
Online Postings: The New Dumpster Diving

by
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Editor's Note: Dr. Hurley's views in this article are with the mainstream of thinking in the military culture about the emerging technologies of social networking. It is a contrast to the views expressed in the interview with LTG Caldwell. Both Dr. Hurley and LTG Caldwell have valid points on the subject and their views should stimulate thought among IO professionals.

New technology often brings new benefits to the U.S. military. These technological advancements help sustain the U.S. as the premiere, most modern military force in the world. These technological developments such as the Internet have opened new possibilities and avenues for the military particularly in the field of Information Operations (IO). The Internet as a tool makes it possible to reach and influence in manners never before thought possible. While these technical advancements have created a boon for military IO as evidenced by a recent article published by Major James Efav titled "Social Networking Services: The New Influence Frontier," there is also a dark side to these advancements for what we have developed can also be used against us.

These new social networking technologies allow individuals to broadcast information to audiences, which were previously considered unattainable. However, these same technologies can be used to discover and collect information in ways formerly not feasible. The adversary's information is the key

component to developing intelligence. The United States as the world's premier super power has a variety of technical and non-technical methods (HUMINT, SIGINT, COMINT, ELINT, MASINT, OSINT, etc) to collect various types of information for intelligence products. Those actors and nation states that cannot afford satellites and sophisticated electronics still have the need to be able to collect information to analyze for intelligence products. Hence, Foreign Intelligence Services (FIS) are often forced to gather information via other less expensive, less complex means.

Traditionally trash, often considered poor man's intelligence, was one such method. One of the typical ways to gather information via this process was to dive through the targets' trash for information, as important documents were often inadvertently thrown away and could yield essential elements of friendly information (EEFI). Moreover, information can come in many forms; for example, several unclassified pieces of information can be harmless when viewed individually, but when analyzed together they can paint an operational picture.

Trash intelligence or TRASHINT, due to its simplicity, has several advantages over other types of intelligence collection. First, TRASHINT is generally very inexpensive with the main cost being the man-hours necessary to collect and shift through the garbage. TRASHINT has the added advantage that the collector does not have to physically breach the facility where the sought after information is being produced. Hence,



US Pacific Command Computer Network Defense Operations
Source: defenseimagery.mil

TRASHINT is often relatively easy to acquire, can be collected from a distance, and requires no direct personal contact with the adversary. Moreover, there is little regulation on the collection of garbage particularly when in foreign environments. No complex equipment is required. Only patience and a keen mind is needed to collect and analyze this type of INTEL.

The best defense against the collection of TRASHINT is adequately shredding/destroying all susceptible information mediums (paper, CDs, thumb drives, etc) before they leave the facility. To protect against adversarial EEFI collection efforts, counterintelligence (CI) teams are responsible for ferreting out potential OPSEC vulnerabilities.

As the U.S. military transitions to paperless technologies, TRASHINT becomes more difficult to collect. As the new technologies emerge, FIS will attempt to exploit them in their efforts to collect information. The need for information never goes away; technology merely alters the manner in which it is gathered. This paper explores possible uses of online postings and proposes that the Internet is a replacement for traditional dumpster diving.

Online posting refers to the amount and type of information that is available through open source Internet searches i.e. blogs, email, websites (both official and unofficial), and social networking sites. A recent USAF study of a social networking site found that 60% of the USAF personnel posting on that site made themselves vulnerable to adversarial targeting by voluntarily posting too much information. For the purpose of this paper, online postings only refer to information that can be gathered without any form of solicitation or hacking, for example a service members MySpace page or online blogs or articles opened to the public.

When compared to TRASHINT, online information may offer the same advantages of TRASHINT and in many ways may be even more effective. The collection of TRASHINT will be compared to online information (See Figure 1). Surprisingly, online collections not only have many of the same advantages as TRASHINT but in many categories online collection seem to be superior. The following categories of cost, distance, regulation, detection, speed, and acquisition were designed to clarify the advantages and disadvantages of each type of collection effort. These



categories are not mutually exclusive; in fact, each category cascades into the next.

There are two types of cost when considering collection start up and maintenance costs. The startup for the collection of TRASHINT is minimal, the main expense being travel, which is relatively cheap if collectors are operating in their own country, for example French collectors targeting American facilities located in France. Collecting TRASHINT outside of one's country brings other associated difficulties, but in terms of expense, it becomes exponentially more costly. Online collection is going to require the start up cost of a computer, Internet connection, and an adequate facility from which to operate the equipment. There may be an additional cost for either finding or training an individual to perform the online searches. The maintenance cost for both is mainly associated with the man hours put into the collection efforts. While TRASHINT is cheap, this method will probably cost more in man-hours as collectors must spend time traveling, locating, penetrating, collecting, and sifting through the trash. With online collection, an adversary can gather information on multiple units at multiple locations without ever leaving his or her office. In terms of cost, the edge goes to online collection.

Distance refers to how close the collector needs to get to his target. TRASHINT has a similar advantage with online



JTF-Liberia Communications Specialist Using Computer
Source: USAF Communications Agency

Type of Intelligence	Trash	Online
Cost	Cheap	Cheap
Distance	Done at a physical distance	Done at a greater physical distance
Regulation	Little regulation	Less regulation
Detection	Low	Minuscule
Speed	Slow	Very fast
Acquisition	Easy to acquire	Easy to acquire

Figure 1. A Comparison Between Trash and Computer Generated Intelligence

collections in that both can be done at a physical distance. For TRASHINT, while the information in the dumpster is the tangible target of the collection, the actual target is the facility and the individuals producing that information. The collector is not just collecting trash to collect trash; instead,

he or she intends to gather EEFI produced by individuals at that facility. The major advantage to TRASHINT is that the facility itself does not need to be penetrated to acquire the information it produces. Dumpster diving often happens in one of three ways:



Afghan Election Ballot
Source: defenseimagery.mil



Mail Call in Afghanistan
Source: defenseimagery.mil



Waste Management Dumpster
Source: flickr.com

- 1. The trash receptacle location is the site of the collection, is generally somewhat close to the facility, and the information of interest is collected onsite.**
- 2. The trash is collected covertly, moved, and sorted at another location.**
- 3. The trash is removed normally and then collected and sorted at the dump location.**

Methods one and two both require the collector to expose themselves with some form of physical presence at the collection point. The third method while having the benefit of no possible exposure suffers two serious drawbacks. First, it is generally a less timely method because of the need to wait until trash is collected. Second, it is generally more time consuming because there are additional volumes of trash that need to be sorted. Information obtained from OSINT Internet sources such as online



Mail Room at US Marine Base in Afghanistan

Source: defenseimagery.mil

newspaper articles concerning unit's status, as well as, social networking sites and blogs can provide a wealth of information. Consequently, online collection methods do not require that collectors and their targets even be in the same country. Hence, the ability to gather information over great distances provides a definite advantage to online collection method over TRASHINT methods.

There are regulations, rules, and laws that govern the collection of trash. While TRASHINT collectors may have to violate laws to get to the actual collection site, AKA the dumpster, their intent to spy on government entities may be illegal, few laws protect the privacy or ownership of what is thrown away. The U.S. Supreme Court denied the right of privacy to trash in *California v. Greenwood*, 486 U.S. 35, 39 (1988). While the right to someone else's trash itself may be legally protected in a practical sense, onsite trash collectors are generally going to have to break a number of laws to get next to where the dumpster of interest would be located. While collecting the trash often circumvents any serious legal problem, the aforementioned disadvantages with its collection method still exist. To date, the author is unaware of any laws or regulations against the open source collection of online information.

The events of 9/11 characterized how members from relatively low-tech societies could exploit our technology and use it against us. The fact that many of the 9/11 hijackers lived and trained in the United States could be evidence enough of how difficult detection can be if security is not constant and vigilant. In low-level conflicts such as terrorism and guerilla warfare,

good intelligence becomes paramount to direct operational activities. Pre 9/11, the collection of TRASHINT via all three methods was relatively safe with little risk of detection. Since 9/11, access to government and military installations are much more difficult. The major drawback on TRASHINT, particularly for methods one and two is that it requires a physical presence. Because individuals collecting TRASHINT are engaged in activities that some would consider being out of the ordinary, there is a high likelihood that their activities may be reported. This could lead to arrest, detention, or counter-intelligence (CI) directed toward these individuals. While most individuals would not notice the removal of items from the dumpster (after all the garbage it is there to be removed), TRASHINT collectors are removing something both tangible and physical from the site. While the risk of detection from the removal of TRASHINT is very low, the risk of detection while passively perusing the Internet is at best miniscule. Online collections, once again, have the advantage of cyberspace in that no actual physical presence is necessary to collect online information. The information collected, while itself is real, is not either tangible or physical, thus no trace is left. This is one of the most dangerous forms of collection when the target is unaware of their vulnerabilities. Even if the target discovers lapses in their OPSEC, there is little chance of knowing the depth of the problem i.e. who has collected against you and what they have collected.

Speed refers to how fast the information can be found, collected, and analyzed. This is where the advantages of online collections clearly win. With online data collection there is no travel,

particularly important when collecting from multiple sites that are not co-located, and there is no physical, manual labor utilized in locating, collecting, and sorting the information. Search engines and data mining tools can assist the online collector in locating the desired postings. Even if a large amount of information is collected via data mining, tools can quickly sort through and find the relevant material. Moreover, all of the collected information is already in some form of electronic format. This means any information or data collected can be processed via e-tools without any additional processing of the physical material from cyberspace.

Acquisition examines the ability to collect information but also considers the quality of information. Both in a sense are easy to acquire but trash and refuse, by definition is material that is no longer desired, while the Internet has added a ubiquitous component to social networking. Based on the first five factors, the online collection is clearly superior over traditional TRASHINT. It could be surmised that on this criteria alone, online collections are a more suitable replacement for dumpster diving. This assumes that both methods will collect the same quality of information. This could be a perilous assumption and would need to be further investigated before a definitive conclusion could be reached.

Conclusion

The needs of our adversaries, particularly in the collection of information, have not changed. New developments such as blogs, social networking sites, and web pages have changed the location of where information can be found. As TRASHINT gets more difficult to collect in a paperless age and new technologies and ways of doing business emerge, FIS will explore other means of obtaining information.

TRASHINT and online collection efforts have many of the same advantages. Both are simple, inexpensive, and collected from a distance with little regulation

and little risk to the collector. While the Internet poses clear cut advantages in many of these categories, the ability to collect on multiple targets at multiple locations by a single analyst from their office highlights the speed and the advantages of online collection. The one unknown is whether the quality of the information gathered by both collection efforts is similar or if one, and which one, is better than the other one. Future research should compare both the type and quality of the information obtained through both of these methods.

The dangers posed by online posting of information should not be overlooked. This problem can be expected to grow exponentially. First, online social networking becomes more prevalent as the younger more tech savvy generation matures. Second, future generations may well grow up and consider online social networking as common as we find the automobile today. Third, the Internet will increasingly become more available

to all parts of the world, particularly the third world. As more people from more parts of the world become interconnected through the Internet, we may find that the Internet has become the new universal dumpster. ↻

