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IBETing on a Secure Border

The almost 4,000-mile-long border between the United States and Canada is the longest undefended border in the world. But this boundary line has been changing—from one that is open and safe to one that requires increased security and policing, especially in light of last year's terrorist attacks and the 1999 arrest of an Algerian national in possession of high explosives.

Even before September 11, 2001, illegal trafficking in contraband and humans had drawn the attention of law enforcement agencies on both sides of the border that had to consider that trade between the United States and Canada is among the most vigorous in the world—more than $1 billion a day. Slowing this activity to a more secure crawl could create economic risks for both countries. The border—on land, on the water, in the air—must be open for business but closed to crime.

In 1996, the United States and Canada formed the first Integrated Border Enforcement Team (IBET) to combat smuggling and illegal immigration on the northwest border between Blaine, Washington, and British Columbia. Since its initiation, the West Coast IBET has seized an average of $1 million per month in drugs, weapons, alcohol, tobacco, and vehicles. Its success led to the formation of the Central St. Lawrence Valley team in the Cornwall, Ontario/Massena, New York area and to the ongoing development of four more IBETs.

IBETs draw together the full range of law enforcement resources, including small municipal police departments and tribal police; State and Provincial police and law enforcement agencies; the U.S. Customs Service; the U.S. Border Patrol; the Bureau of Alcohol, Tobacco and Firearms; the Federal Bureau of Investigation (FBI); the U.S. Secret Service; the Royal Canadian Mounted Police (RCMP); and the Canadian Immigration Service. The most recently established team is in the Detroit, Michigan/Windsor, Ontario area. This IBET has 12 core agencies and 23 affiliated agencies, ranging from the Amherstville Police Service to the Consul General of Canada and the FBI.

"The cooperation that is the basis for this [IBET] has existed for many years," says Peter Laun, Law Enforcement Coordinator for the U.S. Attorney's Office for the Northern District of New York. "Bringing together an IBET in a particular location formalizes a longstanding informal, but effective, law enforcement relationship. The IBET forges a better understanding of the relationships between agencies and planning for larger scale operations, not just joint patrols."

In early October 2001, the Cornwall/Massena IBET organized a large-scale, 2-day exercise involving approximately a dozen law enforcement agencies from the United States and Canada. During the exercise, Laun says, participants immediately recognized that communications deficits hampered the operation. Even though participants had created common maps and grid systems to locate the patrol boats, they still had trouble telling them apart. Participants realized they needed a way to plot, locate, and identify the boats from the air or ground.

Following the exercise, representatives from all the U.S. and Canadian agencies and the U.S. Border Patrol office in Massena met to discuss how technology could help make operations safer and more efficient. Working groups were established to deal with such issues as radio interoperability and vehicle-stopping technology. The National Institute of Justice's National Law Enforcement and Corrections Technology Center (NLECTC) system joined this effort at Laun's request.

Creating a "Smart" Border

Since September 11, IBETs have acquired sensor systems, night-vision devices, computers, global positioning systems, and automatic personnel and vehicle locators. But integrating advanced technology into IBET tactical operations is proving to be a challenge. Most IBET participants are law enforcement managers and agents, not engineers. For help in procuring and applying technology to create a "smart" border, IBETs have turned to NLECTC–Northeast and the Border Research and Technology Center (BRTC). "This was not a theoretical situation," Laun says. "We found we really needed assistance to do it safely and efficiently. We needed the manpower multiplier of technology."

Through BRTC and NLECTC–Northeast, each IBET has access to the expertise necessary to identify current

and emerging technologies for border security applications in such areas as sensors and surveillance, intrusion and human presence detection, geographic information systems (GIS) and related crime-mapping technologies, tracking, criminal information sharing systems, and less-than-lethal technologies designed to stop boats and other vehicles.

Ground sensors are among the technologies being explored. "Machines don't get tired like humans do," says Gordon Dilmore, a law enforcement specialist at BRTC. The Border Patrol began using ground sensors in the 1960s by adapting sensors originally designed to locate prospective energy deposits for the petroleum industry. After the Vietnam War, the Border Patrol, in cooperation with RCMP, started using military systems. But these systems were vulnerable to false alarms from animals or legitimate traffic.

Most current ground sensor systems provide only an "event cue." However, some promising experimental sensors provide video or audio cuing. According to Dilmore, a Sandia National Laboratories and Eastern Kentucky University project involves linking seismic sensors with a laptop computer and a video camera. The unit is connected to a satellite phone to provide a real-time image.

In addition, closed-circuit television and microwave systems have been used by the Border Patrol in Vermont and New York State since 1984. "We will be looking at developing more of this technology for the IBETs," Dilmore says.

Crossing the Communications Border

The most challenging technology issue confronting IBETs is the need for communications interoperability. "You've got a lot of people involved and a lot of different communications systems, and they don't easily talk to each other," Dilmore says. "It's almost an overwhelming problem and there's been a rush to reach some solutions [since September 11]." The Cornwall/Massena IBET, he says, is currently sorting through the many "perceived requirements" that are inevitable when so many agencies and groups are involved in such a large and complex undertaking.

One promising solution may be the ACU–1000 integrated switch, which handles virtually all styles of radio transmissions. "The neat thing is that it will work with any of the existing communications systems, including cell phones, and will actually accept a phone call from the regular telephone system," Dilmore says. But the cost of connecting such a system with its disparate pieces—manageable for an urban center such as Washington, D.C—can be prohibitive for the small rural operations common to the northern border. "Less elaborate and less expensive systems may ultimately offer more of a solution than systems that have all the bells and whistles," he says.

Another interoperability problem being addressed is RCMP's requirement for end-to-end encryption. End-to-end encryption means that once a message (either voice or data) is encrypted on one end of the communications circuit or path, that encryption remains intact until the message is received at the other end, even if the transmission protocol changes from analog to digital (or vice versa) or the mode of transmission changes from landline to radio frequency (or vice versa). Although the ACU 1000 can handle end-to-end encryption, Dilmore says, many agencies do not have encryption capabilities. Existing links with RCMP may help solve this problem, but as long as the requirement for end-to-end encryption remains, some operations may be left out.

Besides the lack of radio interoperability, IBETs face the difficulty of reconciling different mapping standards: U.S. maps are in miles; Canadian maps are in kilometers. The solution for both sides may lie in military-style mapping based on integrated GIS technology.

Lessons and Technologies From the Military

Laun also cites the need for what the military calls "command and control." "What law enforcement along the border needs to have today," he says, "is more of a military capacity for joint command."

Dilmore, who worked in the Federal counterdrug program before retiring from the Border Patrol, says the IBETs need what the military calls C4ISR—*command, control, communications, computers, intelligence, surveillance,* and *reconnaissance.* To explain C4ISR, one must jumble the acronym a little: *computers* bring together the elements of *intelligence* about the adversary, *surveillance* of the area, and *reconnaissance* as to the adversary's current activities. Bringing this intelligence together in a digitized format facilitates *communications* between commanders and agents *(command)* and, thereby, *control* of the situation. This military analogy applies to IBET tactical operations: Keeping track of many disparate units is as real a problem in law enforcement operations as it is on the battlefield, he says.

NLECTC–Northeast is talking to the U.S. Air Force about adapting some of its C4ISR and data mining programs. As with other technology applications, it is a matter of pinning down the requirements to buy and set up the technology in compliance with U.S. and Canadian laws relating to data handling and information sharing.

Surveillance has always been a major element of border security, and it will continue to play a big role in IBET operations. Future IBET surveillance may take another

lesson from the military and use unmanned aerial vehicles (UAVs). "In the meantime," Dilmore says, "RCMP has some pretty good air assets that are capable of doing limited types of surveillance. Nothing exotic, but it can input into a GIS receiver. Customs is looking at putting some air assets up there also [in the New York and Washington State areas]. Also, the Border Patrol has begun flying helicopters and fixed-wing aircraft."

Dilmore notes that because much of the northern border is under water, an effective border patrol must have a marine element. Joint teams working on waterways are called IMETs—Integrated Marine Enforcement Teams. The first IMET, at Blaine, combined air support from RCMP with water vehicles from the U.S. Coast Guard and U.S. Customs Service.

At Cornwall/Massena, the Border Patrol and RCMP have been running joint marine patrols as part of IBET. Although this has been effective, some smuggler craft still get through. The agencies have contacted NLECTC to help find technology to intervene on marine pursuits. Different approaches are being evaluated, including a snare to entangle a boat. BRTC has tapped into Coast Guard expertise on vessel-stopping techniques, some of which are classified, and is working with the Coast Guard to secure release of some of these techniques for IBET use.

The IBET Scenario

Asked how September 11 changed things, Laun says, "The problems are the same; the stakes have been raised. The magnitude of the events have led us all to pursue enhanced security with greater vigor."

In addition to their normal border security operations, IBETs have been working on a three-level response plan they call the IBET scenario. Level one is normal day-to-day operations that focus on cooperative responses to routine border incidents and interdiction. The second level is joint surveillance operations based on intelligence sharing and developing such means of surveillance as UAVs. The third level is disaster preparedness.

Laun adds that more resources are available to IBETs than ever before. "Getting myriad organizations to blend and work together is easier now; September 11 has sharpened the focus on the need to become better and stronger partners than we've ever been," he says.

From the Canadian Side

"The IBET is always on," says Inspector Michael McDonell of the RCMP Cornwall Detachment. "We don't go on patrol without talking to the U.S. Border Patrol, the RCMP, the Akwesasne Mohawk Police, and the OPP [Ontario Provincial Police]. Border integrity is always an integrated effort. We always mirror the Border Patrol so that they're never out there alone, nor are we. If the Border Patrol is chasing them over the border, we're here waiting for them."

RCMP wants to maximize the benefits of technology. "We want to be the first to become truly intelligence led," McDonell says. The Cornwall IBET may be the first to "take it from concept to practice," mostly by collating and analyzing human- and technology-based intelligence. NLECTC assistance with GIS and other command-and-control hardware and software is bringing IBET ever closer to this goal. But as McDonell says, "Every day we go to work, we realize how much more we need to do to cover the border."

But technology alone is not enough, McDonell adds. The IBET approach is successful because it understands that human communication and teamwork remain the critical elements of success. "The key is breaking down the walls. We are looking at ways of co-locating our people as well as exploiting technology."

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