



# MAPPING THE PLAYING FIELD

DOLORES BULJEVIC, METACARTA DIRECTOR OF INTERNATIONAL BUSINESS AND RICHARD SMITH, BRITISH TRANSPORT POLICE, FORCE INFORMATION OFFICER TALK ABOUT SECURING THE CRITICAL INFRASTRUCTURE OF THE OLYMPICS.

Planning the London 2012 Olympics can be a daunting task, considering the vast security risks, international attention, and the massive volume of people moving to and from all of the events of the games. The planning has already begun with Assistant Chief Constable Steve Thomas leading for the British police service on coordinating transportation security, and it includes location-based situational awareness to insure a safe and secure environment across a wide geographic domain.

ACC Thomas, works for British Transport Police (BTP), the national police for Britain's rail system, and, as well as heading BTP's Olympics project, is taking the lead on all transportation security, covering aviation, maritime and road transport as well as rail, for the London 2012 Olympics. The Olympics are not just a London operation for BTP as there are venues around England, in Scotland and Wales, so BTP is putting in place a national plan to respond to major and minor crime, disorder and disruption incidents, in and around the rail system.

When London was awarded the 2012 Olympics in mid-2005, BTP began preparing for the massive security effort to protect transportation for the games. ACC Thomas has taken his expertise from leading Greater Manchester Police's Specialist Operations Department where he oversaw the operational response for Political

Party Conferences, a Champions League Final and other international events. Since joining BTP, he has been responsible for the Olympic planning, preparations, appointments and funding work, and has been appointed to co-ordinate the security plans for all forms of transportation during the Olympic Games.

To deliver on a national stage, BTP needs reliable systems and procedures that will aid speedy response and effective deployment.

"We believe traveling is about more than just getting there. It's about ensuring that safety and security is maintained in an atmosphere that allows people to enjoy this world sporting extravaganza," said Richard Smith, who serves as the Force Information Manager for BTP "During the Olympics, the transportation needs will increase significantly as well as the need for heightened security. We need to understand at-a-glance what is happening in across our patch before, during and after the Olympics to provide the security necessary for the 2012 Olympics."

The terrain that the Olympics will cover will be extensive, he explains, and is not just limited to London proper. "If you just take the routes through which the torch would go, prior to the games, you would be talking about Scotland, England, and Wales. In addition, there will be sporting events such as sailing taking place in Dorset, and other venues outside London."

To prepare for the London 2012 Olympics, BTP is building an information infrastructure that collects a comprehensive criminal history about rail locations across Britain. The infrastructure also has the ability to collect real-time, on-the-street intelligence about activities that may impact on the security of athletes, spectators, and citizens during the games. The intelligence derived from the infrastructure is able to be easily shared with other law enforcement agencies tasked with security at the 2012 games.

BTP has faced several challenges when creating this overarching spatial information infrastructure.

- The rail system crosses geographic and administrative boundaries, each policed separately by local law enforcement agencies. Each jurisdiction has its own crime data. There has been no efficient way to make these individual silos of data easily accessible to BTP or to each other.
- In addition, a well established principle of criminology is that perpetrators will tend to commit more crimes close to their homes. They tend to commit crimes in their own personal "comfort zone" where they know their way around. There has been no easy way to organize the crime data by specific geographic location, have the ability to correlate it to other forms of intelligence or to easily know if criminal activities cross jurisdiction lines.
- And there has been no way to harness real-time breaking news and social media to detect suspicious activity in a particular location.

As a key component to their information infrastructure, BTP is deploying a geographic search and referencing platform from MetaCarta that consolidates data from multiple data sources by geographic location. This will provide analysts and watch standers the ability to search for and discover information by geographic location giving them a comprehensive situational awareness tool that include information about past crimes, recent crimes, breaking news and other formal intelligence.

BTP specific data sources warehouse more than four million documents. All of the information needs to be "geo-enabled" so that it could be searched, retrieved and used in a map-based application to meet BTP's challenges.

Geo-enabling unstructured information is a multi-step process and not easy. First content needs to be retrieved and geographic references must be identified. This is very difficult because geographic language is inherently ambiguous and not all geographic references can be identified by traditional text search engines. For example, when the term Chelsea is searched by a text search engine, the results include Chelsea Football Club, Chelsea, Massachusetts USA, or Chelsea Building Society. It would not find any information about southwest London, Sloane Square, or East Boston unless the specific term Chelsea was used in the document. Once the geographic references have been identified, they need to be assigned latitude and longitude coordinates so that the information can be placed on a map. Until recently, this was mostly a manual process.

BTP is using the MetaCarta Geographic Search and Referencing Platform (MetaCarta GSRP) to initially geo-enable hundreds of thousands of its own documents, millions of documents from other police forces, and nearly 1 million documents from BTP's criminal intelligence system - a data and information solution designed specifically for law enforcement.

MetaCarta GSRP identifies places and points-of-interest in text documents, news feeds, email, reports, web pages and blogs, and assigns latitude and longitude coordinates so that the content can be searched, retrieved, and visually displayed on a map. The platform can identify more than 194 million place names and law enforcement agencies are now able to geo-enable all of their content in English, Spanish, French, Russian, Arabic, or mixed-language documents so it can be used in location-based applications to help visualize trends



Happenings around Heathrow



MetaCarta Search and Referencing in FlexViewer (not currently deployed by BTP)

and enhance intelligence analysis.

At present, BTP is working only in English, however, Smith anticipates multiple language capability could be a useful additional asset that BTP may take advantage of, given the multi-national and multi-lingual nature of the Olympic Games.

In addition to geo-enabling BTP's archived and proprietary data, MetaCarta's technology supplies breaking news from 30,000 sources, including blogs, from 150 countries. Breaking news items play a key role during major events. Watch standers can look for breaking news concerning incidents that may impact the safety of the people attending the event. If a cluster of incidents is detected, watch standers can quickly overlay discovered information with crime maps to see if patterns emerge as real-time events occur.

"The implementation of the technology is still underway," explains Smith. "We have been able to quickly geo-enable 900,000 documents with relative ease. That number should multiply, once we begin to geo-enable our archived and live crimes databases."

To date, implementation has been smooth for the BTP. "We've had no problems thus far," says Smith. "There is a quick learning curve...If you can use any mapping or web-based application; you can use MetaCarta's solution."

The aim is to allow analysts or watch standers to be able to call up a map of a particular railway station or point-of-interest, digitally draw a box around that map area, and find a comprehensive history of crime in or around that location, as well as news items that may have relevance.

This map fuses all the information together, from a variety of sources and provides analysts an "at-a-glance" view of what is happening in each community. What normally takes hours or days to discover and react to, is now delivered in seconds allowing for swift and intelligent decision making.

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