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By Ashley Roe

West Palm Beach, the oldest incorporated municipality in Florida, now has “digital” eyes watching its streets, helping police officers intercept and reduce crime activity in hotspot areas. The city’s police department recently completed the first phase of a wireless video surveillance network deployment using wireless mesh nodes and access points from Firetide Inc., Los Gatos, Calif. The system sends real-time video image streams from cameras installed throughout the city to police dispatchers and enables officers patrolling the streets to view the video remotely from their vehicles.

positive response.”

Securing the funds for the \$420,000 system presented another challenge. “We were working under some serious budget restrictions,” Perez says. The department set aside money from forfeiture funds available to police under asset forfeiture laws, which allow for seized criminal property to be used for law enforcement purposes,

DIGITAL

The West Palm Beach, Fla., Police Department increases officer and public safety using video surveillance over wireless mesh

Feature



“The benefit of using video surveillance is that it creates an extra set of eyes in the sky that are helping us to prevent crime,” says Assistant Police Chief Guillermo Perez of the West Palm Beach Police Department. “The cameras are acting more as preventative tools than anything else.”

Prior to deployment, the department underwent a year-and-a-half exploratory period to learn more about the technology, to brainstorm fundraising resources and to spread the word about its plans. Anticipating a possible “Big Brother” backlash, the department’s first step was to educate the public about the purpose of the system using the local media. “We wanted to

The West Palm Beach Police Department has deployed a 13-camera wireless mesh video surveillance system, covering crime-ridden neighborhoods in the city in hopes of deterring gang activity, drug dealing and prostitution. Wireless network components were provided by Firetide Inc., and cameras were supplied by JVC.

explain to residents that we were not out to violate anyone’s civil liberties by installing the cameras,” he says. “So we contacted media outlets early and explained our plans so they could have enough time to reiterate them to the public.” As a result of its outreach, the department received “overwhelming support” from city residents, explains Perez. “By the time we had the system in place, no one had issues with it. I was really surprised by the public’s

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and received a grant from West Palm Beach Mayor Lois Frankel.

After a three-month request-for-proposal process, the department chose Security 101, a video surveillance and access control system integrator with a local branch in Ft. Lauderdale, to design and implement the project. During the first phase of the

The first phase deployment of the mesh system jumpstarts West Palm Beach's City-Cam program, designed to increase the number of cameras installed through financial partnerships with business and homeowners' associations.

deployment, the department decided to set up a 13-camera system focused on the more crime-ridden neighborhoods in the city in an effort to deter gang activity, drug dealing and prostitution. "We have been in the wireless surveillance business for more than three years and had prior experience with Firetide when we deployed a city-wide mesh network in Ft. Lauderdale," says Jim Letang, senior account manager at Security 101. "For city-wide mesh deployments, Firetide delivers the greatest throughput

"The effect of the system has been immediate. The cameras go up; the signage goes up, and soon after, the streets are bare."

and extremely fast deployment. We had the entire mesh and access network up and running in two days."

Seventeen Firetide HotPort 6000 series mesh nodes were installed atop city buildings and poles to connect dome surveillance cameras to police headquarters. Video images are fed into a computer-aided dispatch system and accessed by dispatch personnel in real-time. The mesh nodes are coupled with Firetide access points to allow officers access to video feeds from Wi-Fi-enabled laptops kept inside their vehicles. This provides situational awareness as the officers respond to calls for service. "The way it works is an officer gets a call from dispatch and is told what camera to view on his or her mobile computer," Perez says. "Then they can log in from anywhere and see images from the particular camera."

Currently, recorded video is stored in the department's 15-TB capacity system for 90 days. "Once we have more cameras



installed, we may have to adjust that," Perez says. The department plans to expand the system to include 100 cameras over the next few years.

To determine the locations of the first wave of cameras, supplied by JVC, Wayne, N.J., the department researched viable locations, or hotspots, where crime had been an issue in the past. All but two of the cameras installed are clearly visible and are accompanied by signage that explains that the area is under surveillance. Once the cameras were erected, officers noticed a sharp decrease in criminal activity in the areas. "The effect of the system has been immediate. The cameras go up; the signage goes up, and soon after, the streets are bare," Perez says. Already, footage from the cameras has proven useful in conducting a drug bust and apprehending suspected criminals.

Although deterring and preventing crime is a noticeable benefit, Perez says the department's main goal for installing the system is officer safety. "Officers can use the system to see inside a location before entering," he says.

"For example, if a bank requests a tie-in to the Firetide system, when we get an alarm call, we can log in and gain visibility into the interior of the bank as officers are responding. Our officers will know what they are facing before they arrive on the scene."

The deployment of the mesh system jumpstarts a comprehensive public safety initiative created by Mayor Frankel. The initiative includes the City-Cam program, designed to increase the number of cameras installed through financial partnerships with business and homeowners' associations.

In addition, trained civilian monitors, working under the supervision of the police department, will join a 400-member police

volunteer force to monitor the real-time video feeds from the cameras and alert police dispatchers of any incidents. "We have already received 40 to 50 requests for cameras, including ones from area hospitals, a gas plant, homeowners' associations and individuals," Perez says.

Wireless mesh video surveillance networks have become popular municipal public safety tools in recent years, and one reason, says Michael Dillon, vice president of business development for Firetide, is for their resiliency.

"The nature of mesh technology is that it is self-discovering, self-configuring and self-healing," he says. Firetide's "secret sauce," as Dillon calls it, the AutoMesh routing protocol, enables a mesh network to form automatically once installed and overcome line-of-sight barriers that can intercept signals. This translates into increased reliability.

The other reason is cost. "Mesh has been recognized to be at a better price point than other technologies; it can be deployed much less expensively," Dillon says. "We have heard figures as high as \$300 to \$600 per linear foot to trench up streets, install wires and crush conduits. In addition, city personnel may need to maintain the system components regularly." A mesh network eliminates the need for installation and maintenance of costly network cabling.

In addition to the expected expansion, the police department plans to integrate license plate recognition software and gunshot detection software into the system. "The many capabilities of the system are fantastic. We are just scratching the surface of what Firetide technology makes possible," Perez says.

Adds Dillon, "The multitude of [benefits] and efficiencies of giving officers eyes and ears on the street is really only limited to the imagination." ★


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