NATIONAL LAW ENFORCEMENT AND CORRECTIONS TECHNOLOGY CENTER
A program of the Office of Justice Programs' National Institute of Justice
From Winter 2007 *TechBeat*
TECH b•e•a•t
Dedicated to Reporting Developments in Technology for Law Enforcement, Corrections, and Forensic Sciences

Removing Communication Roadblocks

The inability to communicate with other departments plagues law enforcement and other public safety agencies nationwide. Incompatible radio systems, differing database structures, and a dearth of policies and procedures often leave police and other emergency responders working in isolation.

In South Carolina, however, that isolation is dissolving away. Two cooperative statewide initiatives have helped to remove communications roadblocks and facilitate information sharing.

The initiatives are the South Carolina Information Exchange, known as SCIEx (a statewide data-sharing operation) and the South Carolina State Interoperability System (a shared 800 MHz radio system). The National Law Enforcement and Corrections Technology Center (NLECTC)–Southeast, a program of the Office of Justice Programs' National Institute of Justice (NIJ), has a hand in both enterprises.

South Carolina Information Exchange

In September 2006, the Newbury Police Department prepared to execute what appeared to be a fairly routine, relatively minor warrant, but something about the individual's name struck an officer as familiar. A search of the SCIEx database revealed previous police contacts and a profile of threatening to use weapons. Based on this information, officers changed their tactical approach, and everything went smoothly.

SCIEx, which uses an open source software package, has come a long way in a relatively short time. In 2000, sheriffs' departments and major police departments from the three South Carolina "Low Country" counties of Charleston, Berkeley, and Dorchester approached NLECTC–Southeast for assistance in creating a shared master name database. This project became known as the Information Technology Improvement Program (ITIP). With funding from NIJ, the programming was expanded to capture more and more elements until it took in "pretty much a whole incident report," says Pete Cosgrove, program manager at NLECTC–Southeast.

The expanded version of ITIP became so successful that in 2005, when the South Carolina Law Enforcement Department received a U.S. Department of Homeland Security grant to create a central fusion center, the agency decided that ITIP was the perfect model for its new information exchange project called SCIEx.

"We used the same model, a central data warehouse model," Cosgrove says. "We contracted with the records management system vendors that the law enforcement agencies were already using, gave them the specs, and asked them to include a module with their systems that would automatically replicate the data for SCIEx."

The module inclusion process began with the vendor with the most clients. Those 70 agencies became the initial users. As more vendors added the programming module to their software, more agencies came online. Today, Cosgrove says, approximately 300 agencies across the State are eligible to use SCIEx, and the South Carolina Law Enforcement Department Intelligence Fusion Center has added a mapping component that expands SCIEx capabilities to include crime analysis.

"At the local level, officers don't do anything differently from what they've always done," Cosgrove says. "But once they hit "enter" or "save" or whatever they click, the data is automatically uploaded to SCIEx. You can key in and get the whole incident report. It's really pretty powerful. It can be used for advanced planning of a tactical approach, as Newbury did [in the incident noted above], or the officer on the street can quickly look up something on his laptop."

Currently, more than 200 agencies are uploading data into the system, which gets about 6,000 queries per week. Data stored in the system can be queried through a secure Web-based interface using such parameters as name; vehicle; property stolen; suspect address; incident location; narrative keywords; phone numbers; and scars, marks, and tattoos. Cosgrove adds that an agency cannot begin querying until its systems administrators first receive training, obtain passwords, and train the remainder of their staff. NLECTC–Southeast holds frequent training classes for approximately 20 agencies at a time.

The underlying software that runs SCIEx is the NIJ-developed Law Enforcement Automated Data Repository (LEADR), which is available to law enforcement agencies without licensing fees. The success of this software has spurred interest from Federal agencies such as the FBI and from other States, including Tennessee and Montana. Cosgrove says that although the software is free of licensing fees, agencies interested in implementing a "SCIEx" of their own need to have the right hardware and work with their records management system vendor to obtain support. "It [LEADR] doesn't just self-install, and that's it," he emphasizes.

For more information about SCIEx or LEADR, contact Pete Cosgrove, 843–760–4089 or peter.cosgrove@nlectc-se.org. For more information about ITIP, read "Getting a 'TIP,' Making a 'Linc'" from the winter 2005 edition of* TechBeat *at www.justnet.org/techbeat/winter2005/TIPLINC.pdf. For more information about the South Carolina Law Enforcement Division, visit www.sled.state.sc.us.

South Carolina State Interoperability System

Although two hurricanes—Hugo in 1989 and Floyd in 1999—provided the impetus for development of a shared 800 MHz radio system in South Carolina, the system is not used solely in times of disaster; it is called upon in the daily operations of the State's public service agencies.

The statewide 800 MHz system had its beginnings in 1992 in reaction to communications problems experienced during Hurricane Hugo, in which 70 South Carolina residents died. This initiative, called the Palmetto 800 Trunked Radio Network, was a public safety communications partnership, according to Bob Roberts, project manager at NLECTC–Southeast.

"The Palmetto 800 network has been financially self-supporting from the very beginning," Roberts says. "The users pay the cost to operate the system on a per radio, per month basis, based on the number of tower sites needed to provide an agency with radio coverage. The cost of future upgrades is included in the user fee charges. The system developed on a pay-as-you-go basis, with expansion taking place when an area had generated sufficient revenue."

Even with the establishment of Palmetto 800, interoperability issues still existed. In 1999, evacuation efforts in preparation for Hurricane Floyd were complicated by a lack of full interoperability. This led to the creation of the State Interoperability System 2 years later.

"During the Hurricane Floyd evacuation, agencies that participated in the Palmetto 800 network could communicate with each other, yet others could not," Roberts says. "As a result, NLECTC–Southeast partnered with the South Carolina Office of the Chief Information Officer (SC CIO) to implement a statewide interoperability project in which the Southeast Center plays the 'honest broker' role while the State agency manages the radio system."

NIJ provided grant funding to Southeast to administer and partner with SC CIO to fund local law enforcement agencies for the purchase of console, handheld, and mobile 800 MHz radio equipment for use on the Palmetto 800 Trunked Radio Network, Roberts says. Participating agencies must pay all associated user fees.

Built on the existing Palmetto 800 network, the South Carolina State Interoperability System presently encompasses 69 tower sites, with at least one conventional repeater in each of 46 counties. This makes it the largest shared public safety radio system in the Nation, with more than 21,000 system users representing more than 350 different agencies.

Roberts says the implementation strategy was slow and methodical, involving small group meetings and personal contact to convey the importance of joining the statewide system and to address individual agency concerns and issues.

"There's been a lot of human interaction," he says. "Clearly, local agencies put a lot of thought into their decision to come on to a State system.

"Our objective was to increase interoperability. Local agencies didn't need to abandon their existing systems to achieve interoperability capability. Some agencies were heavily invested in their existing systems and/or in financially difficult times and could not immediately replace all of their equipment again. The grant funding was not intended to fully equip every agency. Its purpose was to encourage transition and enhance interoperability."

Some agencies, Roberts notes, elected to purchase additional equipment with local funds and move all of their users to the statewide system. Others decided to retain their existing systems and use the grant funds only to place selected users on the statewide system. Although the vast majority of local agencies supported the project goals and elected to participate in the project, the offer of free equipment under the grant did not guarantee participation by a local government. New and recurring user fees, investment in existing systems, and local priorities caused some agencies to decline participation.

Roberts adds that interoperability is not solely about disasters or acts of terrorism, but also about the important role it plays in day-to-day operations. "For example," he says, "in Manning, the city police were able to communicate directly via two-way radio with highway patrol units in the region regarding fleeing bank robbery suspects. The result of the immediate dissemination of the

suspect information directly from the Manning police units on the scene allowed the highway patrol to very quickly apprehend the suspects along the Interstate. This incident happened shortly after the City of Manning joined the network with radio equipment provided by the State Interoperability System."

For more information on the Palmetto 800 Trunked Radio Network and South Carolina State Interoperability System, contact Bob Roberts, 843–760–4612 or roberts@nlectc-southeast.org.

This article was reprinted from the Winter 2007 edition of *TechBeat,* the award-winning quarterly newsmagazine of the National Law Enforcement and Corrections Technology Center system, a program of the National Institute of Justice under Cooperative Agreement #2005–MU–CX–K077, awarded by the U.S. Department of Justice.