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How the Web Can Relieve Our Information Glut and Get Us Talking to Each Other

Connecting the Virtual Dots

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In June 2005, the Director of National Intelligence issued a call for submissions for the second Galileo Awards contest. Intelligence professionals are invited to offer innovative ideas to shape the future of US intelligence. The program is designed to tap into the wealth of talent and ideas that reside at all levels of seniority and responsibility in the Intelligence Community.

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Two articles from among the top entries in last year's inaugural running of the program— modified slightly and updated— are included in this issue of Studies, *beginning here.*

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When I joined the Defense Intelligence Agency as an analyst in January 2003, what excited me most was the opportunity to use the Intelligence Community's proprietary technology tools. If the public has access to the amazing capabilities of the World Wide Web, I thought, the Intelligence Community (IC) must be a wonderland: search engines that could read my mind, desktop video conferencing with teammates around the world . . . .

The reality was a colossal letdown. Intelink—the network that was designed to negate the physical distance that separates intelligence agencies and their customers—seems anachronistic in comparison to the Web we use at home. As a technology enthusiast with seven years of Web development experience, I was appalled that the rest of the world had access to better online tools than did the US national security structure—the very creator of "online." Our search engines return results reminiscent of the pre-Google Web. Our online personnel directories are useless. Agencies and combatant commands use a hodgepodge of incompatible discussion and chat tools, furthering our tendency to speak only with those in our own buildings.

Why is the Web so much more user-friendly than Intelink? Did the late-1990s Silicon Valley boom propel private industry ahead of the government? Do our unique security requirements make great tools inaccessible to us?

The answer is much simpler. The Web is user-friendly because its users control its content. Intelink's pages are published by technicians who neither use the system for research nor understand its content. The Web's 900 million users can instantly say whatever they like in their own personal publishing space; on Intelink, content is restricted to what our agencies call "official products," and several layers of supervisors, systems administrators, and Web programmers stand between intelligence officers and their online world.

We should not replace the existing method of online publication, but rather supplement it with a community of users. Giving Intelink users the push-button publishing technology they have at home would bring them together and also organize the system's information more neatly. There is no reason why our at-home information services should surpass those in our offices. We can make Intelink just like the Web. All we need is permission.

Intelink's Impersonal Touch

Interagency cooperation is probably the IC's most talked-about deficiency. I believe that most of us want to work with one another. Intelligence analysts, while introverted, aren't incapable of building trusting relationships with coworkers. Those relationships, however, are predominantly with people down the hall, while the people we should be talking to most are either across the Beltway or on the other side of the world. The physical distance between us makes cross-Community communication too difficult.

The Web makes geography meaningless—users can quickly find and meet new people who share their interests, regardless of their location. But geography is everything on Intelink. Intelink is more like an oligarchy of agencies than a community of individuals with shared interests. Our documents are presented as the products of agencies and offices, not of the people who wrote them. Corporate logos and office symbols are much more common than authors' phone numbers and e-mail addresses. Our electronic personnel directories are so cumbersome and outdated that it sometimes seems as if their keepers don't want us to speak to one another. Is the goal of our intranet to keep intelligence officers as anonymous as possible?

It is true that in our work, anonymity can be imperative. But it is possible to preserve our anonymity while maintaining a personal online presence. Anonymity has not kept the Web from establishing incredibly close-knit communities, where many members never show their faces or use their real names. Some of these communities are more congenial and cooperative than are the neighborhoods we live in. Why? Because people behave on the Web as people— the electronic buffer zone allows for an honesty that is hard to find in the physical world. With fewer inhibitions, people write in their own voice about their own ideas. Communication on the Web has a personal touch. Instead of formal documents with generic e-mail addresses, readers get unfiltered words written in natural language. Wouldn't we all rather write to Jim or Patty— even if those aren't their real names—than to an indecipherable office acronym or a generic e-mail address? I know I would. But, if given more choices, I would largely avoid e-mail, which is fast becoming as passé as a dial-up modem.

E-mail is Dead

While the IC has slowly incorporated e-mail over the past decade, it is approaching obsolescence in the outside world. Ever since the Defense Department gave the Internet to the public, its outside-world users have run circles around us, creating countless new tools while we slowly lurch forward. It is a shame that US security structures—which used to be the gold standard of electronic communication with inventions like e-mail (in 1971)—are now lagging behind the latest innovations.

Aside from spam—a crippling problem that does not threaten Intelink—e-mail has several deficiencies that restrict communication:

- It is clumsily organized and difficult to search.
- It makes group discussions cumbersome.
- It comes across too much like official communication and too little like personal dialogue.
- It restrains the raw thoughts of corporate users. Since e-mail is a written, recorded, and traceable medium, users too often treat messages as official communication instead of personal dialogue, for fear of retribution.
- It shuts out interested parties from discussions that are not necessarily private. When we send an e-mail, we make the assumption that the recipients care what we have to say and that nobody else does.

E-mail has its place. When correspondence is truly private, it is the best electronic option. But many times, broadcasting a message is better than point-to-point communication.

If Not E-mail, Then What?

If I had arrived in the IC two years ago to find no e-mail access, I would

have been appalled. But in a few years, our new employees will think of e-mail as an outdated technology. They'll be asking: “Where's my blog?”

A blog lets ordinary computer users with average technical knowledge instantly publish on the Web. Since blogs came along two years ago, 9 million people have started their own, many of them at no cost. Most authors are just looking to keep friends and family updated without overloading their inboxes.

This nonintrusive publication method lets writers say what they really think. We all have that uncle who forwards every terrible joke he finds online. We usually groan when it shows up in our inbox. How dare he waste my time and hard-disk space with this? We victims of poor e-mail etiquette don’t want to be seen as the annoying uncle, so before we send e-mails, we self censor, taking into account our addressee's possible reaction: “Will he think I’m stupid? Will he delete this in disgust? Maybe I should remove this sentence.”

Definition: A blog (a contraction of “Web log”) is an online journal maintained by a single or multiple writers. Readers can respond to a blog entry with their own comments, which will then be visible to other readers as well, like a public chalkboard. Because blogs require so little technical knowledge, millions of people once hindered by a lack of know-how are now contributing to the Web instead of just reading it. Some of these previously unheard-of writers have become powerful voices in politics, media, and technology.”

A blog is different. It’s our own space. Readers have the option of viewing it every day or completely ignoring it, but whatever they do, we’re not necessarily liable for their reaction. We’re not telling them that they have to read it, so if they don’t like it, we aren’t to blame. This gives us freedom to speak our minds.

The IC desperately needs this kind of attitude. There are multiple cases in which it would have been useful for customers to hear analysts’ unfiltered opinions, which are often substantially diluted by the time they finally make it to Intelink.

Broadcasting a blog has another big advantage over a point-to-point e-mail conversation: It lets previously unknown people participate in the dialogue. After two years in the IC, I have probably met fewer than half of the dozens of people who share my analytical focus, mainly due to our poor directories and the scarcity of personal information on official

products. If we all had our own homes on Intelink—blog sites—we would be much more visible to people trying to reach us.

And visitors to our blogs wouldn't just read. Blogs allow readers to contribute to the discussion by adding their own comments to a writer's posts. Do you have a question to which someone out there is bound to know the answer? Blog the question and wait for someone to come across it and post an answer. Do you have thoughts on an intelligence product? Write them down and let the rest of your community know what you think; then watch as your counterparts contribute their own opinions.

If the IC used blogs, analysts, collectors, and customers could hold impromptu discussions at any time, instead of having to schedule meetings weeks in advance. And when the time came for such meetings, those present would already have a solid foundation for discussion instead of having to spend time learning the names, roles, and interests of those involved. Intelink has the potential to be a place where groups of intelligence officers from around the world can speak freely and substantively on a daily basis. Such continuous, candid dialogue is the only way to forge relationships of trust in an industry where people are trained to be distrustful.

The Google World

The reason the Web feels comfortable to its users is the same reason that its search engines are so efficient. Back in the mid-1990s, Yahoo! was *the* place to find Web pages. Yahoo! sorted the Web into categories. The Web had about 100-million pages then, and most of them were on massive sites like those of media organizations and corporations. Over half of all Web traffic went to the top 1,000 sites.[1] Any site that mattered fit neatly into a Yahoo! category.

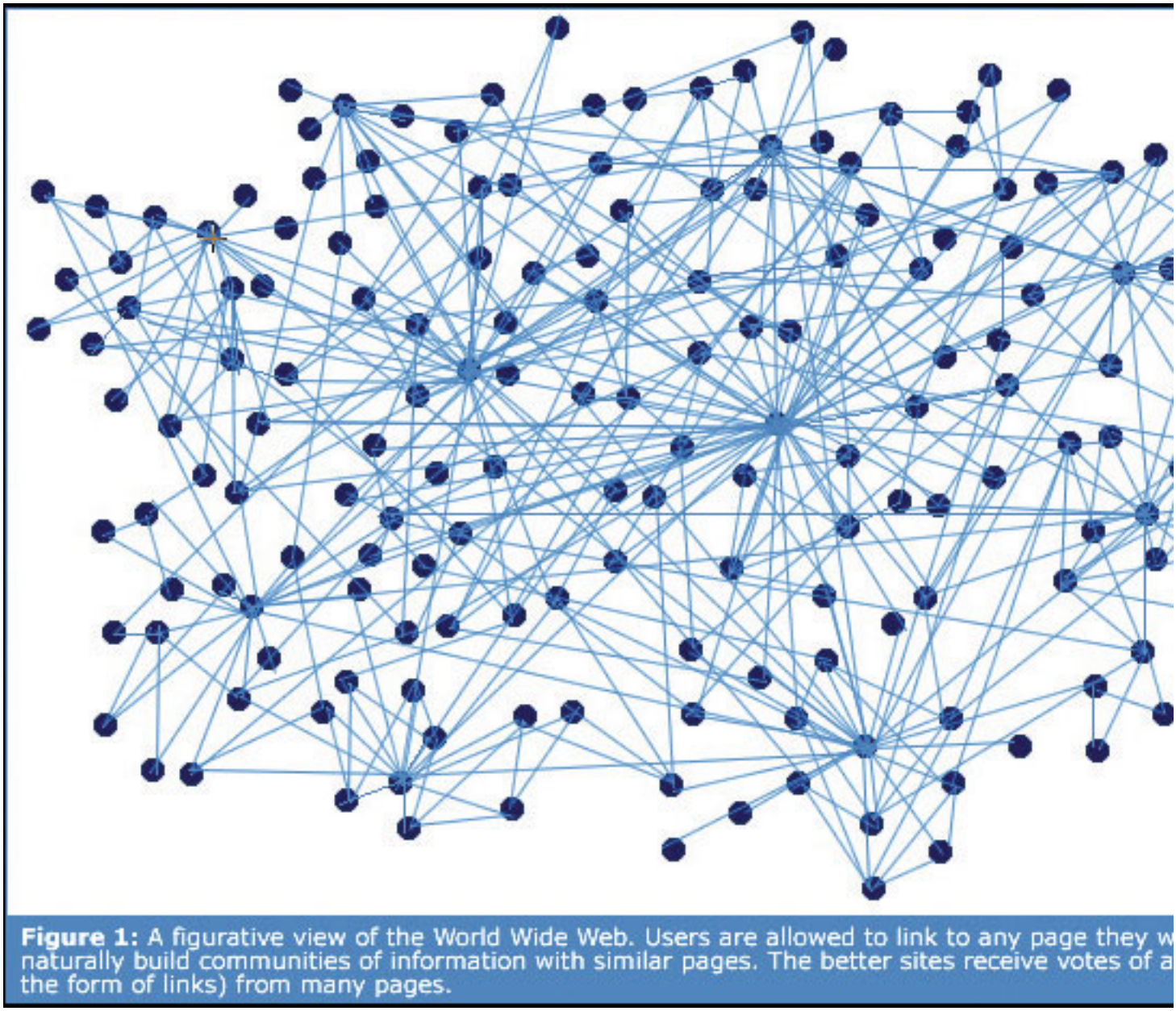

Figure 1. A figurative view of the World Wide Web.

As individual users started making their own pages, however, the amount of Web content ballooned, and Yahoo! fell behind. The Web began to cover a seemingly infinite number of topics. It became impossible to find a category for every single page and to fit each page into a single category. Instead of making Web users wander through a maze of categories, it started to make more sense to let them search for an item directly.

Unfortunately, search engines were not very good, because a user's search terms were the only factor that determined search results. Engines could not tell whether a page was reputable or even coherent. For example, a page with nothing but a user's search term repeated over and over was

considered a perfect match.

Google changed all that in 1998. Instead of looking only at a page's content, Google judges a page by the company it keeps, so to speak. It does this through link analysis. When Site A links to Site B, Site A is essentially vouching for the quality of Site B. As more pages link to Site B, its reputation is improved in the eyes of Google. The content on the linking pages also matters. If NBA.com links to your site with the word "basketball," Google will forever associate your site with basketball—and because NBA.com is considered authoritative, its link to your site will do wonders for your "PageRank," Google's value-rating of your page.

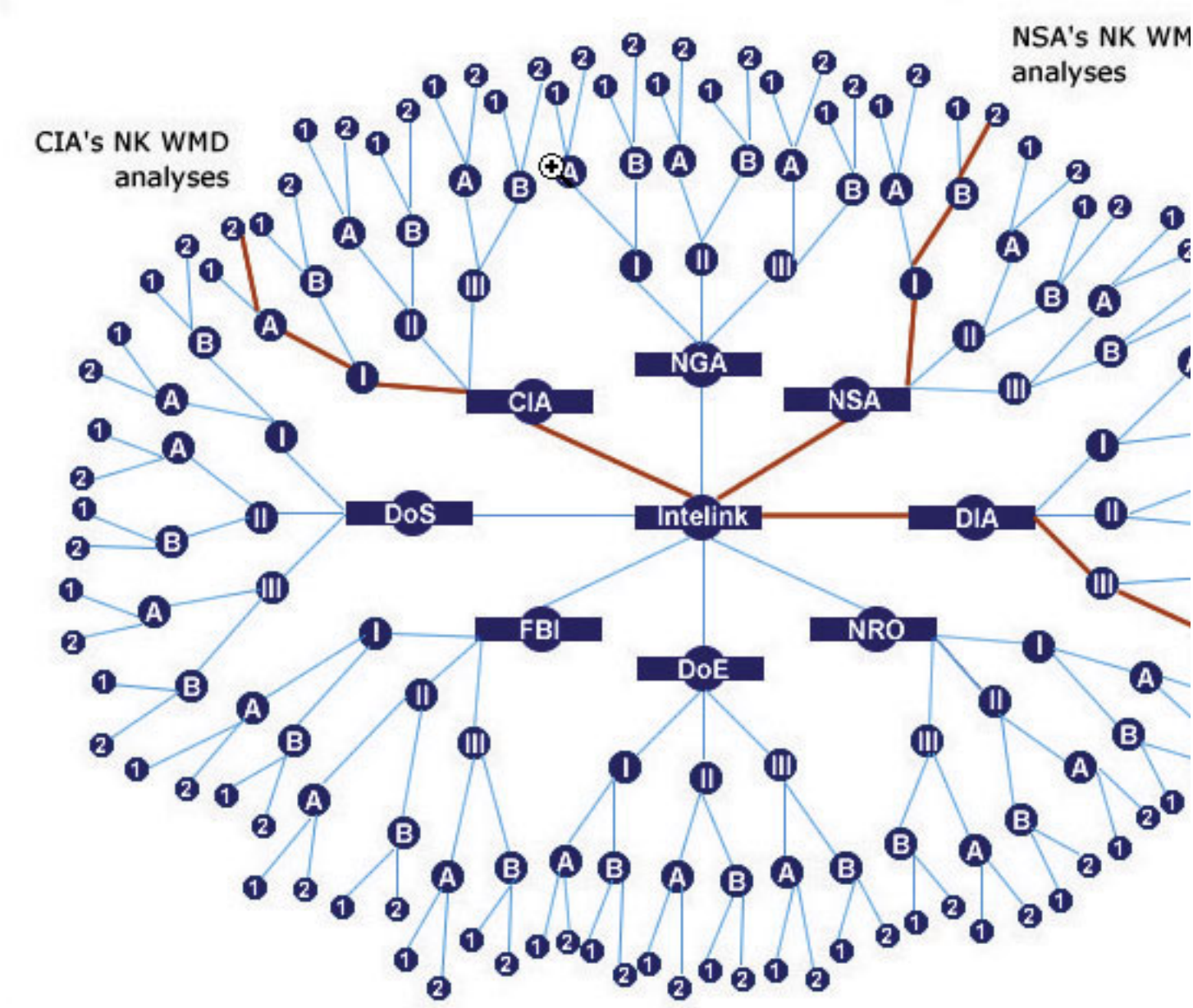

Figure 2: A figurative view of Intelink-SCI. Roman numerals, letters and numbers represent dir
etc. **Red lines** show how distant like pages are on Intelink, making it harder for analysts trying
buried deep within a site. It also keeps search engines from building logical communities.

Figure 2. A figurative view of Interlink SCI.

The Web is so named because the 8 billion pages that link to one another form a massive web of connected dots. But what looks like a mess has logic to it: Pages with similar content link to one another. Google has faith that when Web-page authors make links, they're connecting them to sites similar to their own. And, in general, they do. Google can therefore make extremely accurate estimates of which sites are related to one another and which sites provide reliable information.

Intelink is No Google

Intelink is different. As I mentioned earlier, intelligence products are presented for customers rather than for analysts conducting research. While pages on the public Web lead you from one resource to the next via links to related content, Intelink products do not. You will not find a CIA assessment that links to source documents from NSA, even though the assessment makes multiple references, implicit or explicit, to those sources. Instead, most links simply move up or down within a hierarchy. For example, a product links to the page of the office that produced it, which in turn links to the directorate it lies under, which links to other directorate offices and the parent agency. The lack of cross-Community links makes Intelink look much like our individual agencies' organizational charts. There is nothing inherent in Intelink that makes it this way. The Intelink Management Office (IMO) does not dictate content. This is just the way things are done.

The lack of substantive linkages has obvious human implications. If we question a product's assessment, we cannot delve into the sources that it is based upon. We are forced to take the author's word for it. If there is any industry that should make its sources readily available to readers, it is ours. Instances where such information would have averted disaster are numerous—the most recent and embarrassing case coming two years ago, when the claims of multiple sources regarding Iraq's weapons programs turned out to be those of a single person.

But while poor linking practices make Web browsing hard for humans, they pose an even bigger problem for search engines. Remember how Google

associated an aforementioned page with basketball simply based on links from other pages? Cross-Community links would allow our search engines to find relationships between documents and to understand the content and quality of those documents. But we have very few of these links. Instead, Intelink is more of a tree than a web: Similar pages lie at opposite edges of the tree, separated by a thicket of trunk and limbs. Search engines read this as a lack of similarity between the pages. Without more direct links between similar pages, Intelink's search engines will continue to deliver poor results.

Blogs Can Change Things

How will giving individual users their own posting space change the linkage problem? First, giving us free rein over content would rid Intelink of its hierarchical structure. The mess you see in Figure 1 is a good thing. Second, because users are the same people who write the content, they are in a unique position to give it a good online home. Analysts and collectors understand their information better than Web programmers and technical editors, so we know what links to place where. And because the quality of a personal home page would reflect upon its owner, we would have motivation to see that our pages provide good information for readers.

A web-like structure would take some time to realize, but the benefits would be enormous. Imagine having tools that could spot emerging patterns for you and guide you to documents that might be the missing pieces of evidence you're looking for. Analytical puzzles, such as terror plots, are often too piecemeal for individual brains to put together. Having our documents aware of each other would be like hooking several brains up in a line, so that each one knows what the others know, making the puzzle much easier to solve. The moral is that logical dots are easier to connect if the virtual ones are already connected.

In the opening paragraph of this article, I mentioned that I had expected "search engines that could read my mind." This probably elicited some laughs. But it is not far-fetched. Many e-commerce sites do this already. Amazon.com, for example, customizes its home page for each person depending on his or her past purchases. One of Google's stated goals is to know what users are looking for before they start typing. How can they do

this? By gathering information on their users' interests. This is hard to do in the public world.

Corporate intranets like Intelink, however, have an advantage. All IC employees consent to having their computer actions monitored. This means that every Web page we read and every e-mail we write could be used to create a profile of our interests. Intelink search engines would then be able to automatically weed out reams of information they knew we didn't want, helping to ease the information overload that has burdened the IC in recent years.

Three Cheap, Simple Technologies Intelink Needs Now

del.icio.us (pronounced "delicious"): Among the WMD Commission's recommendations was an IC-wide directory of personnel and their skills and clearances. But the details of an intelligence officer's responsibilities are much too granular to be confined to a phone book entry. A better way to learn about a person's job is to look at what he's been reading and writing. *del.icio.us* lets you maintain a public list of bookmarks so that others can see what your interests are. Similarly, you can discover who has bookmarked a given page, making it easy to find people who share your interests. The site is maintained by a single person and has about 30,000 users. See: http://del.icio.us.

RSS: *RSS* is a public standard for tracking your favorite blogs. Because entries are published on the Web instead of delivered like e-mails, you have to periodically check those blogs for new entries. This is very time-consuming. *RSS* "readers" track your favorite blogs and automatically retrieve new messages for display in an Outlook-like interface. The Intelink Management Office has deployed a Web-based *RSS* reader, but it is relatively unknown, and its existence as Web-based software makes it difficult for some agencies' systems to run properly.

Technorati: With 9 million blogs on the Web, the "blogosphere" is messy. *Technorati* sorts out the good from the bad for you. Because blogs have a built-in referral system, *Technorati* can instantly show you the most authoritative bloggers on a given subject. During the next crisis in a lesser-known country, search for the country name at *technorati.com* and you'll be shown the blogs of expatriots giving up-to-the-minute, on-the-ground

updates. *Technorati* also points you to the day's most blogged-about topics.

Conclusion

Stronger professional relationships and better search capabilities would be the two greatest rewards of personal home pages, both of which would take time to realize. But there would be smaller, more immediate benefits as well. Analysts would be able to provide supporting documentation for their products—something that is usually lost in the editing process—giving counterparts and customers as much backup information as they want. Authors of assessments whose information has become outdated could amend those assessments as situations change. Veteran officers could use their space to archive their thoughts before they retire, preserving institutional knowledge.

Finally, intelligence officers would no longer be bound by definitions of *what is* and *what is not* an intelligence product. Right now, the contents of Intelink represent only a small fraction of the IC's collective knowledge. Our brains are full of hunches and half-formed ideas that, while unsuitable for finished intelligence, could have an impact on the thinking of other analysts and policymakers if we were given soapboxes. This article is drawn from a paper submitted to last year's inaugural Galileo Awards program, which solicited innovative ideas from the Community. Before then, many brilliant ideas were probably lost due to the lack of an audience. Why let good ideas vanish?

The Intelink Management Office is now testing Weblogging tools, but success is not guaranteed. The IMO must choose a tool that early adopters will find familiar. Some tech-savvy intelligence officers already use such software at home, and the best way to gain their support is by giving them something they're already used to. Once a decision is made, systems managers across the IC must fully support the chosen software. Too many technology tools designed to increase cross-Community communication have failed due to competing standards and incompatibility with agency-level network configurations.

Suggested Reading

The Cluetrain Manifesto: The End of Business As Usual, by Christopher Locke, Rick Levine, Doc Searls, David Weinberger.

Small Pieces, Loosely Joined, by David Weinberger.

Emergence: The Connected Lives of Ants, Brains, Cities, and Software, by Steven Johnson, especially Chapter 3, "The Pattern Match."

Smart Mobs: The Next Social Revolution, by Howard Rheingold.

"News Turns from a Lecture to a Conversation," by Jay Rosen, at http://journalism.nyu.edu/pubzone/weblogs/pressthink/2004/12/29/tp04_lctr

Once blogs have been deployed, managers must encourage their employees to use the new technologies. They should not see blogging as a waste of time, dilly-dallying, or haphazard intelligence. Instead, they should view it as a venue for brainstorming and relationship building. Active offices will see the benefits. Their staffs will be in the vanguard of establishing strong working relationships with other agencies and offices, reaping the benefits of increased contacts and access to information. Their intelligence products will accommodate customers' desire for details. And their work areas will become more vibrant atmospheres that buzz with new ideas.

Finally, users must embrace the new technology. Early adopters who love experimenting with technology are key. If you are one of these people, you have the chance to become the envy of your colleagues by radically increasing your visibility and productivity. Your success will be this program's best marketing tool.

Over the past four years, policymakers and the press have endlessly underscored the need for Intelligence Community agencies to work more closely together. Few of us in the IC can say they are wrong. But even fewer of us can say we have the necessary tools for doing so. The Commission on the Intelligence Capabilities of the United States Regarding Weapons of Mass Destruction understood this problem and recommended the creation of new technologies to aid IC communication. What it did not understand is that such tools already exist on our home computers. If these tools are good enough to help a whole world of people communicate—everyone from hermitic techies to senior citizens—then

they are good enough for us. We should see what everyone is raving about. [2]

Footnotes

[1]The statistic is from an internet data firm called Alexa Internet It was cited in Internet World on 31 August 1998. See: http://www.netvalley.com/intvalstat.html.

[2]The author can be reached at: matt@alumni.duke.edu.

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