

**Presentation of Robert J. Heibel,**  
**Director, Research/Intelligence Analyst Program,**  
**Mercyhurst College, Erie, Pennsylvania**

- **Analysts are the key to successful intelligence process**
- **R/IAP 4-year academic approach to producing a qualified entry-level analyst**
- **80% of criminal intelligence conducted by state and local authorities, but majority lack access to OSINT because of insufficient funding**
- **The R/IAP approach to OSINT for law enforcement**

Speech delivered by Michael A. Farmer from DOE Office of Energy Intelligence and Pacific Northwest National Laboratory at OSS '95 on November 8, 1995 at 4:40 PM.

Good afternoon, it is a pleasure for me to share with you what we in DOE's Office of Energy Intelligence and the DOE National Laboratories are bringing to bear in understanding the growing mountains of available information. Part of my efforts in the last two years has been in the improvement of our analytical processes.

Notra Trulock - Director DOE/OEI - was called away and asked me to speak to you today. My remarks are my own observations and are not necessarily those of the DOE or the DOE National Laboratories

Let me express our thanks to Robert Steele for

- the invitation / opportunity
- for his persistence and success in the pursuit of open source awareness
- and for these annual opportunities to learn from one another

#### DOE/OEI

We are DOE Office of Energy Intelligence

- core of about 80 analysts at DOE HQ and a spectrum of capabilities at several of the laboratories - principally scientists and engineers
- we provide direct support to DOE and technical analysis for the intelligence community

#### Where do we come from

Our focus and our legacy is nuclear.

- nuclear development is more than developing and producing bombs.
- also entails many other wide ranging technologies including, but not limited to,
  - reactor technologies,
  - environmental waste and remediation, and
  - most relevant to this discussion - information technologies and computer sciences
  - plus, importantly, the labs bring to bear the historic laboratory cross discipline approach to finding solutions

The range of information and computer technologies include

- computer and application development
- ensuring information
  - confidentiality
  - integrity
  - availability
- assessing the effectiveness of our efforts
- development of leading edge data visualization and retrieval techniques

Dealing with large volumes of data and information and making it usable for analysis is a large part of the legacy we bring to this continuing explosion of information the vast majority of which is open source.

#### Open source -- plus

Is open source important in the context of what we do?

- absolutely

Do we use open source day to day?

- of course

Are we taking steps to use open source, indeed all forms of information, better?

- you bet

Where are we going

Let me share with you the evolution, our progress, and the target.

First: the target

- improved analytical support to the customers
- how:
  - better information base
  - reduce time searching and culling
  - reduce time producing
  - improve analytical methods

Where have we been? our migration

- printed - still have a lot, forests of it -but less
  - next: electronically stored
    - culling; searching; parsing; gist, header and full text - still too long
    - current approach is either electronically pushing analysis and information to consumers or making information and analytical results available to pull using Internet like methods.
- what company doesn't have a form of Netscape, Mosaic, or like net.

What's new

These improvements are great and have substantially improved the quality of our products and our analysts lives. but, I submit, the fielded progress is evolutionary.

Revolutionary development is happening today.

Techniques include:

- data visualization, and
- data storage and retrieval how analysts think -- such as in an analog context, for example geographically

DOE National Laboratories involved in the efforts include

- Lawrence Livermore
- Pacific Northwest
- Sandia
- Los Alamos
- Oak Ridge

One of the tangible successes of those efforts is on display here at OSS '95.

How are we doing

We are closing the asymmetry of time spent on data search, retrieval, parsing, gisting, and sorting. vs. analysis. Data is getting increasingly more available and in more usable forms to analysts. But we are not done.

What's next

We are also making strides in converting the fruits of the information analyzed to knowledge, to intelligence. Visualization and analog - new ways of thinking about information - will surely help. We need to work with these tools and to understand the capabilities and enhancements better.

**We are also improving the translation of analysis - the parsed, gisted, culled, visualized, gist'ed and now easily referenced - to product.**

- like information distillation process, there are and will be several solutions and we need to learn more about them.

- the solutions need to serve a range of analyst needs from long range and in-depth technical analysis to crisis response.

- we need to keep in mind that not all analysts use high end machinery - there are a lot of PC's, and Mac's out there.

**In summary - and in conclusion**

- our focus is on improvements that produce results in the form of products.

- that is the result of improved analysis,

- the analyst wins.

- facilitated by a stronger base of information - open source is a key - and

- improved tools to balance the time spent looking with the time spent analyzing.

In concert with the DOE Laboratory structure, we are moving that direction. |

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Previous [Royal Canadian Mounted Police](#)

Next [Dr. Gordon Oehler, Director. U.S. Intelligence Community Nonproliferation Center](#)

[Return to Electronic Index Page](#)