

Implementing Open Source Intelligence Through a Distributed Contribution Model

by

Anthony Fedanzo, PhD
Ferret Technology
P. O. Box 440
Corte Madera, CA 94976-0440

I. Introduction.

Open source intelligence (OSI) consists of any and all public domain information suitably collected and analyzed to meet an intelligence objective. It has been persuasively argued elsewhere [1], [2], that OSI is both a necessary and desirable improvement to present intelligence practices. Those arguments will not be repeated here. Instead the focus of this discussion is upon implementation.

Principal obstacles to implementing an OSI organization include the volume of information to be analyzed, coordination issues among requesters and responders, lack of standard formats for information, and incentives to participate. Other obstacles stemming from the need to integrate OSI products with present intelligence agency activities are not discussed here.

Traditionally, organizations manage information centrally. In loose terms, a single core group (the "brain") coordinates, stores, analyzes, summarizes, distributes, and controls the rest of government's or industry's (the "body") intelligence information content and processes. All current major intelligence organizations both public and private are organized this way.

The conceptual model proposed here for an OSI organization is a divergence from the traditional "organismic" concept of most information service organizations.

OSI requires a different model to effectively overcome the obstacles noted above. This model is that of a confederation of participants working under consensus with minimal central control and maximal cooperation. OSI can do without a singular "brain" to collect, analyze, summarize, and store information. Participants will remain located where they presently live and work. Only their contributions will be collected for use.

We turn to discussion of the organizational structure for an OSI organization, then describe the activities that that organization will perform.

II. OSI organizational structure.

Viewed as an organization chart, this proposed OSI organization appears as a non-directed graph or lattice shaped into an amorphous mass of autonomous nodes with occasional clusters of nodes projecting outward. The projections are transient input and output loci. The image is more that of spiny sea urchin, than the traditional pyramidal top-down chart.

Each projection represents a node(s) where requests for information are acknowledged and product delivered. There need not be one central coordinating body. Several may appear, service an information request, then merge back into the mass of information processors. A requester's access to the OSI organization defines where input-output will occur. Requesters themselves may be participants in the OSI organization.

The key features of this model are:

- o autonomous, unpaid researchers;
- o decentralized, non-standardized information repositories;
- o a common information exchange format and medium;
- o a national dial-up computer network (like The WELL);
- o low cost (or free) access to the exchange medium;
- o multiple, concurrent ad hoc coordination bodies;
- o continuous statistical and qualitative peer review of contributions for usefulness and quality;
- o continuously updated indices to researchers listing their areas of experience, expertise, and interest.

Liaison with existing organizations will require establishing stable coordination bodies each charged with interfacing to an external organization. Hence, the OSI "organization" will not have a single "head", but multiple heads one for each external organization.

The task of these OSI coordination bodies will be unlike that of traditional intelligence agencies. OSI coordination bodies will not store, summarize, edit, or otherwise filter intelligence products gained from the OSI organization as a whole. Their sole role will be pass requests into the organization, assure that they are serviced, and pass the resulting output back to the requester. Clearly this removes a great deal of overhead.

A guiding principle of this loose confederation is the belief that people know more than computer science is able to emulate via search algorithms in the foreseeable future. Technology is not likely to satisfy OSI requirements if OSI's information management systems are built upon very large databases. If the data storage and access issues were not the limiting factors, the data entry and update factors would be.

What this discussion proposes is to convert the heterogeneity of information resources into a strength rather than an obstacle to be overcome by some technological or administrative fiat. Diversity is a strength if it is polled rather than ordered about, queried rather than burdened with regulations, and has its need for free and open exchange of information satisfied at very low or no cost.

This proposal does not rely upon yet to be invented technologies or standards. Current trends in information processing technology are towards standardized information interchange formats, query languages, and data representation. However, these trends relatively are still in their infancy and subject to another decade of commercial market evaluation before an OSI organization could presuppose their common use. By the time they mature they will facilitate improved efficiency of the proposed OSI organization, not signal its obsolescence.

III. OSI participants and activities.

Citizen Analysts

The constituents of the proposed OSI organization will be electronically linked, geographically dispersed, predominantly unpaid amateurs from the standpoint of present intelligence professionals. OSI participants will be citizen analysts, a term describing persons whose primary activity in life is not the collection, analysis, and presentation of intelligence, but some other way of life and employment.

Citizen analysts will be free of employment contracts, performance reviews (except defacto reviews by their peers and information requesters), and all statutory obligations beyond those already existing for civilized behavior. They are at liberty to work with whatsoever information tools, techniques, methods, and resources they select. Citizen analysts are required to use OSI standard exchange formats and media for OSI products.

On the other side of the ledger, citizen analysts will not be able to charge expenses. Nor may they claim any form of compensation now or in the future from the OSI organization. They will receive a fixed minimum number of free hours of connect time to the OSI network.

Ideally, the incentive for participants consists of social recognition and psychological rewards stemming from voluntary service to the nation. More pragmatically, requesters could contract directly with citizen analysts or consortia of analysts for follow-on studies. Commercial firms that allow employees a few hours a week to participate might receive R&D tax credits, or the like. The OSI organization will need to receive a small percentage (say, 1-2 percent) of any fees paid to OSI participants when those fees result from work gained through participation in the OSI network.

Commercial organizations utilizing OSI products might be required to pay a minimal fee scaled to the size/gross income of the organization. In no case should the cost of OSI products make them inaccessible to non-profit organizations or small businesses.

Activities

OSI can be managed like an enormous town hall in continuous session by means of computer networking. Previous methods of analysis and collation of information relied upon a few specialists working in isolation, if not secrecy. The OSI model vastly increases the number of analysts and makes the forum public.

What the OSI citizen analysts "sees" on the network is a topic list of open questions and a sparse set of rules for interacting with others concerning those topics. The topic list is generated by requests for open source intelligence. It is the responsibility of the coordinating body to formulate the request in a simple direct fashion. Further, coordinating bodies must assure that requests are not only posted generally, but brought to the attention of participants with relevant experience, expertise, and interest.

Some rules will be imposed to enforce ideals of brevity and the free exchange of ideas that can only come when people are not swamping one another with voluminous dialogue. These rules could be enforced either through a computer program or by a discussion moderator who arbitrates format, not content. Exceptions to the rules will be allowed only by majority vote from the participants on a given topic, and only on rare occasions.

Topics tend to fall into three categories:

- o continuing discussions and updates;
- o focused inquiries with deadlines;
- o requests for facts.

Examples of each type of topic are as follows.

Topics whose originators seek continually updated opinions and the widest possible dialogue should be run like today's BBS discussions. Individuals with contributions to make could do so electronically or via private e-mail to the requester.

Focused inquiries for which some timely stated opinion or resolution is required should be handled by an ad hoc group. This group works via electronic dialogue to formulate a response. Dissenting views necessarily become part of the response. Alternately, individual participants at large might be generally invited to submit succinct ideas of their own.

Requests for facts will be treated as open topics, with or without deadlines. Anyone could contribute a fact or discussion of fact. Contributions in open topics go directly to the requester who could end the topic when they were satisfied.

Quality assurance in this system comes from two sources: requesters and peer review. Requesters are asked to comment briefly on the quality and timeliness of all OSI products. That commentary is e-mailed to all participants who had any involvement with the delivered product.

Peer review is continuous and topical. Since no salaries or promotions derive from good/bad reviews, it is expected that reviews will take the form of informal education rather than punitive processes. This is consistent with the principle that people will be more productive when they are not punished for not knowing, only for flim-flammy. As an additional reinforcement requesters will not support useless products, or return to those who produce them for more of the same. Participants therefore have a vested interest in maintaining quality themselves.

The town hall analogy embodied in an electronic medium makes distributed contributions to real intelligence questions possible with today's technology. What is important in the activities of OSI organization participants is their willingness to participate, relative freedom from "red tape", access to one another through a common medium, and rapid feedback from the

consumers of their intelligence products. In this way the volume of information need not be managed as a whole, and the dangers of insularity and over specialization are minimized.

IV. Summary.

An OSI organization can succeed if it focuses upon its mission, turns the shortcomings of present technology into advantages, and is willing to break with traditional organizational structures. It will fail if it attempts to match information processing challenges with traditional solutions and organizations.

The OSI implementation model presented here is constructed to minimize the costs, infrastructure, and overhead needed to create a productive open source intelligence activity. This is accomplished by utilizing standards and hierarchies only at interfaces, not imposing them upon the individual participants and information sources. This type of organization can be attempted on a trial basis at very little cost.

Key features of this proposal are: its reliance upon individual knowledge to overcome present technical data management obstacles; reliance upon computer networking; voluntary participants; town hall style of interaction; minimal central coordination; multiple access paths; and, remarkably low overhead compared to many other public and private intelligence activities.

References

- [1] Steele, Robert D. "Open Source Intelligence Clarifies Global Threats". SIGNAL, September 1992, 65-67.
- [2] Steele, Robert D. "E3I: Ethics, Ecology, Evolution, and Intelligence". WHOLE EARTH REVIEW, Fall 1992, 74-79.

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[Return to Electronic Index Page](#)