

Enhancing Emergency Preparedness for the 2010 Winter Games



The eighth-largest municipality in Canada, Vancouver covers 114.7 square kilometres and has a population of more than 578,000. Bordered by the Coast Mountain Range and the Pacific Ocean, Vancouver has been named one of the most livable cities in the world and is a popular venue for international events. From February to March 2010, the city will host about half a million visitors during the 2010 Olympic and Paralympic Winter Games.

To enhance the city's emergency preparedness and public safety, Vancouver has embarked on a project to create a common operational picture (COP) that will enable the city's Emergency Operations Centre (EOC) to gather, display and disseminate real-time information about incidents across its agencies. This will be developed by integrating various emergency management applications using a GIS.

Common operational pictures help emergency operations address two key challenges – a lack of accurate intelligence about an incident (i.e. what has happened, what is happening and where it is happening) and difficulties in sharing this intelligence to coordinate a response.

During an emergency, it is critical to deliver the right information to the right personnel at the right time. The COP makes this possible by providing relevant, accurate and real-time information to help emergency operation centre personnel determine the most appropriate action to resolve a situation. They can plot incidents on a map, plan resources and share information across agencies.

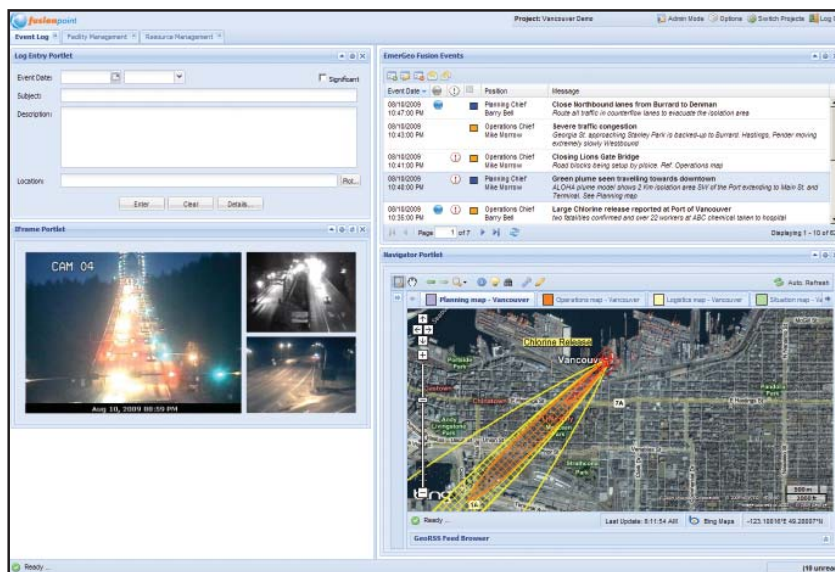
Interoperability is also key to effectively managing an emergency. The COP integrates

existing data to provide various departments with a common view of an incident and facilitate the exchange of information. This enables departments to collaborate and take coordinated action to save life, property and the environment.

Vancouver's EOC is staffed by personnel from different agencies including police, fire, ambulance and engineering services. Each agency has its own dispatch system, requiring several EOC staff to monitor the various dispatch systems using separate computers. Data related

to the same incident was being entered and managed in different systems, resulting in duplicate entries. To load data into EmerGeo Mapping, EOC staff needed to key in data from different dispatch systems manually. This sometimes impacted the completeness and accuracy of incident data.

To increase efficiencies in the city's emergency operations and achieve interoperability, the city looked to merge Computer-Aided Dispatch (CAD) data from fire, police, ambulance and engineering



EmerGeo FusionPoint™ brings together data from dispatch and crisis management software, cameras and other systems into a dashboard tailored to each emergency role.

For several years, the city has been using mapping software from EmerGeo Solutions, a Vancouver-based ESRI Canada Business Partner that provides integrated situational awareness technology, training and services. EmerGeo Mapping software delivers a managed common operational picture and workflow capability to help organizations effectively prepare for, respond to and recover from emergencies.

EmerGeo Mapping also provides separate map views for different user groups so that users do not have to sift through data and can get directly to the data they need. Based on open standards, the software is built on ESRI's ArcGIS Server technology – a complete server-based GIS that provides extensive capabilities for publishing and sharing geographic data, maps and analyses.

systems with its mapping application (EmerGeo Mapping) and crisis information management system.

In July, the city implemented EmerGeo FusionPoint™, a Web portal that delivers a single, unified view of critical data from multiple systems such as crisis information management systems, dispatch systems and GIS. The software is built on the latest Web fusion and open mapping technologies, and uses Web services to connect to customers' existing systems to publish data. The application reduces costs by leveraging real-time live and base map data that a client has already invested in.

"We needed a solution that could integrate data from multiple systems and provide us with a clear and comprehensive view of an incident," says Daniel Stevens, Office of Emergency

Management, City of Vancouver. “Among the solutions we evaluated, EmerGeo FusionPoint provides the capabilities we need to obtain real-time data to make more informed decisions. This will help us deploy and manage our resources and respond to incidents more quickly and effectively.”

EmerGeo FusionPoint uses Microsoft technology to constantly monitor and pull new data from various systems and automatically plots and displays data – both in geospatial view and tabulated form. It will be interfaced with E²MV, a multifunctional Web application that enables current resource data from a range of CAD systems to be viewed from a single interface. Developed by E-Comm 9-1-1 (the emergency communications centre for southwest British Columbia), E²MV facilitates information sharing across multiple dispatch agencies and also serves as a tool to verify addresses for 9-1-1 call-takers.

The system will enable the EOC to view incidents in a common operational picture as they are logged into the various dispatch systems, helping EOC staff to strategically plan for and respond quickly to emergencies. It also provides a view of incidents happening throughout

the city, helping the EOC to relate an incident with other events, make plans on the fly and prioritize deployment of resources.

To date, the city has already integrated data from its fire and police dispatch systems and has tested the system during the recent Celebration of Light Festival. Monitoring and responding to incidents has become an easier task for the EOC, with a marked reduction in manual processes. Moving forward, the city will integrate data from ambulance and engineering dispatch

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City of Vancouver**

systems as well as its crisis information management system. The city plans to have all the systems integrated by early 2010.

After the games, the city will leverage the system for the EOC’s day-to-day operations. This will help emergency planners, dispatchers and responders to react more quickly to incidents.

“This system will be a critical tool, not only for emergency management during the games, but in our daily operations going forward,” said Mr. Stevens. “The solution is easy to use and does not require GIS expertise. It enables our staff to not only view real-time data, but also interact with it and, more importantly, act on it.”

In the long term, the city plans to build logic into the system to create alerts based on live incident data. As people around the world focus on Vancouver for the 2010 Winter Games, this project is getting considerable interest from municipalities and governments in Canada. ■