

COVER STORY:

Candid Camera: Helping Dallas Cops Bust Criminals

By Holt Hackney

The conference room was eerily quiet as the men fiddled with the equipment. A few seconds later, Deputy Chief Tom Lawrence of the Dallas Police Department, along with the other members of the committee who were there to evaluate the proposed video surveillance system for downtown Dallas, watched with amazement as the men orchestrated a flawless demonstration of their company's wireless solution.

"They did the demonstration right there in the room and made it work very well," said Chief Lawrence. "At the time, we were collectively wondering whether they could pull it off."

In this instance, the "they" was BearCom, a nationwide provider of wireless equipment and solutions. With the help of key partners—Sony Electronics, Firetide, BridgeWave Communications, and On-Net Surveillance Systems (OnSSI)—BearCom has gone on to implement a state-of-the-art solution in Dallas that is rapidly becoming the envy of dozens of other cities around the country. It's a solution that holds criminals accountable for their actions and is rapidly becoming a significant deterrent to other criminal activity.

How It All Got Started

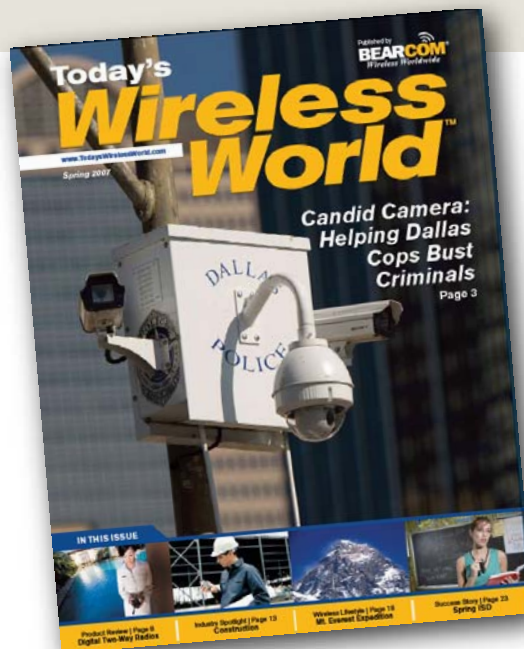
The idea to create such a solution was hatched long before the meeting between BearCom and the Dallas PD. In 2004, the department began working on a video surveillance project in Deep Ellum, the trendy warehouse district in Dallas. In early 2005, cameras were deployed and the feed was transported to various privately owned buildings in the area where it could be routed back to the department. It was definitely an educational experience for the Dallas PD. "What we learned was that it was very effective as a deterrence tool," said Chief Lawrence. "But as an investigative tool, it

was not useful. The pilot taught us what we didn't want to do. It taught us where we needed better technology."

The department took what it learned in the pilot and made the decision to pursue a downtown project. The next step was to identify one company that could provide a blended, best-of-breed technological solution.

BearCom, one of six wireless technology integrators to submit a project proposal, turned to its community of partners and their technologies to identify the most appropriate solution.

In evaluating wireless camera and networking technologies for its proposal to the Dallas PD, BearCom selected Sony's IP video surveillance cameras with single- or dual-streaming codec modes, advanced motion detection, and day/night functionality for the highest image quality in all conditions.



OnSSI's software enables the Dallas PD to monitor and control the wireless video cameras throughout the downtown area from one central location at City Hall. The management and archiving capabilities of the software also help to assure the department's ability to hold criminals accountable.





Firetide HotPort mesh nodes provide high-bandwidth, wireless connectivity for all the Sony IP video cameras in downtown Dallas. An outdoor or indoor node was installed for each camera, depending on the specific requirements of that location.

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The team also sought a scalable wireless networking infrastructure with substantial bandwidth, since the Dallas PD's existing wired infrastructure was insufficient for carrying a large amount of bandwidth-intensive video traffic. Firetide's fast and flexible mesh network nodes link the Sony cameras wirelessly, eliminating the need to install expensive video cabling to each camera.

The Firetide nodes are linked via seven mesh zones, where video traffic is aggregated and then backhauled to the Dallas PD's monitoring stations using BridgeWave's high-capacity 60GHz point-to-point Gigabit and 100Mbps wireless links. The BridgeWave radios also allow direct attachment of cameras through their additional “add/drop” copper Ethernet port.

Assembling and Installing the Various Components

Not surprisingly, BearCom's proposal proved to be a winner. Installation began in the late summer of 2006 and was completed in December of the same year.

Today, the solution flows seamlessly, beginning with the Sony cameras that monitor and record the data on the street below. From there, Firetide enters the picture with its mesh nodes that link to each other wirelessly, eliminating the need to install video cabling to each camera location, which would have been too difficult and cost-prohibitive for the City of Dallas. The nodes form a video network that spans the entire area selected for surveillance, and the system is self-healing—should one link be blocked or lose power, the video

signal will still go through without any interruption in service. The BridgeWave long-range wireless backhaul links connect the mesh network to the monitoring stations at Dallas City Hall and the Jack Evans Police Headquarters.

All of the system components are mounted inside protective, weatherproof enclosures, which are installed on the exterior of buildings and on traffic signal and street light poles in downtown Dallas. Most of the cameras have motorized controls, enabling officers or public safety staff sitting in a remote monitoring location to move the camera lens in any direction and zoom in for a closer look.

“This project would not have been possible were it not for the cooperation of our partners,” said John Watson, Chairman of BearCom. “Not only are Firetide, Sony, BridgeWave, and OnSSI innovators and leaders in the wireless industry, but more importantly, they worked closely with us to develop a solution that was a perfect fit for the needs of the Dallas Police Department and the City of Dallas. As a result, BearCom now has an integrated team that can offer similar solutions to other municipalities and public safety organizations that want to leverage wireless technology as an effective and efficient way to combat crime.”

As a key component of the Dallas PD's crime reduction efforts, the surveillance system covers approximately 30 percent of the downtown area and is being used as a crime deterrent with live, 24-hour



Dallas SWAT Team Gets Upper Hand on Bad Guys by using wireless devices

In addition to the benefits that the Dallas Police Department is seeing from its newly installed wireless camera system, the Dallas SWAT team is benefiting from another kind of wireless technology—headsets.

FreeLinc's FreeMotion 200, a wireless headset with push-to-talk capability that allows for cord-free operation of a two-way radio, is being warmly embraced by municipal SWAT teams around the country. The most famous SWAT team west of the Mississippi River—Dallas SWAT—has already deployed more than a half-dozen units.

Being a member of a SWAT team is arguably one of the most dangerous jobs in law enforcement. So it should come as no surprise that the men and women who serve in that capacity are constantly on the lookout for equipment that enhances their ability to do their jobs.

"We've been using FreeLinc's wireless equipment for several months," said Dallas SWAT's Terigi Rossi. "The fact that it's wireless saves us time, since we don't have to run a cord up our vests. It's not only more convenient, but we can get out into the field quicker. That can make a huge difference in critical life-and-death situations."

monitoring at City Hall and at police headquarters. The video streams are also being recorded to assist with criminal investigations. The overt system is designed with strict adherence to applicable laws and is used only in public areas with visible camera placement and street level signage.

"Our goal is to reduce crime in the area and to increase the overall satisfaction with public safety for our citizens," said Chief Lawrence. "The wireless camera system from BearCom will dramatically improve our ability to monitor this area of the city, and we can now provide our officers with critical, real-time information they can use to protect the public and themselves whenever an incident is detected."

"A lot of crime is perception," added Chief Lawrence. "We are trying to do things to make people feel safe when they come downtown. The system enhances our ability to do three things: detect the criminal activity, deter it, and investigate it."

Planning for the Future

The Dallas PD hopes to expand its solution to other areas of the city once additional funding becomes available. While the initial round of funding came

from the Meadows Foundation, a not-for-profit organization that helps projects that ease suffering, Chief Lawrence believes future funding could come from any number of sources—even the business community, which has been very supportive. "We were willing to sacrifice quantity for quality," said Chief Lawrence. "Being able to expand was more important to us than having a huge number of cameras. We didn't want to have to come back a few years down the road and redo it, but instead build on it."

Not surprisingly, the Dallas PD signed with BearCom to maintain the solution. At every turn, Chief Lawrence said he has been impressed with the DPD's partner, noting BearCom's expertise in all components of the solution, the ability to complete the project ahead of schedule, and the thorough effort (in training police officers how to use the system, for example).

"That day in the conference room," Chief Lawrence said, "was a harbinger of things to come."

Holt Hackney is Managing Editor for Today's Wireless World magazine.



On-Net Surveillance Systems Inc (OnSSI) provides the most advanced non-proprietary, open architecture, Intelligent IP Video Surveillance solutions. OnSSI's systems deliver feature-rich camera management, sophisticated recording and archiving, automatic Push Live Video on event, and a complete control-room video-wall management solution using the IP Network as a limitless virtual matrix. OnSSI's systems can be found in a wide range of municipalities, federal and local government agencies, as well as enterprise, industrial, and educational settings. For more information, visit: www.onssi.com.



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