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14. ABSTRACT

Intelink is the U.S. Government's classified version of the World Wide Web. Unfortunately, like the World Wide Web, Intelink's information is often difficult or impossible to easily locate, and indeed a large portion of Intelink data is inaccessible to the average user because of security-related, organizational, or technical reasons. Because Intelink plays such a pivotal role in providing intelligence support to the operational commander, any information management problems or inefficiencies in Intelink will create potentially large-scale perturbations in the intelligence process, ultimately affecting how well the operational-level commander and his subordinate units will be able to carry out their mission. The newly created Office of the Director of National Intelligence must assume responsibility for Intelink and conduct the organizational and technical changes that must occur in order for Intelink to truly leverage the power of the entire Intelligence Community.

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A SMARTER INTELINK:
Intelligence Information Management to Support the Operational Commander

By

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A paper submitted to the faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Military Operations

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

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14 February 2005

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Abstract

Intelink is the U.S. Government's classified version of the World Wide Web. Unfortunately, like the World Wide Web, Intelink's information is often difficult or impossible to easily locate, and indeed a large portion of Intelink data is inaccessible to the average user because of security-related, organizational, or technical reasons. Because Intelink plays such a pivotal role in providing intelligence support to the operational commander, any information management problems or inefficiencies in Intelink will create potentially large-scale perturbations in the intelligence process, ultimately affecting how well the operational-level commander and his subordinate units will be able to carry out their mission. I propose that the newly created Office of the Director of National Intelligence assume responsibility for Intelink and conduct the organizational and technical changes that must occur in order for Intelink to truly leverage the power of the entire Intelligence Community.

"...[Operators] want to get information more quickly, they want it in [the right] format. Because it's not necessarily a question of bigger, better, and more. What I'm arguing is, I think we'd be a lot better off if we provided better access to what we already have." [1]

-- Brigadier General Michael Ennis
U.S. Marine Corps

Introduction

Intelink has developed into the primary intelligence information collaboration and dissemination system for intelligence professionals at all levels, yet it has fallen victim to its own success: Despite the Intelligence Community's (IC) growing reliance on Intelink and (perhaps because of) the ever-increasing, enormous volumes of information available on the system, much of it is not accessible due to security or technical reasons. Finding relevant data can be cumbersome and time-consuming for the user. In order to fully and effectively support the operational commander, Intelink and the IC members who employ it require major overhauls in terms of information management practices; these overhauls must be directed and enforced by the Director of National Intelligence.

Inefficiencies associated with use of Intelink directly translate into inefficiencies in the operational level of intelligence analysis. Intelink products may not be accessible to the operational commander due to classification or technical issues, and even when they are accessible, the user often cannot find the data nor have time to sift it from the chaff. Analysts spend too much time fighting the system, trying to find the relevant information that exists "out there", vice learning about and analyzing the enemy. This directly impacts efforts involved with Joint Intelligence Preparation of the Battlespace (JIPB), particularly determining the enemy center of gravity and how best to affect it.

This paper will provide a brief history of Intelink and discuss its pivotal role in the Intelligence Community, then discuss the primary areas where Intelink support to operational

users needs the most improvement in order to fulfill the massive potential it embodies. Possible short- and long-term technical solutions to these problem areas will then be discussed, identifying those which will also require organizational changes.

Analysis

The Department of Defense Intelligence Information System (DODIIS) is the subset of the Global Information Grid[*] designated to serve DOD intelligence, and encompasses the required communications architecture, personnel, and procedures used to connect military intelligence users to DOD and other government agency intelligence producers. DODIIS utilizes many different communications networks, but primarily relies on JWICS (Joint Worldwide Intelligence Communications System), the IC network that securely processes Sensitive Compartmented Intelligence (SCI); and SIPRNET (Secret Internet Protocol Router Network), the national defense C4I network that can process material classified up to Collateral Secret. [2]

Intelink has rapidly become the most prevalent application of DODIIS, exploding from a single server with 13 websites in 1994 to the "primary electronic means for sharing national security information" among the entire Intelligence Community.[3] With JWICS and SIPRNET acting as the "secure Internet" backbone, Intelink is the "secure World Wide Web" (WWW), providing a virtual workspace for product dissemination as well as analyst collaboration.[4] Intelink comprises one of the largest data repositories in the world[5], with products generated by over 130 information providers, serving an estimated 300,000 users, and boasting over 8,000 classified websites and 125 major classified databases.[6] In the

[*] The Global Information Grid (GIG), an "end-to-end integrated set of IT capabilities, associated processes, and personnel," securely integrates intelligence and operations data to remove the "stovepipes" of information flow and thereby improve interoperability among DOD and other U.S. government entities around the world. The system as conceived is designed to allow allies and coalition partners to be connected via special interfaces.

context of these impressive statistics, it is not an overstatement to say that Intelink has profoundly impacted how the IC conducts business. It has been a technological success.

To the operational commander, Intelink represents the primary link to the entire U.S. IC. It is likely the first place the J2 will turn when developing the full-spectrum intelligence vital to JIPB and for monitoring new intelligence. A properly operating and efficient Intelink is therefore essential to Operational Intelligence. Accordingly, any problems or inefficiencies that affect how Intelink transfers and delivers information will create potentially large-scale perturbations in the intelligence process, ultimately affecting how well the operational-level commander and his subordinate units will be able to carry out their missions.

The problems with Intelink. There is no question that Intelink can provide information quickly to a wide assortment of organizationally and geographically separated intelligence consumers. In the early days of the system, when the stovepipes were many and interoperability a fantasy, simply providing a fast, relatively cheap medium for the exchange and dissemination of information was enough. Now, however, the very fact that so much data is available or (as important) *is required to be available* means that information must be able to be located and accessed. Thus, the issue now is not so much information technology as information management. The following are the major problem areas where Intelink is failing in this mission:

Finding the data. Not long after then-Col. (now BGen) Michael E. Ennis, a Marine Corps Intelligence Officer, became Commanding Officer of Joint Intelligence Center, Pacific (JICPAC), he instructed his analysts to research a particular country topic on Intelink. The mechanics of the search process proved daunting, yet, to the common user of Intelink, not

overly surprising. As Ennis remarked in an interview: "We spent 696 man hours and found 756 different locations on Intelink where there was information on this subject."[7] Ennis and his analysts had run up against one of the most persistent Intelink issues: "Indeed, one of the major complaints from the Intelink user community is the inability to find, quickly and easily, information located on its servers."[8] The issue is even more pronounced at the operational level and below, for if Ennis found 696 man hours and 756 different web locations too difficult for his 800-man JIC to effectively manage, how can a much smaller Joint Intelligence Support Element be expected to do any better?

The inability to quickly locate the right information on Intelink has prompted some commands to improvise solutions: the Special Operations Command JIC (SOCJIC) responded to inputs by its subordinate commands and developed CountryLINK.[*9] The goal of CountryLINK is provide a "one-stop shopping" page for Intelink research on any country, linking to multiple agencies and covering topics from basic terrain and environment data to leadership biographies to orders of battle. These links are not automatically generated; indeed, all the information must be manually located and added to the website, requiring the efforts of two trained intelligence personnel working full-time. CountryLINK is a commendable effort and no doubt useful, but the more interesting point is that it exists at all: if Intelink were truly searchable, then what would be the point of this service? The value added comes from time and frustration avoided by the user, but at a significant personnel cost to USSOCOM that certainly was not intended by Intelink's designers.

Why is the data on Intelink so hard to search effectively? The answer lies, to a large extent, in how search applications and Intelink work. Search applications come in two major

[*] There is also the very valuable Classified World News (CWN) website, a service created by the Intelink administrators which collects links to the daily intelligence reports issued by various agencies and organizes them by geographic Area of Responsibility (AOR).

categories[*]. First are the "human-powered" lists, collections of links assembled by a human moderator and grouped according to subject, the usefulness of which is highly dependent on the moderator's subjective judgment of what is relevant and authoritative, as well as his ability to locate the data in the first place. The internet's Yahoo! Web Directory (http://www.yahoo.com) and SOCJIC's CountryLINK are examples of this first type. The second type are the crawler-based engines, which use software agents called "webcrawlers" to explore Intelink by following hyperlinks from site to site, indexing and storing information about each page into a searchable database.[10] Google is the most popular example of a crawler-based search engine. Of the two search application categories, crawler-based engines appear to offer the most flexibility and greatest potential for managing the enormous amounts and widely varying types of data on Intelink. But even the implementation of Google on Intelink in 2004 has not provided "the final answer."[11] For a variety of reasons (te be discussed later in this paper), much of the data on Intelink is not "visible" to webcrawlers; this same phenomenon plagues the internet as well, and such data is said to reside in the "Invisible Web," which has been estimated at "between two and 50 times larger than the visible web."[12]

Poor design is a frequent cause of making a page or document invisible to webcrawlers. Crawlers are most adept at reading and indexing text, and are specifically designed to "understand" the text formatted in hypertext markup language, or HTML. Intelink was designed to make extensive use of HTML and other World Wide Web Consortium (W3C) internet technology standards in order to make intelligence product dissemination as easy and familiar as posting a personal webpage on the Internet. Unfortunately, this familiarity has led to the proliferation of what are essentially government

[*] There are actually more than two, but these are the most prevalent and most applicable to this discussion.

versions of personal homepages on Intelink, employing webpage elements such as frames (the sectioned-off areas of a webpage usually devoted to site menus or indices) and image-based text, which can "hide" important data from webcrawlers. Search engines thus have difficulty finding potentially useful pages such as those containing the Marine Corps Intelligence Agency (MCIA) country handbooks.[13] The Intelink Management Office (IMO), the organization responsible for keeping the network operating and guiding its development, has published and frequently updates webpage authoring standards that could significantly enlarge the "crawlable" area of Intelink. However, these guidelines are not mandatory and are therefore frequently poorly understood or ignored completely.

Another aspect of the problem is incomplete or incorrect implementation of "metatags". Metatags are "data about data," information fields included in the text of an HTML or XML (eXtensible Markup Language, a more robust and metatag-friendly web language than HTML) document that can indicate the document's title, header information, or even a summary of the document's contents. Metatags by their nature provide more data for webcrawlers to latch onto in terms of indexing those documents. Use of metatags may increase in the near future, as the CIA Chief Information Officer has directed that all Intelligence Community members must comply with metadata standards by October 2005.[*] How completely IC members will comply with this requirement remains to be seen.[†]

There is also a significant amount of valuable data that cannot be found on HTML webpages at all. Many of the previously mentioned 125+ classified databases are invisible to search engines, either because they are password-protected or because the database has its

[*] Via the April 2003 IC Policy for Metadata and Metadata Markup.
[†] There is cause for hope, however: VADM Jacoby, Director of DIA, noted to his staff in July 2003 that the use of "Intelligence Community XML metadata tagging standards in DIA intelligence data stores are requirements, not options." Lardner, "Tag, You're It", Inside the Pentagon, 25 Sep 2003.

own search engine or interface that a webcrawler cannot negotiate past. As a result, search engines like Google will not be "aware" of their existence.[14]

The problems are not limited to improper data formatting, and as the members of IMO will readily admit, the fault does not lie solely with the intelligence producers. Current webcrawling search engines used by the IMO do not have the capacity to index everything on Intelink, "so even if each producer's doors were wide open...we couldn't hold everything we could find."[15] To help with this deficiency, IMO has provided multiple tools for finding information, to include several human-powered and webcrawling search engines, providing some areas of overlapping "coverage." However, without the knowledge of how best to employ each engine, average users will not only be unable to use them to best effect, but "probably won't realize the limitations of the search results they receive."[16]

In the civilian sector, the problem of effectively sifting the digital wheat from the internet chaff has led the search industry to become the fastest-growing major sector in technology; current industry leader Google's revenues have reached $3 billion.[17] On Intelink, the corresponding problem can keep the operational commander's intelligence staff from quickly and efficiently conducting JIPB or maintaining situational awareness[*].

Getting access to the data. Another type of problem is indicative of problems the IC suffers as a whole: data that is purposely made inaccessible. Generally, the reasons for hiding or protecting such data are rooted in concerns over security classifications and accountability.

[*] In addition, the J2 and other theater intelligence personnel must continually establish and maintain a working knowledge of potential adversaries. This building of expertise and familiarity is, among intelligence professionals, an understood and always-present requirement that should provide a more efficient and deeper JIPB when the situation requires, and otherwise enable the J2 and his staff to better support the operational commander.

The security classification issue is evident in the very structure of Intelink itself. Intelink has been segregated into three networks based on security classification of the data they contain: Intelink-TS (covering Top Secret and SCI data, typically riding on the JWICS architecture), Intelink-S (Collateral Secret data and below, riding SIPRNET), and Intelink-U (Unclassified, riding on NIPRNET, the unclassified defense C4I network).[*] In theory, data is religiously replicated or "migrated" between the networks as the data's security classification allows, ensuring fullest dissemination. In practice, however, organizations often prioritize the use of one network over the others: many strategic- and theater-level intelligence agencies have typically favored the use of Intelink-TS, and put minimal effort into transferring documents to Intelink-S, even if their customers use both networks. This is particularly troubling for the operational and tactical level users, who generally have limited or nonexistent access to Intelink-TS. For example, U.S. Central Command (CENTCOM) has repeatedly failed to make Secret-level documents residing on Intelink TS servers available to Intelink-S users in theater, necessitating IMO intervention to have the documents e-mailed via SIPRNET to the users. CENTCOM is certainly not the only offender: IMO studies have found that agency migration rates (the percentage of eligible documents that are actually migrated to a lower-classified network) range from a high of 93% down to a staggering low of 15%.[18]

Part of the problem is differing classification guidance between the intelligence agencies and the DOD (for example, the DOD does not use the ORCON--"Originator control required for further release"--caveat employed by the CIA), as well as the slow elimination of security classification guides for plans, systems, and programs.[19] Adding to the confusion

[*] There is an additional TS/SCI network named Intelink-P (Policy), which is used by senior strategic-level decision makers and is therefore not relevant to this discussion.

are widely varying interpretations of existing guidance, leading to clashing dissemination policies, over-classification, and "hiding" of potentially valuable data. In order to "play it safe" security-wise, at least one agency has strangled user and webcrawler access to its Intelink-S webpresence, moving most of its Secret data to a protected, inaccessible area The same agency has also refused to make "No Foreign Dissemination" (NOFORN) products available on JWICS or SIPRNET, which are both NOFORN networks.[20]

Finally, IC producer organizations may choose to make "raw" intelligence unavailable for general Intelink users, sequestered in password-protected servers or behind firewalls. To some extent this is reasonable, as such reporting might also reveal sensitive sources, particularly in the HUMINT realm, and in any case producers likely want to prevent users confusing unvetted source data with fully analyzed products. However, in their eagerness to protect sensitive sources from exposure and users from unanalyzed and possibly erroneous reporting, producers are almost certainly, albeit unintentionally, withholding potentially valuable information from the operational commander.

Analysis/Production Authority. In intelligence, knowing which organization produced a report can be as important as the report itself. For example, a report on North Korean military forces automatically has more authority if it comes from the analysts at U.S. Forces Korea than those at U.S. Naval Forces Europe. The reason is obvious, if not always fair: USFK is specifically tasked with and is responsible for maintaining comprehensive and in-depth knowledge on the North Korean military. Other organizations may disagree with a particular USFK assessment, but in general USFK is acknowledged to have a definite stake in and valuable insight into matters regarding North Korea.[*] Thus, knowledge of a product's origin can help the intelligence analyst add relative weight to differing analytical opinions--in

[*] In addition, they are more likely to have seen the raw data that the report was based upon.

effect rating the information in terms of authoritativeness or relevance. However, current Intelink search engines are unaware of this hierarchy, and base the relevancy of search results on other factors; Google's patented PageRank system examines hyperlink structures to gauge how often a page is referenced by other pages.[21] This system works well in the unstructured world of the internet, but may or may not produce results on Intelink reflecting the IC hierarchy of authority. The situation is only worsened by the time-honored intelligence tradition of using other organization's reporting--sometimes verbatim--in intelligence summaries, which can cause search engines to produce the same report multiple times. For the operational commander and his intelligence staff, the inability of search engines to preferentially rank the most authoritative data increases the risk of skewed analysis--or at the very least, frustration and lost time.

Archival data. Archival data is essential to accurate and insightful analysis of an enemy. Well-kept historical records allow analysts to study and develop a feel for an adversary's tactics, patterns of operations, capabilities, and level and types of training, which in turn contribute to the JIPB process as well as Indications and Warning. Unfortunately, lack of archival data is one of the gravest shortcomings of Intelink. The IC as a whole has not addressed the issue of how and what to archive on Intelink, and therefore archival data is not only not searchable, it generally doesn't exist on Intelink at all. Ironically, this situation leaves intelligence analysts in a worse state than in the days of the "paper environment."[22] As an example, in 1995-96, JICPAC spent a great deal of time and money scanning archival hardcopy documents into digital form. Unfortunately, due to the large size of the files and use of a non-HTML/search-engine readable format, the documents were inaccessible online except via a complicated intranet interface.[23] Without archival data, analysis is left based on

the experiences of the current regional expert at the JIC or JISE, who may have been working the problem for only a couple of years or even weeks. In JICPAC, for example, "it is not uncommon for analysts...to make analytic calls based on the last six months of message traffic and a few e-mails or phone calls to fellow 'experts.'"[24] Unless archival data is added to the database of Intelink, the majority of information that the massive U.S. collections community continuously gathers will remain unprocessed or unnoticed, and potentially valuable--or even critical--morsels of information may be lost forever.

An illustrative experiment. In a simple experiment conducted to illustrate the points of this paper, a Naval War College library SIPRNET terminal was used to search for information on the Special Operations Forces of a specific country in the PACOM area of responsibility (AOR). Google returned 4,750 separate results, which were displayed ten at a time. Assuming rather generously that reviewing each results page takes approximately one minute[*], reviewing all 4,750 results will require approximately 8 man-hours. Following the thesis that most searchers will not dig deeper than the first ten results or "hits,"[25] however, the following observations are limited to the first page of results. After sorting the list by newest documents first (to simulate a search for the most recent intelligence), only three of the ten most recent were relevant to the search subject; of the remaining seven hits, five actually concerned a different AOR! Revealingly, none of the seven "misses" had Intelink metatags, but all three relevant documents did. Not surprisingly, the results were much more useful when sorted by relevance[†], but only five of the ten results had Intelink metatags, and two of these had incorrect intelligence cut-off dates (obviously of great importance when

[*] Product descriptions on Google's results pages vary widely in terms of descriptiveness, which in turn effects how easily a user may evaluate each product's relevance.
[†] Ironically, the most important document as determined by Google was actually the least relevant of the first ten hits.

considering the data's currency), indicating that the documents had been updated but the tags ignored. None of the highest-ranking documents, regardless of sorting preference, originated at USFK. This experiment, although very limited in scope (yet based on a search subject that is of considerable relevance to the U.S. military), gives a small taste of the problems the average Intelink user faces when trying to find relevant, well-marked information, and shows how updated and intelligently implemented metatags can assist in weeding out erroneous results.

Recommendations.

The problems listed in this paper can be solved by a combination of technological and institutional measures. The IMO already proactively pursues technological improvements to the Intelink experience, and the long-term solution should continue this effort, focusing on the development of new technologies and standards resulting in tools that semantically "understand" Intelink data. Because such technologies will require time to develop and implement, however, the IC should immediately adopt mandatory administrative and technical standards and procedures that will tailor Intelink data to accommodate currently available, less capable tools. Thus, the short-term solution will focus on establishing and enforcing standards and procedures for all Intelink producers to follow.

The Intelligence Reform and Terrorism Prevention Act of 2004 describes the "Information Sharing Environment" (ISE), which is "...an approach that facilitates the sharing of terrorism information".[26] Because the ISE is intended to employ common information technology standards and protocols, provide "incentives" for information sharing, establish uniform security standards and procedures (to include preparing intelligence products to allow for the lowest-possible level of classification) among the entire

U.S. counterterrorism community, and--perhaps most importantly--will be managed by the office of the National Director of Intelligence, it provides an excellent model for the future development of Intelink. In fact, given the natural overlap in DOD and counterterrorism intelligence requirements, combining the ISE and Intelink from the outset will ensure the future compatibility and unity of effort in intelligence support for all branches of government. Accordingly, the Director of National Intelligence must direct the Information Sharing Environment Program Manager to assume direct responsibility for the IMO and Intelink, to include enforcement of IMO standards and development of new information management technologies, with the ultimate goal of creating a U.S. Government-wide national security semantic information sharing system.[27]

Near-Term Goal: Enforcing Standards. The most important task for the ISE Program Manager (and the Information Sharing Council, also designated in the Intelligence Reform Act[28]) will be to enforce the IC's compliance with already-existing IMO standards on webpage construction. The goal is to maximize the data on Intelink that can be "read" by current webcrawler search engines, so compliance with web-usability standards will remove roadblocks such as frames and useless images, with the added benefit of making each page more functional and accessible to users with limited bandwidth. The IMO should work with producing agencies to identify content that is not accessible to webcrawlers, and determine solutions for each situation.

Concurrently, the Program Manager should pursue the adoption of metatags by all Intelink producers, and ensure currently used search engines have the capability to take advantage of the metatags. In addition, the Program Manager should investigate the effectiveness of implementing metatags that will distinguish between evaluated and

unevaluated intelligence to mitigate the impulse to "hide" data until it has been fully evaluated. To assist users in determining a product's authoritativeness, a metatag reflecting the producer's place in the analytical hierarchy should also be developed, keyed to the topic of each product. Properly created security metatags can make data protection more flexible yet more secure, helping to reduce the pressure to overclassify and allowing the classification of data that may currently be unmarked, such as database entries.[29] This effort must be in lockstep with the DNI effort to establish IC-wide security classification guidance.[30]

The Program Manager should begin immediately to coordinate and implement a plan for assimilating any archival intelligence data held by IC members into the Intelink system. The plan must include a process to add metatag data to the archival documents.

Finally, the Program Manager should direct technological research and development, fixing short-term problems while remaining focused on the long-term goals: a) Immediate attention must be paid to increasing the data capacity of current webcrawlers to enable complete indexing of current accessible Intelink products. b) Tools and procedures must also be developed to facilitate the secure migration of classified data within and between U.S. and allied/coalition systems (in accordance with Information Sharing Council directives). c) New information management and exploitation tools must be vigorously pursued. For example, a JIC High Interest Vessel monitoring cell used experimental "intelligent" automated information management software agents to assist in its reporting tasks, cutting the normal 3-4 hours required for the tasks to 30 minutes. Other experimental agent software was able to merge agent-derived and standard intelligence reporting into an integrated picture, making data comparisons "that would [normally] take... hours and hours to complete..."[31] These time

savings and new capabilities directly translate into increased analytical support to the operational commander.

The tasks outlined here are admittedly not inconsiderable or uncontroversial. Assigning metatags can be a time-consuming process, particularly if the analyst doesn't really understand the system, so extensive training will be required. The intent is not to add more work to often already over-tasked analysts, and perhaps the most difficult task will be to enforce compliance in such a way that the standards do not inhibit or even prevent intelligence production. Fortunately, software that automatically tags documents is under development[*] and should dramatically help the process, and must be implemented as soon as available.

Ultimately, IMO standards will likely clash with organizational cultures, leading to incomplete or haphazard compliance. As noted by Alesa Jones-Harewood, Defense Information Systems Agency project manager, "...the approach of 'build a standard and they will come' does not work. Implementation will vary across systems and even within communities."[32] This warning demonstrates why the changes in Intelink must be directed from the highest level in the intelligence hierarchy: the change may be painful, but it must happen if Intelink is to fully support the warfighters.

Long-Term Goal: the Semantic Intelink. The Semantic Web, a concept developed by Dr. Tim Berners-Lee, inventor of the World Wide Web, is essentially the World Wide Web overlaid with an additional network of data, providing a mesh of relationship indicators and other contextual information that will enable software agents to "comprehend" the contents of a webpage or other information. The advantages of such a system are

[*] As an example, the version of Microsoft Word used to write this research paper has the capability of inserting "smart tags" in documents as they are written.

tremendous in terms of locating and fusing data: search engines will be able to understand that "San Francisco" refers to a city in one context and refers to a ship in another (and possibly even determine the type of ship). Software agents will be able to "understand" the correlations between intelligence reports based on different sources and presented in different formats. Accordingly, the Program Manager must ensure that current and near-future tasks focus on developing and/or implementing evolving information management standards such as Defense Advanced Research Projects Agency Agent Markup Language (DAML), a language and schema specifically designed for the Semantic Web. Emphasis should also be placed on developing "smart" search tools that will take full advantage of the Semantic Intelink's features.

Implementing the recommendations noted above will drastically improve intelligence support to the Operational Commander. The near-term tasks alone will significantly improve the J2 staff ability to conduct JIPB, simply by enabling them to quickly and efficiently find the most authoritative data on the adversary. Given a search engine capable of instantly assembling the IC's sum total of archival and current (via RSS feed[*]) data on the enemy, the intelligence staff--as well as late-arriving augmentees and reservists--will be able to rapidly become "experts" on familiar or emergent adversaries. In addition, this ability will allow the J2 to more quickly and completely determine if the answers to any of his EEEIs already exist in the IC body of knowledge, and will therefore reduce the number of unnecessary Requests for Information (RFIs). Even quick-reaction, adhoc National Intelligence Support Team (NIST) requirements may be decreased by the improved reachback capability, allowing

[*] RSS stands for "Really Simple Syndication." RSS is a relatively new feature on internet (and now Intelink) websites, consisting of a set of XML metatags that enable a website to grab and display new data ("feeds") that appear on another. RSS is often used to dynamically distribute news headlines, and can do much the same thing on Intelink.

analysts who may otherwise have been diverted on NIST missions to continue their analytical work and perhaps more efficiently support the warfighter. On a broader scale, this new, more "intelligent" Intelink will be a key enabler in the Horizontal Integration concept of fielding "a more agile 'infostructure' that can rapidly adapt to changes in the threat environment and more readily meet the needs of the consumer."[33]

Conclusion.

JIPB, Indications and Warning, and other forms of intelligence support to the operational commander require the J2 and his staff to be able to quickly and efficiently find the most authoritative data available on the adversary, at all security classification levels, to include archival data. In order to meet this requirement, the Intelligence Community must change the way it approaches information management with regard to Intelink, particularly as the amount of data and number of users on Intelink grow. The ultimate goal is to make the system do the work of organizing and searching, leaving the intelligence producers and consumers to do the analysis. The IC's path to this goal must be guided by a single, powerful entity such as the Director of National Intelligence Program Manager. In the short term, this entity can enforce compliance with already-established IMO guidance in order to make more effective use of the tools we now have (such as Google), and in the long term it will guide development of the tools that will make a Semantic Intelink and intelligent agents possible. The results of this Intelink upgrade process will be more knowledgeable intelligence personnel, to include decreased learning curves for augmentees and reservists, more efficient yet more comprehensive JIPB, more insightful and accurate predictive intelligence, and a reduction of RFIs and even NIST requests. Overall, the operational commander will be

equipped with a radically improved ability to exploit and leverage the efforts of the entire Intelligence Community.

NOTES

[1] Loeb, Vernon. "A Higher IQ Before the Marines Land", Washington Post, (17 Nov 2000): A43.

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