IEDNA Overview**

• IEDNA focuses on the **physical components** of the individual IEDs and what these components can tell/show us about the IED network(s)

• To enable this analysis, we built a mobile IED INTEL collection application that allows for real-time on-scene data collection that:

  – Structures Collected IED data
  – Automatically generates IED incident report(s)
  – Reduces operating burden on EOD Technicians
  – Allows for rapid Tactical Level Intel feedback of IED operating environment
  – Allows C-IED forces to isolate targets of interest and develop network attack strategies
EXPLOSIVE ORDNANCE DISPOSAL MOBILE UNIT TWO
PLATOON TWO TWO ONE | PLT 221

1. Select the type of incident to which your EOD team is responding.

You may select more than one option, or return to this page and add another incident as your EOD response develops.

Example: If you encounter a Secondary IED during 5s & 25s, return to this page and simply select (add) "Secondary IED."
IEDNA Overview

[Image of a tablet interface with options for Sync, Settings, Help, and Logout.]

**Lighthouse**

- **Sync**
- **Settings**
- **Help**
- **Logout**

**IED INTEL REPORT**

*INCIDENT BEING REPORTED: IED*

- **EOD FIELD GUIDE**
- **AFGHANISTAN UXO GUIDES**
- **IRAQ UXO GUIDES**
- **IED GUIDE**
- **IED COMPONENT GUIDE**
- **HME GUIDE**

*Master EOD Op-Intelligence*  
04/17/2012
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  1. Improving on-scene collection capability that structures the data in a way that is easily imported into network analysis tools
  2. Applying component level analysis
• We can gain a much better ability to fill gaps in the knowledge of IED networks that are otherwise left empty
  – IEDNA makes it possible for an analyst to
    • More clearly define the specific network of interest
    • Identify likely bomb-making cells / individuals
    • Increase the value of HUMINT and SIGINT reporting
    • Increase the chances for justification of Direct Action on bomb-making groups and individuals
    • Zero in on more specific geographic areas of interest
    • Justify ISR collections requests empirically
    • Track and link together IED components and events across regional and national boundaries
  – In a drastically faster Processing, Exploitation, Dissemination cycle
    • In minutes or hours vice weeks and months
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New RCIED, HME sub-network areas of interest
- Reduces focus from 187 square miles to two 9 square mile areas

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• Bottom Line / Big Picture
  – IEDNA is *not* a silver bullet
    • There will never be one
  – It *does* fill a gap in knowledge by properly utilizing data that is *already being collected*
    • These techniques are proven and validated, and are therefore powerful tools that give commanders more options in the F3EA cycle:
      – Empirically justify Collections Emphasis Requests
      – Satisfy legal justifications for Direct Action
      – Identify supply chain similarities within IED networks and sub-networks
• Bottom Line / Big Picture (continued)
  – It also allows an analyst to quickly sort through massive datasets that currently entail hundreds of hours of analyst legwork
    • By quickly sorting through the IED component variables, an analyst can zero in on a sub-network of interest
    • Including isolating for specific components that may be moving across regional and national boundaries
  – Again, EOD techs are already **required** to collect this type of data
    • Our application allows them to collect it in a way that structures the data and reduces the reporting burden
    • Not taking advantage of the intelligence in a **timely** manner is a **failure**
Points of Contact

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