Mobile Networks—The Latest Weapon in the Fight For Metropolitan and Homeland Security

Executive Summary

With only 181 police officers to protect 100,000 citizens in a city that is home to a strategic naval port and one of Boeing Corporation's largest manufacturing centers, the Everett Police Department decided it could use all the help it could get. Working with the Cisco Internet Business Solutions Group (IBSG), I.T. Director Joe Boland and the City of Everett Information Technology Department deployed a Cisco Metropolitan Mobile Network solution and two "police cars of the future" to put a wealth of information—including photos of suspects, fingerprint files, crime databases, and remotely accessible cameras—where it can do the most good: in the hands of officers on the beat.

For many police departments across the United States, homeland security is just a new name for an age-old mission—to protect and defend. In Everett, Washington, wireless network technology helps patrol officers fulfill that mission by providing real-time, on-the-scene information that keeps them connected to each other and dramatically increases their ability to respond quickly and effectively to crime and security threats.

BUSINESS CHALLENGE

While the Everett Police Department already had launched a range of technology initiatives that included laptop computers for squad cars and access to both the Internet and a department intranet, most of those tools depended on a physical connection to headquarters for their effectiveness. That meant officers had to spend a large part of their day behind a desk writing reports and accessing records.

Sergeant Boyd Bryant, technology supervisor and public information officer for the force, says officers could count on working four hours of an average 12-hour shift in an office environment and not on the street. As Bryant describes it, "That translates into a workforce that is persistently out of touch with the community for 34 percent of their workday.

"No police officer gets into the job to drive a computer in a cubicle," Bryant says. "You get into the profession to make a difference, and that means spending time in the community where the action is." The department decided it needed to make some strategic changes that would optimize use of headquarters technology and, at the same

Prepared by Cisco Systems, Inc.
Internet Business Solutions Group

time, increase the total number of hours an officer can, in Bryant's words, "get out there and meet people—get familiar with who the storekeepers are and who's coming and going in the neighborhood."

First Response, Lasting Security

In addition, the department was on the lookout for ways to enhance its homeland security and disaster response capabilities. "Do we have safety-related issues that require us to have enhanced communications? Yes," Bryant says, answering his own question. "We have earthquakes. We have gale-force winds at times and we have flooding. We also are one of the few cities in the nation that has a nuclear-powered aircraft carrier [the USS Abraham Lincoln battle group] within line of sight of city hall. And the entire north end of the city is surrounded by a massive rail yard." Keeping police officers safe and fully connected in the field isn't just a nicety. It's a necessity for ensuring homeland security.

SOLUTION

Courtesy of a grant from the National Institute of Justice, the department implemented a wireless network strategy that connects beat officers and headquarters in a high-speed telecommunications grid, essentially keeping them linked in real time. The solution is built on robust Cisco 3200 Series wireless and mobile routers equipped with 802.11-standard hardware, laptop computers, and Cisco Aironet® bridges used for wireless coverage throughout the city.

"CITY OF EVERETT POLICE OFFICERS HAVE WALKED OUT OF THE BUILDING AND STRAPPED A V-8 ENGINE TO THEIR WORKSTATIONS."

—Sergeant Boyd Bryant, public information officer and technology supervisor, City of Everett Police Department

"We have 22 professionals using wireless-equipped police vehicles," Bryant says. "Ten are police patrol cars, one is our Crime Prevention In Motion vehicle, and one is our News Media Relations vehicle." Each one has mobile access to departmental databases, suspect photos, files, and communication, scheduling, and management tools—anywhere, anytime. "We are able to put our officers back in contact with the public," Bryant says, "giving us additional eyes and ears in the community."

In fact, the Everett Police Department's metropolitan mobile network has helped to substantially boost force productivity. By eliminating travel time required to connect to network-based applications, Bryant estimates a savings of one hour per officer per shift. When fully deployed, the initiative is expected to free each officer to be on the street where it counts an average of one more day a week, which will help the Everett police force be more proactive in responding to crime trends as well as meet the demands of a growing population.

"With the ability to access driver's license photos, booking photos, outstanding warrants, and remote fingerprint scanning services, officers will be much better equipped to identify and apprehend criminals," Bryant says.

BUSINESS VALUE

As the department continues to invest in an expanded network, mobile command vehicles also will become integral to effective management and control of potential disaster zones, serving emergency personnel on the scene, transmitting information back to a command center, and even operating video cameras in especially dangerous areas. During a fire, flood, earthquake, traffic accident, or major incident, "We can put camera-equipped police cars at different locations near the scene," Bryant says. "If the incident is under the wireless umbrella, the chief of police, the emergency operations center, the fire captain—whoever has a network-connected computer—can log into a camera and completely control it as if they were at the scene."

In addition, with integrated, IP-based video surveillance capabilities, individual Everett police officers can virtually extend their influence to several locations at the same time, multiplying force productivity and significantly improving public safety. At the same time, the metropolitan mobile network makes the streets of Everett a safer, more secure environment for police personnel themselves, who can monitor threats from afar and call in for backup with less risk to their own well-being. For example, in the case of a hazardous materials spill, a vehicle could be left with a camera pointed at the scene and transmit video to the command unit, allowing officers to get upwind of dangerous chemicals.

Police Car of the Future

One of the centerpieces of the Everett Police Department mobile network solution is its Crime Prevention In Motion vehicle, a Sport Utility Vehicle wired and ready for just about anything. It is connected to the network with dual wireless radio transmitters capable of sending and retrieving large files from network servers. A built-in, 32-inch television screen offers video and slide shows for training, and an onboard network-ready camera can project video from emergency sites to the City of Everett Emergency Operations Center.

In addition, Bryant says, the vehicle has the capacity to compose brochures by voice and then print and distribute them during emergencies or public exhibitions, saving time and money and dramatically increasing productivity. "We can also upload video to an external file server and send the link to a local television station," Bryant says. "This helps us broadcast information of importance immediately to our citizens.

"We believe that metropolitan mobile networks enhanced by voice recognition software are the wave of the future," he says. "It is the shape of things to come."

NEXT STEPS

As successful and cost-effective as the police mobile network has been, Bryant says it is really only meant to be part of a larger, even more productive picture. "The goal," he says, "isn't a police wireless network. The goal is a city wireless network for city government agencies." The project team, led by Captain Jim Couture and I.T. Director Joe Boland, formulated a budget and plan for the City of Everett to have 76 additional networked-enabled police vehicles and 24 networked fire engines deployed by the end of 2005.

Beyond that, Bryant says, the next step includes extending the same level of connectivity from vehicles to individual city employees, linking police, fire, medical, governmental, and emergency professionals via personal digital assistants or even wearable computing equipment. According to Bryant, "The future potential is staggering."

In the end, Bryant says, it is all about force multiplication. "One hundred and eighty-one police officers can't make a city safe. But 181 police officers, backed by an infrastructure that gives them the freedom to build a network of people who are as concerned about community safety as they are, can make a city safe."

For further information about Internet business solutions, visit: http://www.cisco.com/go/ibsg.

MORE INFORMATION

For further information on Internet business solutions, visit: **http://www.cisco.com/go/ibsg.**

Corporate Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
www.cisco.com
Tel: 408 526-4000
800 553-NETS (6387)
Fax: 408 526-4100

European Headquarters
Cisco Systems International BV
Haarlerbergpark
Haarlerbergweg 13-19
1101 CH Amsterdam
The Netherlands
www-europe.cisco.com
Tel: 31 0 20 357 1000
Fax: 31 0 20 357 1100

Americas Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
www.cisco.com
Tel: 408 526-7660
Fax: 408 527-0883

Asia Pacific Headquarters
Cisco Systems, Inc.
168 Robinson Road
#28-01 Capital Tower
Singapore 068912
www.cisco.com
Tel: +65 6317 7777
Fax: +65 6317 7799

Cisco Systems has more than 200 offices in the following countries and regions. Addresses, phone numbers, and fax numbers are listed on the **Cisco Website at www.cisco.com/go/offices**.

Argentina · Australia · Austria · Belgium · Brazil · Bulgaria · Canada · Chile · China PRC · Colombia · Costa Rica · Croatia · Cyprus · Czech Republic · Denmark Dubai, UAE · Finland · France · Germany · Greece · Hong Kong SAR · Hungary · India · Indonesia · Ireland · Israel · Italy · Japan · Korea · Luxembourg · Malaysia Mexico · The Netherlands · New Zealand · Norway · Peru · Philippines · Poland · Portugal · Puerto Rico · Romania · Russia · Saudi Arabia · Scotland · Singapore Slovakia Slovenia · South Africa · Spain · Sweden · Switzerland · Taiwan · Thailand · Turkey · Ukraine · United Kingdom · United States · Venezuela · Vietnam · Zimbabwe

(0502R) CW/LW836404/05
Printed in USA

