Chapter III

Geospatially Enabled Directory for Emergency Response Interoperability

Judith Woodhall, COMCARE, USA

Abstract

This chapter discusses how the need for geospatially-enabled data messaging among emergency response agencies can be enabled with the Emergency Provider Access Directory (EPAD). It describes the directory, how it enables message routing, and its fit into a broader E-Safety Network. It also discusses the architectural components of the EPAD, specifically the geographic information system (GIS) module, and how Web services and open source products were used in the design to enhance the EPAD service offering, an offering that has the potential to bring emergency agencies one step closer to realizing interagency interoperability for advanced response to emergency events.

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Introduction

In an era when technology can bring news, current events, and entertainment to the farthest reaches of the world, many emergency response agencies cannot share data with one another, even if they are in the same jurisdiction. Yet, emergencies demand real-time data. Most of today’s efforts to improve interoperability have been focused on wireless voice communications. Led by state and local public safety experts and supported by the Department of Homeland Security (DHS), SAFECOM program, and significant federal funding, wireless first responder interoperability is moving forward. While voice or radio interoperability is a critical need for responders at the scene, voice represents only one side of the interoperability equation.

COMCARE is a national non-profit alliance dedicated to advancing emergency response by promoting modern, interoperable emergency communications systems, and the development of new procedures, training, and tools to maximize value for emergency responders. COMCARE encourages cooperation across professional, jurisdictional, and geographic lines, and works to integrate the emergency response professions, government, private industry, and the public. Its vision is to create an environment of borderless, geographically-targeted information sharing to achieve the most advanced response to emergencies. To that end, it has created the E-Safety Network, a framework for establishing a unified emergency Web services information architecture that ties together the various data systems used by all emergency response organizations.1

Background

Even after September 11, 2001, Columbine, the Northeast blackout, the California wildfires, and the recent hurricane seasons, there is still no national comprehensive emergency infrastructure that allows agencies to communicate data with one another across professions and across jurisdictions. Time and time again, important information about an emergency event does not reach the right people at the right time, resulting in unnecessary loss of life and property. During the 2003 SARS (severe acute respiratory syndrome) outbreak in Toronto, first responders and emergency medical personnel learned of the outbreak through the media, not from public health officials, hospitals, or other medical organizations (SARS Commission, 2004).

During the Oklahoma City bombing incident, responders lacked important information needed to understand damage from the blast and where victims might be found. According to the former assistant chief of the Oklahoma City Fire Department, it would have been useful to have blueprints, personnel lists, and data estimating blast effects and impacts to the buildings early in the response process. Other commu-
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