



## Monitoring & Analyzing the Social Spectrum for Actionable Intelligence



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### TACTweet Successes

- *“A girl tweets “I have a bomb on this plane.” In less than 30 seconds, the tweet was verified as an active threat, and with probable cause, the individual was then identified through Facebook, providing facial recognition, address and the geo-location of her threat. Both TSA and FBI Watch Centers were alerted immediately and response units were deployed. The girl was scheduled on a JetBlue Flight out of Miami and was removed from the flight before it departed.”*
- *“A man walked into a bank in Boston and placed a “fake” pipe bomb on the bank’s counter, demanding money or he would blow up the bank. A teller in the back room tweets out a distress which was monitored by a social network monitoring system focused on the key word “Bomb”. The Washington Field Office notified local Boston PD, federal agents and the bomb squad of the threat. The perpetrator was apprehended a few days later.”*
- *“A Nevada murder case has gone unsolved for over a year with no suspects. The murder victim was killed when he was shot in the buttocks and bled out from the gunshot wound. A year later, an individual tweeted “I meant to shoot him in the face, but I shot him in the ass”. Detectives were given a new lead, now they have a new murder suspect and the investigation is ongoing.”*

### Introduction

This whitepaper examines [www.TACTweet.com](http://www.TACTweet.com) as a force multiplier to enhance law enforcement and intelligence operations to fight crime and prevent terrorism in order to protect our nation. “TACTweet” stands for “tactical tweeting” and is a secure, cloud, web based service, designed by former special agents and law enforcement experts, to securely monitor and analyze publicly available media and social network’s data for actionable intelligence. The adoption and integration of TACTweet into an agencies’ Concept of Operations (CONOPS) enables the following capabilities:

- Allows agencies and organizations to autonomously tap into media and social network intelligence
- Significantly enhance enterprise-wide situational awareness
- Dramatically accelerate the speed by which government agencies are alerted, vetted, and notified to emerging threats and events
- Provides law enforcement, intelligence analysts and decision makers with enhanced strategic, operational, and tactical information for improved decision making and response
- Augment classified (high-side) intelligence with information from unclassified social networks to accelerate clearinghouse processes to collect, process, and disseminate critical information
- Empowers agencies with rapid self-services in adapting to changing threats and events to solve crimes and fight terrorism.

## **TACTweet Defined**

TACTweet provides the ability to monitor social networks data and information combined with fundamental law enforcement, special operations and intelligence tradecraft to gain actionable intelligence. Giving the ability for public safety, law enforcement, intelligence officers, and analysts to securely monitor and analyze media and social network's data anonymously in real time. TACTweet is delivered as a secure, web based application through cloud technology. There is no requirement for a user to download any software to their Mobile Device, Laptop, Mobile Data Terminal (MDT), or Desk Top Computer which sets it apart from other social network monitoring dashboards. TACTweet is a state of the art GOV2.0 technology.



**Figure 1: Popular media and social networks monitored by TACTweet.**

## **The Social Spectrum – One Billion New Global Sensors on the Planet**

Increasingly the world is changing dramatically with the adoption of mobile applications (Smartphone), web based applications, social networking and the World Wide Web. The speed at which the world's human population is adopting technology continues to accelerate exponentially, dramatically changing how we communicate, collaborate and interact with each other. It is estimated that over one billion people around the world have some type of mobile presence. Imagine if we could harness the public exchange of this data for important information and knowledge.

If we look at world countries and their populations and compare it to the social networking population of Facebook, we see that Facebook has the 3rd largest population in the world. Only China and India have larger populations than Facebook. Last month, Facebook exceeded over 500 million registered users.



**Table 1 – January 28, 2012 Facebook Statistics – How many terrorists and criminals reside on Facebook?**

Statistics

<b>People on Facebook</b>	<ul style="list-style-type: none"> <li>• More than 800 million active users</li> <li>• More than 50% of our active users log on to Facebook in any given day</li> <li>• Average user has 130 friends</li> </ul>
<b>Activity on Facebook</b>	<ul style="list-style-type: none"> <li>• More than 900 million objects that people interact with (pages, groups, events and community pages)</li> <li>• Average user is connected to 80 community pages, groups and events</li> <li>• On average, more than 250 million photos are uploaded per day</li> </ul>
<b>Global Reach</b>	<ul style="list-style-type: none"> <li>• More than 70 languages available on the site</li> <li>• Approximately 80% of users are outside of the United States</li> <li>• Over 300,000 users helped translate the site through the translation application</li> </ul>
<b>Platform</b>	<ul style="list-style-type: none"> <li>• On average, people on Facebook install apps more than 20 million times every day</li> <li>• Every month, more than 500 million people use an app on Facebook or experience Facebook Platform on other websites</li> <li>• More than 7 million apps and websites are integrated with Facebook</li> </ul>
<b>Mobile</b>	<ul style="list-style-type: none"> <li>• More than 350 million active users currently access Facebook through their mobile devices</li> <li>• More than 475 mobile operations globally work to deploy and promote Facebook mobile products</li> </ul>

There are some other interesting facts as they relate to social networking, the web and the adoption of technologies to communicate and collaborate:

- 80% of Twitter is from mobile devices
- This year the number of global virtual users breaks 1 Billion
- Twitter is surpassing Facebook
- YouTube is 2nd largest search engine
- 92% of US toddlers have some type of social network presence
- 60% of web users visit social networks

This leads us to very important strategic questions as they relate to the adoption of TACTweet for law enforcement and intelligence operations. Some of these questions include:

- By monitoring open social networks autonomously can we dramatically enhance and improve the speed by which we are alerted to unfolding events?
- Does earlier detection save time and lives?
- By monitoring open social networking sites on the web, can we improve our situational awareness and actionable intelligence gathering capabilities to solve crimes, to stop terrorism? Do open social networks provide a new legal untapped channel of intelligence for our agency?
- By leveraging secure cloud applications like TACTweet, can we significantly enhance our own internal capabilities to distribute intelligence in a secure collaborative environment to dramatically change information sharing across law enforcement and intelligence with other agencies?

The answer is “Yes!” to all of these questions.

## **An Introduction to Portal Mashup Technology – A Powerful Gov 2.0 Enabler**

The term Mashup comes out of the music industry. A mashup song consists of a group of separate song melodies that are strung together to create a new song using old music hits. By mashing together these old melodies into a new song, the fans can enjoy a fresh new song from their favorite artist.

The technology sector adopted the term mashup to label the process by which disparate data and applications are mashed together to rapidly create new functions and insights into information and data. Just like the mashup song.

A technology mashup, as defined by Wikipedia, is a web page or application that uses and combines data, presentation or functionality from two or more sources to create new services. The term implies easy, fast integration, frequently using open application programming interfaces (API) and data sources to produce enriched results that were not necessarily the original reason for producing the raw source data. The main characteristics of the mashup are combination, visualization, and aggregation.

Mashups provide new insights in fusing data and information together on the glass. Mashup portal technology enables the use of mashups across an enterprise through improved collaboration and secure sharing.

An Enterprise portal (portal), as defined by Wikipedia, is a framework for integrating information, people and processes across organizational boundaries. It provides a secure unified access point, often in the form of a web-based user interface, and is designed to aggregate and personalize information through application-specific portlets.

The combination of portal and mashup technologies has created a powerful force multiplier for government agencies to rapidly create new functions and insights in collecting and disseminating actionable intelligence across their enterprises. By mashing together disparate data and information from myriad sources (i.e., Web, Social Networks, Enterprise Information, Enterprise Applications and Platforms) your agency can substantially improve its intelligence collection capabilities and situational awareness.

Portal Mashups have created the emergence of the user defined operations picture (UDOP). UDOP is the essence of the paradigm shift in the way the intelligence community can collect, share and disseminate intelligence as situational awareness. Fundamentally, UDOP allows end users to decide what they want to see and how they want to see it – offering the flexibility to pick and choose from a host of reusable mashup assets. This is opposed to users using an outdated incident management software application that was written against a set of aged requirements which is now obsolete. TACTweet allows users to create their own key words to monitor across numerous social network sites.

The impact of this technology for law enforcement and intelligence agencies is transformational. It offers agencies a powerful new capability that is extremely flexible and adaptable to changing

threats and crimes. Our enemies and criminals are adopting Web 2.0 to communicate and collaborate more effectively with each other. TACTweet provides the Government the tools to counter and monitor these illegal activities in order to maintain the strategic and tactical advantage in the war on crime and terrorism. Such portal tools include licensed software such as IBM WebSphere Portal Express and GTS DIP Suite.

### **Security & Autonomy Is Paramount**

Security is paramount to protecting the identities and the well-being of law enforcement and public safety personnel and the reputation of the agency. TACTweet uses a secure area which protects data and information using SSL encryption, in addition to secure identifying data like usernames and passwords. Encryption scrambles the information moving between two computers. The only parties who can see the data in a readable format are the sender and intended receiver. Secure Socket Layers, or SSL, is an encryption standard and is based on a public key/private key encryption scheme. TACTWEET can be enabled with higher security protections and protocols that meet NSA encryption standard and requirements. Additionally, when TACTWEET is put into full deployment, the monitoring activities of social networks and other Web 2.0 sites can be anonymized as to not divulge the IP or source of the monitoring activity.

### **An Introduction to TACTweet for Law Enforcement and Intelligence Agencies**

TACTweet is a secure portal mashup technology solution that has been configured with law enforcement and the Intelligence Community (IC) in mind. TACTweet is a secure, light weight web application portal using mashup technology to fuse numerous media and social network sites into a single dashboard to which allows analysts and law enforcement to monitor key words across the social spectrum to gain actionable intelligence.

## Monitoring & Analyzing the Social Spectrum for Actionable Intelligence (January 2012 Enhancements)



**TACTweet - Social Business Solution for Government**

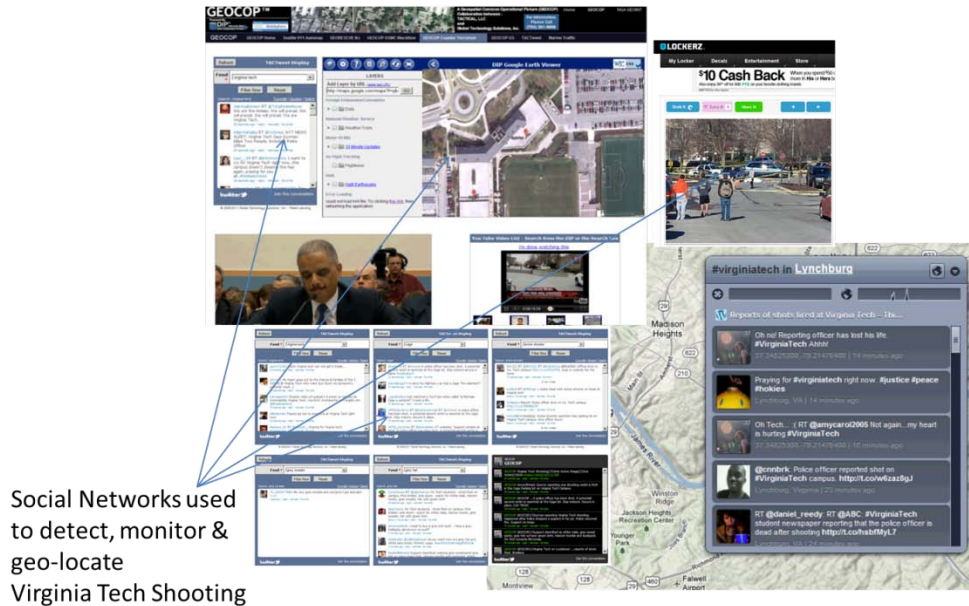
**Figure 3 -Screenshot of the TACTweet Portal Dashboard showing 2012 Enhancements.**

As defined by Wikipedia, Twitter is a website, owned and operated by Twitter Inc., which offers a social networking and microblogging service, enabling its users to send and read messages called “tweets”. Tweets are text-based posts of up to 140 characters displayed on the user's profile page. Tweets are publicly visible by default; however senders can restrict message delivery to their friends list. Users may subscribe to other users' tweets, known as following and subscribers are known as followers. All users can send and receive tweets via the Twitter website, compatible external applications (such as for smartphones), or by Short Message Service (SMS) available in certain countries.

It is estimated that eighty percent of mobile users around the world “tweet”. When people are in trouble, or they observe a major incident, they “tweet” from their mobile device, at the location of the incident to warn their family, friends and co-workers. By monitoring key words in Twitter, Law Enforcement & the Intelligence Community (IC) can improve its early warning and gain actionable intelligence on threats and communications. Law enforcement, Intelligence agencies and government agencies can monitor Twitter and other open source sites since the users post it for public consumption.

**Example:** Using Twitter for Actionable Intelligence & Early Warning (Yemen Toner Bomb Plot)

8 December 2011 Virginia Tech Active Shooter COP - Social Spectrum



**Figure 4 - Actual screenshot of a DOJ system using TACTweet.**

## The TACTweet Monitoring Dashboard

TACTweet is a pure social web service and does not require users to download any software or applets to their mobile devices, laptops or desktops. This enables users of TACTweet to remain anonymous and prevents the risk of network security downloads to a government user's secure network.

TACTweet enables users in a command center, mobile command centers or out in the field to monitor several different key words in social networks. Users simply log onto the web site and select the keyword(s), geographies and languages that they want to monitor on the TACTweet dashboard. They can tailor the search fields to receive only tweets from their jurisdiction, within date time groups, etc. As people around the world send out social data, the "tweets" containing the key mission words are posted immediately to the TACTweet Monitors in the Dashboard. There is no limit on the number of keywords that can be created and strung together to be monitored. It takes a user about 20 seconds to create new words to be monitored because TACTweet is a UDOP service.



**Figure 5 - Screenshot of the TACTweet Dashboard - monitoring several different key words in Twitter.**

TACTweet provides simple to use tools on the dashboard to create words, phrases, and group of words or campaigns to be monitored. The user simply writes in their search words and geographic area to be monitored in Boolean logic.

Here are some actual examples of Key Words in TACTweet being monitored by Law Enforcement and Intelligence Agencies

- Suspicious OR Package AND Suspicious Package – Early warning
- Lockdown OR Shots OR Shots Fired – Schools, Large Office Buildings, Government Agencies
- Hijacked OR Hijack OR Plane OR Bomb OR Plane AND Bomb – Planes, buses, and cruise ships hijacked “Who Knows Who” in Twitter?

Twitter users have a Twitter User name that is associated with their tweets. When they send their tweets, their user name and tweet is posted. This user name can be associated to their actual name for computer forensics and investigations. People follow each other in Twitter by subscribing to each other tweets. A group of users using Twitter is called a Twitter Hive. With simple analytics & social forensics, TACTweet enables law enforcement and intelligence analysts to monitor and follow individuals within hives to monitor illegal activities and terrorism. It is a known fact that terrorists and criminals use Twitter to communicate, collaborate and synchronize criminal and terrorist activities.

## Real Time Language Translation for Social Networking Monitoring

Twitter is a global social phenomenon. Users from around the world tweet in foreign languages. Real time language translation is integrated with TACTweet portlets to provide law enforcement and intelligence analysts' real time language translation of foreign tweets (50+ Languages).

### Automated Language Translation Services (Google & Linguasys)

Monitoring "Bomb on Plane" English      Monitoring "Bomb on Plane" Spanish

**Language Translation Services**

1. TACTweet includes integrated language translation services in its social monitoring portlets
2. Actual screenshot of the translation service running in "Facebook" monitoring portlet, showing English and Spanish Translation for "Bomb on Plane".
3. Over 50 languages are available through Google Translate.

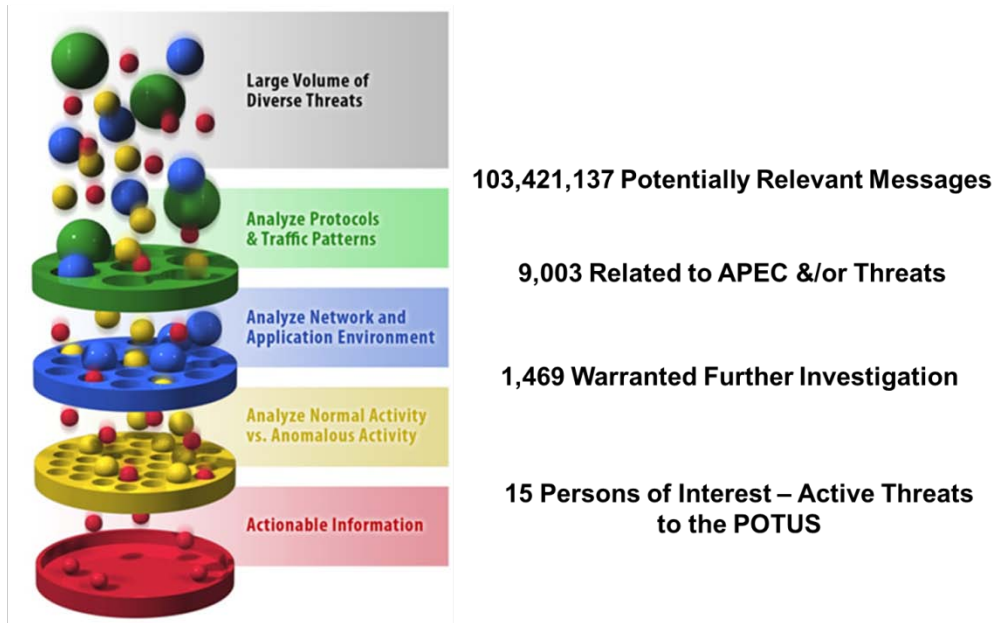
English - detected	Chinese	Georgian	Italian	Persian	Tamil
Afrikaans	Croatian	German	Japanese	Polish	Telugu
Albanian	Czech	Greek	Kannada	Portuguese	Thai
Arabic	Danish	Hebrew	Korean	Romanian	Turkish
Azerbaijani	Dutch	Haitian Creole	Latvian	Russian	Ukrainian
Basque	English	Hebrew	Lithuanian	Slovak	Vietnamese
Belarusian	Estonian	Hindi	Macedonian	Slovenian	Welsh
Bengali	Filipino	Hungarian	Malay	Spanish	Yiddish
Bulgarian	Finnish	Icelandic	Maltese	Swahili	
Catalan	French	Indonesian	Norwegian	Swedish	

Figure 6 - TACTweet has integrated language translation into the social monitoring and analytics components of the service.

## Storing Social Data for Investigations & Forensics – Social Analytics

TACTweet can be further modified to store all key words and data monitored on the dashboard. TACTweet is integrated with i2 Analyst Notebook. This enables the content can be analyzed to identify patterns and activities to alert analysts and law enforcement to threats and criminal activities. Social analytics can also be used to identify non obvious relationships between users when combined with other law enforcement and intelligence applications.

**Structured Analysis Identifies Persons of Interest within a Massive Data Stream**  
*From Hundreds of Millions of Social Data We Identified ...*



**Figure7 - Example of social analytics were used to find 15 Persons of Interest**

**“Fear the Twordle”**



[WWW.WORDLE.NET](http://WWW.WORDLE.NET) is a word tag cloud that allows users to identify the most prominent words in text products. To assist analysts to look for trends and associations in multiple tweet feeds within TACTweet.com, we created “Twordle”. Twordle = Twitter + Wordle. By clicking the Twordle button in the TACTweet portlet window, an analyst can quickly see the prominent theme and words across numerous tweets. This speeds the vetting process for events that are unfolding quickly. Criminals and terrorists fear the “Twordle”. Twordle helps save time in the vetting process: thus saving precious time and lives.

**Conclusion**

We live in a dynamic and evolving world with ever changing threats involving crime and terrorism. TACTweet enables government agencies to securely monitor and analyze media and social networks to adapt quickly to changing threats in order to maintain the strategic and tactical advantage. GOV 2.0 is the powerful technology enabler: TACTweet is the proven solution to harness social network data to respond quicker, better and faster.

For more information on innovative social networking capabilities built by law enforcement and intelligence experts, please log onto [www.tactweet.com](http://www.tactweet.com).



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