

Biometric border solution

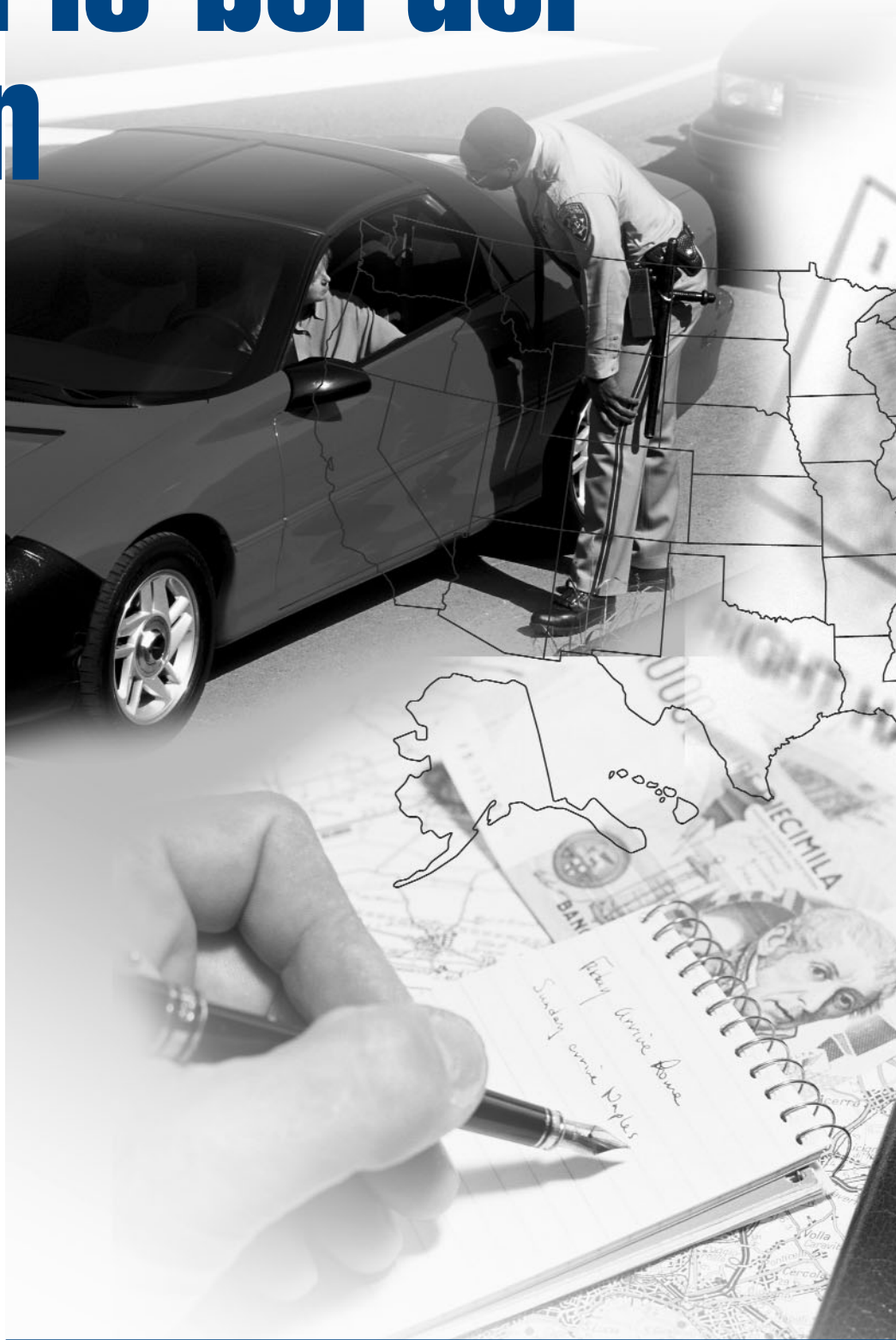
Customs officials are examining ways to couple border security with seamless processing.

BY CHAD S. FOSTER

The United States has a 7,500-mile land border with Canada and Mexico, through which 11.2 million trucks and 2.2 million rail cars cross into the U.S. annually. 7,500 foreign-flag ships make 51,000 calls in U.S. ports each year, and more than 500 million people are admitted into the U.S. each year through all land, sea and airports. These numbers (provided by U.S. government sources) impact the national — and states' — economies in dramatic fashion, particularly when they are slowed for any reason.

Unfortunately, those same borders also serve as a conduit for the passage of terrorists, weapons of mass destruction, illegal immigrants, contraband, and other unlawful commodities. The events of Sept. 11 sparked time-consuming security checks at land, sea and air points of entry. These security checks, while necessary for border security, can have a negative impact on international travel and trade. The country — particularly border states — is looking for ways to facilitate commercial border travel while providing increased security.

Biometrics has become a necessary component of traveler identification in many countries. Biometrics is the science of applying statistical techniques and methods to biological data. Once input into the identification system and matched with an individual, these unique identifiers aid in rapid, positive verification of identity. In



Proponents of biometric identification techniques hope to expedite and tighten border inspections by combining biological scanning with a computerized database. Biometric methods offer a possible solution to the lengthy border crossing processes implemented in the wake of the Sept. 11 attacks in the United States.



the past, countries have relied on a physical description and photo of the traveler as the only identifiers. Realizing the inadequacies of these measures, some countries are beginning to incorporate biometrics such as fingerprints, retinal scans and hand geometry into their travel and trade identification programs.

The United States is beginning to examine the complex issues surrounding biometrics and its use for border security as well as international travel and trade. Technology, cost, privacy rights and systematic changes are just some of the issues that appear when speaking of biometric implementation. Looking outside the coun-

"We will improve intelligence collection and sharing, expand patrols at our borders, strengthen the security of air travel, and use technology to track the arrivals and departures of visitors to the United States."

*— President George W. Bush,
State of the Union Address,
January 29, 2002.*

try at other national programs provides the first step in developing long-term national strategies and solutions.

International programs

Biometric identifiers are used around the world for a number of security purposes. Airports are one of the most common locales to utilize state-of-the-art biometric technology due to the high frequency of modern international travel. For example, Canada plans to begin equipping its airports with iris scanners in the summer of 2002 for frequent Canadian international travelers. These scanners will hopefully end long customs lines for frequent travelers each time they re-enter the country. The iris scanning and computerized background checks could reduce travelers' time spent in customs to 30 seconds or less. This use of biometrics for pre-screened travelers

allows security personnel to focus more on the higher threat travelers.

How do they work? The applicant's iris is digitized during enrollment and matched to background information on the individual. Upon entry into the security check station, a traveler looks into an iris scan kiosk located at the airport's customs station. That scan is immediately searched, matched and checked by computer with existing records on the traveler. Upon successful completion of the check, the traveler proceeds unhindered. Canada will eventually allow other frequent North American travelers to enroll in the program.

Already in place is a similar system at Tel Aviv's Ben Gurion Airport in Israel. The Express Entry system, upon which Canada's is loosely based, allows frequent travelers unhindered entry and exit from the airport, while simultaneously allowing security officials to concentrate on high-risk travelers. The system relies on hand-geometry technology to identify travelers as they move through the airport terminals. In almost two years of operation, almost 80,000 Israeli citizens have enrolled in the program, and the airport processes approximately 40,000 passengers per month (Streamlined Airport Services Take Flight – Electronic Data Systems, 2000). In addition to providing heightened security and improved convenience, the system also acts as a revenue source for the airport by charging annual membership fees.

American initiatives

In the early 1990s, the Immigration and Naturalization Service (INS) and the U.S. Customs Service began experimental programs to enhance travel and trade through the use of biometrics. Sept. 11th completely changed the nation's outlook on the security of all land, air and sea points of entry. How can terrorists be kept from entering a country that historically has been one of the easiest to enter, legally and illegally? One method, obviously, is to beef up security at all points of entry to prevent terrorists from attempting to bypass security checks. The second is to prevent the entry of terrorists who use illegal and false visas and other travel and entry documents.

In response to the latter, Congress introduced the Enhanced Border Security and



Fingerprint scanning is one form of biometric identification currently in use at some border checkpoints.

Visa Entry Reform Act in the fall of 2001. The bill requires that “the Attorney General and the Secretary of State shall issue to aliens only machine-readable, tamper-resistant visas and travel and entry documents that use biometric information” by Oct. 26, 2003. Under this legislation, chosen biometric identifiers will be recognized by domestic and international standards organizations as highly accurate and tamperproof.

The delays caused by the increase in security, especially at the Canada-U.S. border, are taking a toll on international trade and have been blamed as a contributing factor to the sagging economy. In particular, trade with Canada has dramatically declined since Sept. 11th. In response, Director of Homeland Security Tom Ridge and Canadian Minister of Foreign Affairs John Manley signed a declaration on Dec. 12, 2001 to create a “Smart Border for the 21st Century.” This initiative is a 30-point action plan to identify and address security risks while efficiently and effectively expediting the flow of people and goods across the U.S.-Canadian border.

NEXUS

The Smart Border initiative calls for the continuation of the NEXUS program, a bi-national program implemented in November 2001 at the Blue Water Bridge between Point Edward, Ontario and Port

Huron, Michigan. The cooperative program between key governmental agencies in Canada and the U.S. attempts to allow pre-screened and low-risk travelers to move quickly across the border, thus allowing customs and immigration officials to focus on what they consider to be higher-risk vehicles and personnel.

Approved applicants are given a proximity card with a small transponder chip. When the applicant approaches the border station, the transponder from the card causes a computer to query the traveler’s enrollment information from a central database. Biometric identifiers and travel restrictions are included in this retrieved information. A border station official matches the computer screen identifier with the traveler and waves the individual through, hassle free.

“NEXUS is an excellent example that security and the ease of movement of goods and people at the border are not conflicting objectives,” said Denis Coderre, Canadian Minister of Citizenship and Immigration. “On the contrary, a program such as NEXUS increases security while facilitating the movement of travelers.”

There are plans to implement NEXUS at three additional crossings between British Columbia and Washington by the summer of 2002.

The Customs-Trade Partnership Against Terrorism (C-TPAT)

Ridge announced The Customs-Trade Partnership Against Terrorism (C-TPAT) in



Requiring more than one form of identification is called layered security.



A biometric database compares the traveler's on-site information with data stored in memory.

April 2002. Fundamentally similar to NEXUS, this Canadian partnership focuses on the free flow of goods from automakers and large corporations rather than individuals. The program uses advanced security checks and a computerized "fast-lane" at the border, cutting the time to clear a truck from a few hours to less than a minute. General Motors was the first corporation to equip its trucks with transponders that operate like the NEXUS proximity cards.

INSPASS

INSPASS, The Immigration and Naturalization Service Passenger Accelerated Service System, is an automated immigration inspection system intended to reduce traveler processing time at the border while maintaining border security. The system uses a hand-geometry biometric image to validate the identity of travelers, query requisite background information, and record the results of the inspection for future scrutiny. Rather than waiting in line to be interviewed by an Immigration Inspector, INSPASS travelers go directly to

a kiosk and complete the inspection process generally within 20 seconds.

First begun in May 1993 at JFK airport in New York, INSPASS grew to over 70,000 enrolled travelers and more than 220,000 inspections by the year 1998, according to the INS. How does this system work? Arriving at a port-of-entry, travelers proceed to an INSPASS kiosk and insert their enrollment card. Responding to messages on the kiosk's touch-screen display, travelers are prompted to correctly align their hand in the hand geometry reader. The kiosk compares the biometric of the top of the hand to the image captured at enrollment.

Along with a complete criminal background check during the enrollment process, an additional check is conducted at the time of crossing. When the identity is validated, the kiosk prints a receipt of the inspection, a gate opens, and the traveler proceeds across the border. If any portion of the check fails, a screen message refers travelers to an Immigration Inspector in a nearby inspection booth.

Participation in INSPASS is voluntary

Voice recognition used in Montana

A Canada-U.S. border crossing in Montana is the world's first fully automated port of entry, using voice recognition to identify travelers as they pass through the station. Similar in nature to NEXUS, this program requires extensive security background checks for all applicants before their enrollment. A traveler speaks into a voice recognition device and background information is immediately pulled from a database of records. Once the voice pattern is authenticated, the traveler is allowed passage. Before the installation of this port of entry, travelers were required to drive 70 miles to the nearest manual check border crossing.

and open to citizens of the United States, Canada, Bermuda, and Visa Waiver Pilot Program (VWPP) countries who travel to the U.S. on business three or more times a year for short visits. Eligible travelers must enroll in advance at airports where INSPASS kiosks are located.

The challenge

The United State faces a daunting challenge: strengthening the security and integrity of its borders while recognizing and maintaining the intrinsic value and benefits of its traditionally open national boundaries. It is possible to marry security with convenience through the use of technology and biometric identifiers, creating a safety factor while encouraging lawful passage. As technology advances, new opportunities for international partnerships and cooperation develop, with the result of virtually extending U.S. borders to the points of departure within other nations.

Biometrics is not the end-all, be-all of security. It can, however, be an important tool in the war on terrorism. ★

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