

US-VISIT

Keeping America's Doors Open and Our Nation Secure



Homeland Security

Biometrics-Based Technology for Homeland Security Drives the Need for Specialized Skills and Competencies

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Introduction

How do I know you are who you say you are?

You say your name is John Smith, but there are millions of John Smiths—how do I know which John Smith you are?

The answer is biometrics. Biometrics are changing how we identify ourselves and verify the identity of others. The use of biometrics is changing how we do business, how we pay for goods, how we access our cars and offices and how we access our finances, literally changing how we work, live and play.

US-VISIT is at the forefront of this change, using the power of biometrics to protect the security of our homeland.

Government, industry and academia have a common challenge in today's global society: to develop and employ people who can help the government meet national and international security needs.

What follows is a discussion of the skills and competencies needed to meet this challenge using US-VISIT as the case study.

Educators will play a crucial role in developing these needed specialists.

A confluence of technology, political will and security imperatives raises the level of urgency. Consider the current environment coupled with the advances and the growing acceptance of technology as a way to improve security. In the United States, this created an imperative for identity management in terms of homeland security. At the same time, technology provided new, more reliable and more efficient tools to improve the identity management process.

Biometrics are an enabling technology for global identity management. Simply put, they offer convenience (biometrics are always with you) and security (biometrics can be much more difficult to steal).ⁱ

Biometrics: Measurable biological (anatomical and physiological) and behavioral characteristics that can be used for automated recognition.ⁱⁱ

Biometric systems have been researched and tested for several years and have only recently entered into the public consciousness because of high-profile government deployments, such as US-VISIT, exposure through entertainment and news media and growing use by consumers in day-to-day business transactions.ⁱⁱⁱ

History of Identity Management

The concept of identity management—the establishment and verification of identity—is not new. Trusted sources of identity have existed in various forms for centuries, especially during times of war or unrest when new identity documentation requirements were often put in place. The task of identifying persons becomes increasingly more challenging as populations grow and as more convenient modes of travel introduced new persons into once distinct communities.

Well before recorded history began, given names served as primary identifiers. In towns where two people had the same given name, they were further identified by their occupation—John, the cobbler, as opposed to John, the blacksmith—or where they lived—John of York as opposed to John of Surrey. These occupational and regional names often turned into family, or surnames.

In the last millennium, “modern nations” developed a new identification tool, a document that establishes a person’s identity, and in return, grants the bearer certain rights. One of the first recorded instances of an institutionalized identity document is the “Safe Conducts” document issued by the English parliament under King Henry V in England in 1414. “Safe Conducts” granted the bearer safe passage into and out of England.^{iv} Then, as now, a secure travel document was vital because it allowed known foreign tradesmen to travel to and from the country and ensured the safety of the country against people who would do it harm.

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The public appears ready to embrace biometrics. For instance, an international survey in 2006 concluded that:

- Two-thirds (66 percent) of banking consumers worldwide worry about identity fraud and the safety of their bank and credit card accounts.
- Biometrics, iris or fingerprint scans for example, are the preferred method cited by consumers to fight fraud and identity theft, followed by smart cards, tokens and more passwords.^v

Similar to the impact of the telephone on communication, the computer's impact on how we live and do business and the Internet's influence on globalization and information sharing, biometrics are revolutionizing the process of identity management.

How US-VISIT Works

By using biometrics in addition to traditional biographic information to base immigration-related decisions, US-VISIT directly supports the U.S. government's strategic vision for a virtual U.S. border. US-VISIT's strategic mission flows directly from and supports the department's mission: to lead the coordinated national effort to secure the nation and preserve freedom.

Identity management: *The combination of systems, rules and procedures that defines an agreement between an individual and organization(s) regarding ownership, utilization and safeguard of personal identity information.*^{vi}

Through the collection and comparison of international travelers' biometrics—digital fingerprints and a digital photograph—at U.S. consulates overseas and at U.S. ports of entry, the Department of Homeland Security's (DHS) US-VISIT program represents an integral part of the multi-layered defense system needed for domestic security.

History of Identity Management (continued)

In the 17th century, King Louis XIV of France issued “passe ports”—literally meaning to pass through a gate or port. That name has remained to this day. In the subsequent decades, the number of countries issuing passports and the number of people carrying passports increased greatly. Countries modified the passport, changing it from a note with a signature to a booklet made out of durable materials, with stamps, impressions and graphics to protect against forgery.^{vii}

By the end of the 19th century, border guards and customs facilities were overwhelmed with the number and variety of passports. Recognizing this problem and the importance of solving it for the good of the global economy, the League of Nations convened countries from around the world for two conferences in the 1920s to discuss passport standardization. These conferences established the foundation of international cooperation on passport and visa issues. When the League of Nations dissolved in 1946, the International Civil Aviation Organization (ICAO) undertook the task of standardizing border control and customs procedures.^{viii}

We have come a long way since “Safe Conducts,” though the passport of today has, in essence, the same purpose. It establishes a person's identity and asks that the border agent examining the passport allow the bearer to travel without delay or hindrance. Most of today's passports are laminated, bear a digital photograph and contain a hologram and machine-readable zone.

Unfortunately, these safeguards are no longer enough to prevent persons with malevolent intentions from using fraudulent passports to enter the United States. Through the use of biometrics and other security measures included in the passport, the United States can verify that the passport a traveler presents upon entry actually belongs to that traveler.

As the earliest passport developers added stamps and bar codes to passports, today's e-Passports utilize electronics and biometrics to increase the security of these identity documents.

US-VISIT's strategic mission is straightforward: to collect, maintain and responsibly share information, including biometric identifiers for national security purposes about international travelers, criminals, immigration violators and known or suspected terrorists, through a dynamic system.

The program's innovative use of biometrics ensures that decision-makers, be they consular officers overseas or Customs and Border Protection (CBP) officers at U.S. ports of entry, have the information they need to make informed decisions on visa issuance and admission.

Since its launch in January 2004, US-VISIT has operated using four strategic performance goals considered critical to achieving success. These performance goals are to:

- **Enhance the security of U.S. citizens and visitors:** From 2004 until February 2007, US-VISIT has intercepted more than 1,800 criminals and immigration violators, through its biometric screening capabilities. Through the use of biometric comparison, US-VISIT has identified persons whose criminal or immigration violations may have gone undetected had decisions been made purely on biographic records.
- **Facilitate legitimate travel and trade:** Through the program's innovative use of biometrics, US-VISIT makes travel, trade and immigration processing efficient, thereby promoting legitimate travel, trade and cultural exchange within the United States. Between January 2004 and

February 2007, US-VISIT processed more than 80 million travelers without negatively impacting processing times.

- **Ensure the integrity of our immigration system:** US-VISIT ensures that decision-makers have accurate, timely information with which they can make decisions and/or take action regarding a person's admission to, continued stay within, exit or removal from the United States. Since 2005, U.S. Immigration and Customs Enforcement (ICE) agents have arrested more than 300 foreign nationals who have overstayed the terms of their admission based on information provided through US-VISIT. Biometrics allow us to deprive potential criminals the ability to cross our borders using fraudulent documents and violate our immigration laws without detection. At the same time, biometric identifiers protect travelers by making it virtually impossible for anyone else to claim their identities should their travel documents be lost or stolen.
- **Protect the privacy of our visitors:** US-VISIT employs respect for privacy and civil liberties in its collection, storage and use of biometric information. By establishing a dedicated US-VISIT Privacy Office that is accountable for compliance with regard to all aspects of the program, from conception to execution, US-VISIT has built respect for privacy into its culture.

Keys to Success

When US-VISIT launched, initial reaction to the “fingerprint” decision was mixed, including concerns from some of our closest allies. Brazil, for example, responded by fingerprinting with ink (not digitally) and photographing with Polaroid cameras American tourists entering the country. In the United States, some leading civil rights groups expressed concern about the process negatively impacting privacy, and key travel industry executives expressed concerns that the process would significantly slow travel to the United States.

US-VISIT: A DHS program that provides identity management services, through biometrics, for the entire department, other federal entities and even state and local law enforcement.

In contrast, many travelers were accepting—acknowledging the security need for such biometric information in a post-September 11 world and expressing that the process is a non-issue.

In fact, a growing number of countries are adopting similar biometrics-based programs:

- The European Union is collecting digital fingerprints and digital photographs.
- The United Kingdom is developing a biometric visa program.
- Japan is building a biometric entry system that will be similar to US-VISIT.
- Australia expects to test a biometric border security system at Sydney’s airport.
- New Zealand is testing the use of biometrics for its frequent flier program.

- Holland has a smart card program, called Privium, that uses iris scans to facilitate enrolled travelers' entry into the country.
- The United Arab Emirates is utilizing iris scans as part of its immigration and border control processes.

Fortunately for US-VISIT, we had a strategy and the infrastructure in place to take us where we needed to go. As a large-scale, complex program, US-VISIT followed the generally accepted project management processes. What made it work though, were our people who shared the belief that success depended upon:

- **Leadership:** US-VISIT leadership articulates the vision and provides the motivation and tools for people to achieve it.
- **Intergovernmental Collaboration:** Through intergovernmental collaboration, US-VISIT built a comprehensive, government-wide identity services solution.
- **Execution:** US-VISIT's deliberate, incremental approach brought the program credibility and enabled us to expand our value across government.
- **Socializing Biometrics Through Public Education and Stakeholder Engagement:** US-VISIT's commitment to public education and stakeholder engagement helped ensure understanding and acceptance of the program.

Looking Ahead: The Skills and Competencies We Need

“Change does not necessarily assure progress, but progress implacably requires change. Education is essential to change, for education creates both new wants and the ability to satisfy them.”
-- Henry Steele Commager, historian^{ix}

US-VISIT has been lauded by third party experts in privacy, technology, travel and tourism, as well as travelers and stakeholders, domestically and internationally, for its policies and approach. But as we continue to provide identity management services, we will benefit from a workforce that understands the broad base of issues and their implications in order to move forward.

Leaders as Visionaries

Government projects, private industry projects, even small group endeavors rely on leadership, not only at the top, but at all levels.

US-VISIT has effective leadership that defines the future and aligns people with that vision.

For example, by creating the necessary vision, communicating the vision widely and empowering a broad base of people to lead and manage multiple initiatives of the program, US-VISIT was able to be more valuable, powerful and effective in securing our nation than originally expected.^x

As a result, US-VISIT has evolved from an entry-exit program to one that provides many U.S. government departments and state and local law enforcement agencies identity management services.

Development of strong, creative and wide-ranging leadership skills will provide the type of visionary leadership necessary to continue advancing our homeland security solutions.

Intergovernmental Collaboration

US-VISIT relies on the integration of federal agencies and the principles of change management to eliminate the silos that can impede implementation of the best solutions. While US-VISIT is a DHS program, it is a cross-government/cross-department tool that is most effective when it collaborates with its federal partners.

The program routinely assembles integrated project teams (IPTs)—consisting of other federal agencies and our contractors—that work together to improve program performance by agreeing on mutual objectives, identifying challenges and solutions, devising ways for eliminating redundancies and operational conflicts, committing to continuous improvement, measuring progress and sharing the gains. This has allowed US-VISIT to integrate, develop and deploy the best solutions by selecting the most appropriate partners (DHS, stakeholders, or industry) and technology.

One example of the benefits intergovernmental collaboration can achieve is demonstrated in the close partnership US-VISIT has developed with ICE. ICE is the largest investigative arm of DHS, with broad responsibilities for a number of key homeland security priorities. US-VISIT has assisted special agents from ICE by providing actionable information about known criminals and immigration violators through fingerprint matches.

As biometric information about criminals and immigration violators is shared across agencies, the need continues for federal, state and local government and law enforcement officials to understand immigration law. At the same time, ensuring the privacy of our visitors is our responsibility as a free and democratic nation.

In fact, US-VISIT policy extends most of the same privacy protections we give by law to U.S. citizens to non-U.S. citizens. The need to assure visitors that their personal information will be protected from abuse will help to gain their full cooperation and appreciation of the benefits of biometrics, especially as agencies become more integrated through information sharing.

Intergovernmental collaboration is a core requirement of each element of the US-VISIT program. This collaboration ensures implementation of a long-range program to better harmonize our technical systems and procedures, creating a better, faster and more secure border. As that collaboration expands to state and local government and law enforcement officials, teamwork and management expertise will become even more mission-critical.

Execution

*“Organizations don’t execute unless the right people individually and collectively focus on the right details at the right time.” --
Larry Bossidy and Ram Charan^{xi}*

US-VISIT’s deliberate, incremental approach brought the program credibility and enabled us to expand our value across government. It evolved into an organization that provides identity services for the entire DHS, other federal entities and even state and local law enforcement.

This evolution was possible because US-VISIT's leadership developed a strategy that provided an executable roadmap and because its staff had the correct skills and competencies to execute.

As an example, US-VISIT recognized the need for forensic analysts to support its identity services. Such forensic analysts make up the Biometric Support Center (BSC), DHS' identity nerve center. These highly-trained experts verify fingerprints that cannot be identified by the technology software, and they work to match latent fingerprints 24/7. Collectively, this operation relies upon a team of people who have more than 800 years of experience as forensic analysts. On a daily basis, they verify approximately 7,000 fingerprints, nearly 50,000 per week.

Considering the fact that private industries are capitalizing on the technology—computer companies are integrating biometric scanners into laptops to improve security; grocery and retail stores are utilizing the Pay By Touch system, which uses fingerprints to authorize payments; banks are establishing biometric ATMs that verify account holders' identities with biometrics—the demand for such technical experts to support identity services will increase.

Socializing Biometrics through Public Education and Stakeholder Engagement

The value of public education and stakeholder engagement to US-VISIT's success has contributed significantly to the program's ability to meet critical operational goals on time and on budget. As such, it built a team of communications professionals to ensure that a dialogue was established among stakeholders regarding the program and related issues.

From the beginning, US-VISIT leadership recognized that the program's success would depend on the efficiency with which travelers and immigration officials are able to interact with the program. By engaging stakeholders in a two-way dialogue, we have identified challenges and issues, and in some cases, amended our planning in response. For example, US-VISIT was set to launch on December 31, 2003, but acknowledged the travel industry's concern about the high-level of traffic due to holiday travel on that day. Therefore, we delayed the program's launch until January 5, 2004.

US-VISIT attended events and accepted speaking opportunities at a variety of venues—small town halls to large public forums—across the United States, from Calais, Maine, to southern California, and Brownsville, Texas, to Blaine, Wash. Since the program began, US-VISIT has attended more than 40 events in 20 different countries, and through such outreach has engaged more than 55 unique audiences.

The result of the program's commitment to public education and outreach was public support and validation of the program from leading industry influencers including the Travel Industry Association, the American Society of Travel Agents and others. It also resulted in the ability to leverage stakeholders' channels of communication to reach additional audiences. This enabled US-VISIT to amplify its message while controlling its resources responsibly.

Currently, more than 3,350 stakeholders internationally and domestically have signed up to receive electronic updates about the program.

The acceptance and general perception of biometrics worldwide is increasing due in part to US-VISIT's efforts to communicate their importance. In fact, the majority of U.S. consumers, approximately 69 percent, would prefer government programs adopt biometric technologies, as compared to other protection measures. And more than half of consumers feel that not only does technology play a significant role in homeland security, but view biometrics as one of the best ways to improve security.^{xii}

US-VISIT's public education and stakeholder engagement program, by all accounts, has set the standard for how public programs should be introduced and implemented. The demand for communications professionals who also understand the public policy implications of the program will increase.

Conclusion

Programs like US-VISIT are helping change the way public and private and foreign and domestic entities work together to use technology to implement best available solutions while also building foundations to support future needs.

US-VISIT has challenged industry to devise biometric solutions to help us achieve our goals, and industry is responding. Similarly, our educational institutions will be challenged to provide students with the resources to develop the skills and competencies necessary to meet national and international security needs.

Homeland security is a part of our social fabric and will continue to evolve, presenting a constant flow of challenges. We will continue to need the brightest minds to understand and respond to

these challenges by preparing themselves through study and experience to take an active role in the protection of freedom and democracy around the world.

P.T. Wright Biography



P.T. is acting deputy director of the US-VISIT program, and also serves as the U.S. team leader on the U.S.-Mexico Bi-National Technical Working Group for US-VISIT and the U.S.-Canadian Bi-National Technical Working Group for US-VISIT Implementation. He has held a number of key positions since beginning his career with the former U.S. Customs Service on August 30, 1973. During this time, he has received numerous awards—the National Narcotics Officers Association Customs Award, Southwest Region Middle Manager of the Year, the European Commission-Sanctions Ambassador’s Peace Recognition Award and the Meritorious Presidential Rank Award.

ⁱ The National Biometrics Challenge: National Science and Technology Council Subcommittee on Biometrics. August 2006. pp. 9.

ⁱⁱ The National Biometrics Challenge: National Science and Technology Council Subcommittee on Biometrics. August 2006. pp. 1.

ⁱⁱⁱ The National Biometrics Challenge: National Science and Technology Council Subcommittee on Biometrics. August 2006. pp. 3.

^{iv} United Kingdom Passport Service (UKPS): http://www.passport.gov.uk/general_history_early.asp

^v Unisys, Inc. 2005, http://www.unisys.com/eprise/main/admin/micro/doc/ID_Fraud_PgPrep.qxt.pdf

^{vi} The National Biometrics Challenge: National Science and Technology Council Subcommittee on Biometrics. August 2006. pp. 2.

^{vii} Passport Canada: <http://www.ppt.gc.ca/about/history.aspx?lang=e>

^{viii} International Civil Aviation Committee (ICAO): <http://www.icao.int/mrtd/guidance/HistLeague.cfm>

^{ix} Henry Steele Commager (1902-1998) is an American historian who authored numerous books and articles and taught at New York University, Columbia and Amherst College. (Jumonville, Neil, and Rogers, William Warren. Henry Steele Commager: American Public Intellectual:

<http://www.harvardsquarelibrary.org/unitarians/commager.html>.)

^x Kotter, John. Leading Change. Harvard Business School Press. Boston, Mass. 1996. pp. 25-31.

^{xi} Bossidy, Larry, and Charan, Ram. Execution: The Discipline of Getting Things Done. Crown Business. New York, NY. 2002. pp. 33.

^{xii} Ponemon Institute Survey, commissioned by Unisys Inc. 2006