

## AIRPORT ENTRY AND EXIT WORKING GROUP



# IDENTITY AND BIOMETRIC ENTRY AND EXIT SOLUTIONS FRAMEWORK FOR AIRPORTS

PREPARED BY THE AIRPORT ENTRY AND EXIT WORKING GROUP

Leadership provided by:

Secure Identity & Biometrics Association (SIBA)

Security Industry Association (SIA)

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### Abstract

In light of recent direct and evolving threats to national security, including from international terrorist groups, alongside increased travel to the United States, the need for our border processes to both secure and facilitate travel continues to intensify. The Airport Entry and Exit Working Group (hereinafter “Working Group”) emphasizes the importance of implementing a biometric exit program and improving biometric entry processes.

More specifically, the Working Group seeks to highlight (1) the Department of Homeland Security’s Apex Air Entry and Exit Re-Engineering (DHS AEER) Project in putting forth effective and essential recommendations to Customs and Border Protection (CBP) for the implementation of improved air ports of entry (hereinafter “air entry”) processes and deployment of air ports of biometric exit (hereinafter “air exit”) processes as required by federal statutory mandates; and (2) urges Congressional oversight and appropriate funding in implementing biometric exit requirements necessary for accurate exit identity data of non-citizens.

The Working Group is a representative group of identity management, document authentication and biometric industry experts. Members include the identity management and biometric solution providers, the Secure Identity & Biometric Association (SIBA), and the Security Industry Association (SIA). Over the past 16 years, there have been eight statutory mandates for a comprehensive entry-exit program, two pilots to test solutions both from 2004 to 2006 and again in 2009, and a 2008 biometric exit rule-making. Today, the US has in place a ten year old biometric entry system, but no biometric exit solution. Implementation of a biometric exit program and improvements to the biometric entry program are not only doable and capable of meeting essential border control criteria, but are long overdue. The Working Group is committed to supporting DHS AEER in improving air entry and making an air exit a reality.

### Purpose

- Establish the value to DHS AEER and legal parameters of engaging the Working Group as a key stakeholder
  - Establish the ways in which the Working Group is committed to supporting the DHS AEER in:
    - Testing, defining, developing and implementing the best biometric, document authentication and identity operational solutions
    - Meeting the needs of federal statutory law, security, immigration integrity, travel facilitation and privacy
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## AIRPORT ENTRY AND EXIT WORKING GROUP

- Developing useful and usable implementation recommendations to CBP upon conclusion of the DHS AEER
- Urge Congressional oversight and appropriate funding in implementing air entry and exit requirements

### Goals

- To support the DHS AEER in testing, evaluating and developing a business case for appropriate, cost-effective solutions to enhance and improve air entry, and to develop and deploy an air exit solution as soon as possible
- To support Congressional oversight of DHS AEER and appropriate funding mechanisms for CBP's implementation of biometric entry re-engineering and exit deployment
- To make recommendations in keeping with DHS AEER stated goals and federal statutory law, and support holistic solutions that integrate principles of national security, immigration integrity, travel facilitation and privacy

### Statutory Mandates for a Biometric Entry/Exit System for Non-Citizens

Eight statutes with various requirements for a comprehensive immigration entry-exit system have been passed since 1996. Five of these statutes were streamlined by section 7208 of the 2004 Intelligence Reform and Terrorism Prevention Act (8 USC 1365b), which begins as follows: "Consistent with the report of the National Commission on Terrorist Attacks upon the United States, Congress finds that completing a biometric entry and exit data system as expeditiously as possible is an essential investment in efforts to protect the United States by preventing the entry of terrorists." The 2004 law required full implementation of a biometric entry-exit system at all ports of entry by December 2004 with the following stated policy goals:

The Department of Homeland Security shall operate the biometric entry and exit system for non-citizens so that it-

- (1) serves as a vital counterterrorism tool;
- (2) screens travelers efficiently and in a welcoming manner;
- (3) provides inspectors and related personnel with adequate real-time information;
- (4) ensures flexibility of training and security protocols to most effectively comply with security mandates;
- (5) integrates relevant databases and plans for database modifications to address volume increase and database usage; and
- (6) improves database search capacities by utilizing language algorithms to detect alternate names.

Section 7208(d) requires "the collection of biometric exit data for all categories of individuals who are required to provide biometric entry data (emphasis added), regardless of the port of entry where such categories of individuals entered the United States".

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Further seeking to implement core 9/11 Commission recommendations, section 7208(g) requires that entry-exit data be available electronically and used in determining immigration benefit application outcomes, including visas, work permits, immigration court cases and investigations. In addition, as it pertains to non-citizens, “the biometric entry and exit data system shall facilitate efficient immigration benefits processing by ... utilizing a biometric based identity number tied to an applicant’s biometric algorithm”.

Between 2004 and 2006, pilot programs for exit were undertaken at the request of Congress. The technology worked, but compliance rates were low; in part, because the airports were not mandated to place the biometric exit kiosks in locations that required compliance.

In 2007, the 9/11 Commission Implementation Act amended certain sections of the Immigration and Naturalization Act (8 U.S.C. 1187) pertaining to the control of foreign nationals’ travel. The law reiterated the need for exit data and required exit data collection apply to all foreign nationals entering under the Visa Waiver Program. The amendment in section 217(h) mandates that air carriers be required to "collect and electronically transmit" passenger "arrival and departure" data to "the automated entry and exit control system" developed by the federal government.

The amendment to section 217(i) mandates that “the Secretary of Homeland Security shall establish an exit system that records the departure on a flight leaving from the United States of every alien participating in the visa waiver program” that

“(1) shall--(A) match biometric information of the alien against relevant watch lists and immigration information; and

(B) compare such biometric information against manifest information collected by air carriers on passengers departing the United States to confirm such aliens have departed the United States.

In 2008, DHS established a rule-making for the "Collection of Alien Biometric Data Upon Exit From the United States at Air and Sea Ports of Departure", requiring the airlines to collect biometric data anywhere in the international departure process. The airlines refused, yet the regulation remains intact today.

In 2009, Congressional appropriators required two airport biometric pilot programs<sup>1</sup> before appropriating further funds for exit. One pilot tested handheld biometric-biographic collection devices at TSA checkpoints at Atlanta's Hartsfield-Jackson International Airport, the other required CBP to screen departures with mobile laptops configured for a biometric-biographic exit on the jetway at Detroit Metropolitan Airport. Both worked. The study's conclusion was: "Overall, the Air Exit Pilots confirmed the ability to biometrically record the exit of aliens subject to US-VISIT departing the United States by air."

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<sup>1</sup> Department of Homeland Security, “Notice to Aliens Included in the United States Visitor and Immigrant Status Indicator Technology (US-VISIT) Program; Collection of Alien Biometric Data upon Exit From the United States at Air Ports of Departure”, Fed. Register vol. 74, no. 105 (June 3, 2009)

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In the month of processing between June and July 2009 — heavy international travel times — the study found that "The Customs and Border Protection pilot at the jetway in Detroit processed 9,448 aliens and identified 44 watch list hits and 60 suspected overstays. The TSA pilot processed 20,296 aliens subject to US-VISIT and identified 131 watch list hits and 90 overstays", for an aggregate of "hits" of 1.10 percent for the CBP pilot and 1.09 percent of the TSA pilot.<sup>2</sup>

In the 2013 Homeland Security Appropriations Act, appropriators made it clear that CBP is fully accountable for planning and deploying a biometric exit program. This was the first time that federal law clarified that CBP is responsible for implementing border inspection solutions at entry and exit.

### **Apex AEER Program Background**

CBP and DHS Science & Technology Directorate (S&T) are currently testing, evaluating and developing a business case for appropriate, cost-effective solutions to enhance and improve air entry, and develop and deploy air exit. This joint effort is the DHS AEER Program.

The current biometric entry system used by CBP at over 100 US international airports is ten years old and was deployed in late 2004 in response to 9/11 Commission recommendations that "The Department of Homeland Security, properly supported by the Congress, should complete, as quickly as possible, a biometric entry-exit screening system".<sup>3</sup>

Foreign nationals seeking entry into the United States through airports today are subject to an inspector interview, a scan of the individual's passport which reads the MRZ code for biographic information, an enrolled facial image, and a ten fingerprint enrollment which also checks against criminal and watch lists in real time.

There is no biometric exit system in place at this time. DHS AEER states that over 700 airports may be affected by biometric exit. Right now, air exit is wholly reliant on the accuracy of passenger manifest lists provided by airlines to verify departure, and there is no opportunity to determine if an individual is who they say they are. According to DHS AEER, total international air passenger volume continues to increase, with a 21% increase compared to FY 09 and a projection of four to five percent annual increase over the next few years. While it is not clear how much of that increase is foreign national, as opposed to U.S. citizen, international travel, what is clear is that stress on immigration processing will continue to better facilitate travel while ensuring border security.

### **Identity and Biometric Solutions Framework**

Members of the Working Group strongly believe that their subject matter expertise is both of great value and a necessity to assure the most effective and efficient testing of biometric and identity management products by the

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<sup>2</sup> Department of Homeland Security, US-VISIT "Air Exit Evaluation Report" (June 2009), p. 2-3. This report was never released by the relevant Congressional committees to which it was submitted. Quote is from a paper copy of the report submitted to the U.S. Senate Judiciary Committee in June 2013.

<sup>3</sup> Final Report of the National Commission on Terrorist Attacks Upon the United States, p. 389.

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DHS AEER Apex Program. The identity management and biometrics industry has a strong history of successfully working with DHS to build, integrate, deploy, operate, maintain and upgrade the world's first air entry biometric border system. The Working Group continues the industry's long standing commitment to support identity management, verification and authentication in DHS immigration and identity components with both relevant personnel and technologies.

According to the [April 2014 DHS AEER presentation](#), members of the "AEER team" are stated as the DHS, Congress, and various airport, airline and travel industry associations. However, the industry providing the solutions has been omitted, despite the DHS AEER's stated goals as:

**Air Exit:** Develop recommended approaches and implement technologies for cost-effective and integrated *biometric* capabilities

**Air Entry:** Identify and implement technologies and enhancements to existing airport operations for inspecting and examining travelers entering the U.S.

## General Principles

### A. Working Group as Stakeholder

- The identity management and biometrics industry is the provider of the core technologies being tested by DHS AEER. These technologies ultimately will be used by CBP for the purpose of re-engineering immigration entry and implementing a biometric exit system at U.S. international airports.
  - The Working Group is the collective subject matter expert on identity management and biometric solutions, including immigration-related solutions and potential holistic innovations. The existing DHS advisory committees, such as the [Homeland Security Science and Technology Advisory Committee](#), are not specialized enough to provide DHS AEER the expertise that would most directly support its objectives.
  - The Working Group is a valuable and essential stakeholder with whom DHS AEER should now engage as a core stakeholder to assure a higher likelihood that the solutions and implementation of the solutions are a viable success.
  - The Working Group recognizes and supports that DHS AEER is not an acquisition or procurement effort, but is instead tasked with developing processes and concepts of operations that CBP can use at ports of entry and exit.
  - The Federal Acquisition Regulation guidance at FAR Part 12.202 fully supports, prior to a government acquisition or procurement effort, that "market research is an essential element of building an effective strategy for the acquisition of commercial items" with the relevant industry, in order to better understand the current state of technology and the availability of commercial items. Developing communication now with the Working Group
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is key to driving new technology and new solutions that will meet the evolving needs of travel community stakeholders. Relevant sections of the FAR are as follows:

Subpart 12.2—Special Requirements for the Acquisition of Commercial Items

12.201 General. This subpart identifies special requirements for the acquisition of commercial items intended to more closely resemble those customarily used in the commercial marketplace, as well as other considerations necessary for proper planning, solicitation, evaluation, and award of contracts for commercial items.

12.202 Market research and description of agency need.

(a) Market research ... is an essential element of building an effective strategy for the acquisition of commercial items and establishes the foundation for the agency description of need ... , the solicitation, and resulting contract.

(b) The description of agency need must contain sufficient detail for potential offerors of commercial items to know which commercial solutions may be suitable. Generally, for acquisitions in excess of the simplified acquisition threshold, an agency's statement of need for a commercial item will describe the type of product or service to be acquired and explain how the agency intends to use the product or service in terms of function to be performed, performance requirement or essential physical characteristics. Describing the agency's needs in these terms allows offerors to propose methods that will best meet the needs of the Government.

- The role of the Working Group as a key stakeholder engaged in helping DHS AEER address the concept of operations issues for entry and exit is not only permitted under the FAR, but is a significant opportunity to for DHS AEER to develop better pilots and better end-to-end solutions that meet the goals and needs of CBP in implementing the DHS AEER recommended concept of operations.
  - The Working Group recognizes that both the Working Group and the DHS AEER are obligated to adhere to the requirements of the Federal Advisory Committee Act, 5 U.S.C. App. 2 ("FACA"). The Working Group does not request the creation of a FACA Advisory Committee and would not constitute such a committee for these reasons:
    - Is not funded by DHS
    - Is not recurrently organized, requested or run by DHS, but rather requested jointly by SIBA and SIA as representatives of the Working Group
    - Represents Working Group views, facts and information as a whole, alongside any divergent individual member views and comments - and are not policy guidelines for DHS solely
    - Remains focused on issues related specifically to DHS-AEER project testing and prospective CBP implementation according to law, policy and technical scope
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- For these reasons, DHS AEER is free to engage with the Working Group within these four parameters.

## ***B. Implementing Statutory Law***

- In its April 2014 DHS AEER presentation provided to the Homeland Security Science & Technology Advisory Committee, the DHS AEER articulates immigration issue areas that the program seeks to address as follows: “increased traveler volume and wait times; incomplete information on traveler departures; legislative mandate for biometric exit not met; air threat remains a priority”.
- The Working Group recommends DHS AEER align their program goals with federal statutory law that is clear and unequivocal in a broader scope, including assuring that:
  - biometric entry-exit is a vital counterterrorism tool
  - biometric exit data is collected for the same category of individuals for whom biometric entry data is collected;
  - the system includes development of a biometric based identity number tied to an applicant’s biometric template within the entry and exit data ecosystem to track all immigration related matters concerning the applicant; and
  - the system adheres to INA Sec. 217(i) requiring that non-citizen biometric information be matched against relevant watch lists, manifest and immigration information to verify an individual’s identity and admission, and verify identity on departure.

## ***C. Assuring National Security, Immigration Integrity and Exit Implementation***

- The Working Group supports DHS AEER and CBP entry-exit re-engineering implementation articulated goals that seek to secure against threats to air travel while enhancing traveler facilitation through air entry and minimizing traveler inconvenience at exit.
- The Working Group views national security, immigration integrity, exit implementation and travel facilitation as interdependent technical, legal and policy requirements.

### **(1) National Security and Immigration Integrity**

- In addition to the DHS AEER stated goals of securing against threats to air travel, the Working Group also recommends:
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- DHS AEER test biometric upgrades to the entry process that would use technologies to assure that any individual applying for or seeking entry is the rightful passport holder of the passport they present
  - Implementation of 9/11 Commission recommendations that would require CBP to determine that non-citizens seeking entry are who they say they are, are not a threat to national security or public safety, and have not committed identity theft or fraud
  - Implementation of statutory mandates that require matching biometric identity information of non-citizens against watch lists, air carrier manifest and immigration information
  - CBP should expressly mandate that the same document authentication processes be in place for individuals carrying a US passport at entry as well as at exit. The issues of lost, stolen and forged passports transcend all categories of applicants; and have proven to be both aviation and national security threats in the past, both at entry and exit.
  - CBP should expressly state that the policy of assuring identity at entry-exit is a “vital counterterrorism tool”
- The Working Group recommends DHS AEER test biometric technology upgrades and electronic document authentication technologies to the entry process. These technologies, used routinely, significantly strengthen CBP’s ability to verify that individuals seeking admission or re-entry are the rightful passport holders. Importantly, the Working Group recommends the testing and evaluation of technologies, including those that read the ICAO chips in ePassports that hold a digital photo and the contents of the holder’s bio page; conduct facial recognition between the chip and the applicant; and check security features of the passport. Current CBP operations are not consistent nor are they mandated to read these chips nor determine the authenticity of the passport.
    - **Facial recognition.** The Working Group recommends the testing and evaluation of facial recognition technologies at both entry and exit to automate identifying passport holders.
      - At air entry today, there is no consistent use or mandate of technology that assures that an individual presenting an ePassport is the rightful owner of that ePassport. Instead, CBP inspectors conduct live comparisons of the individual with the photo on the presented passport.
      - An August 2014 study in the United Kingdom (Glasgow), “[Passport Officers’ Errors in Face Matching](#)” concluded that the accuracy of trained border inspectors determining identity based on facial images is no better than those without training. “Photo-ID is widely used in security settings, despite research showing that viewers find it very difficult to match unfamiliar faces. Here we test participants with specialist experience and training in the task: passport-issuing officers. First, we ask officers to compare photos to live ID-card bearers, and observe high error rates, including 14% false acceptance of ‘fraudulent’ photos. Second, we compare
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passport officers with a set of student participants, and find equally poor levels of accuracy in both groups. Finally, we observe that passport officers show no performance advantage over the general population on a standardised face-matching task.”

- **Passport fraud.** The Working Group recommends the testing and evaluation of electronic document authentication technology at both entry and exit to automate passport fraud determinations.
  - Today, DHS AEER and CBP define ‘document validation’ as simply verifying that the passport is still in circulation, as well as not lost or stolen via INTERPOL’s database. DHS has testified that this is not sufficient in assuring that CBP is able to make accurate visual inspections of unreported lost or stolen passports and fraudulent passports.
  - On April 4, 2014, then DHS Policy Office of International Affairs Assistant Secretary and Chief Diplomatic Officer Alan Bersin (now Acting Assistant Secretary for Policy) and CBP Office of Field Operations Acting Deputy Assistant Commissioner John Wagner, in joint testimony in a House Homeland Security Border and Maritime Security Subcommittee hearing, “[Passport Fraud: An International Vulnerability](#)”, told a Congressional committee that:
    - “Despite the incredible development of the SLTD database since its inception following the September 11th attacks — 40 million records added in the past twelve years is a truly noteworthy accomplishment — the lack of data provided by many INTERPOL member countries remains significant”
    - “There are an alarming number of countries that report very little, and in some cases no, lost and stolen passport data to INTERPOL for inclusion in the Stolen and Lost Travel Documents (SLTD) database”, characterizing the result as “disturbing”
    - “Alarming, some of the most populous countries in the world, including China, India and Indonesia, have contributed few (if any) records to the SLTD database”
  - The 2004 Intelligence Reform Act (PL 108-458 Sec. 7208(h) states DHS “shall operate the biometric entry and exit system so that it serves as a vital counterterrorism tool”.
  - This counterterrorism mission can not be accomplished without ensuring against the counterfeit and unreported lost or stolen passports that electronic document authentication technologies are designed to ascertain.

## **(2) Exit Implementation**

- Current DHS AEER testing is only focussed on enrolling biometric exit templates.
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- The Working Group recommends adherence to statutory mandates requiring template matching of enrolled exit biometric templates with enrolled entry biometric templates. As such, DHS AEER should be conducting match testing and evaluation of templates generated at exit - either face, fingerprint, iris or otherwise - to the same modality of templates enrolled at entry.

#### ***D. Assuring Travel Facilitation Necessitates More Holistic Solutions Testing***

- The Working Group recommends DHS AEER consider holistic solutions from a traveler perspective during testing and evaluations, including all airport traveler interfaces.
  - The Working Group recommends DHS AEER leverage Working Group expertise and work closely with the Working Group on its scenario and operational testing and evaluation.
  - The Working Group requests that DHS AEER share with the Working Group the key results of air port “gap analysis” and “concept of operations” which the Working Group understands are being used as a baseline for current testing and evaluation by DHS AEER.
  - The Working Group encourages open discussion of AEER use cases and various concepts of operation, in part to support the holistic evaluation of implementation costs.
  - The Working Group requests that DHS AEER engage the Working Group in both creating and determining the feasibility of target minimum standards for air entry re-engineering and air exit implementation.
  - The Working Group recommends that the results of DHS AEER biometric testing be shared with the Working Group in a manner that will support solution improvement. This would include the Biometric Exit (BE) Mobile testing and evaluations, where CBP teams will be equipped with handheld fingerprint capture devices to collect biometrics of departing foreign travelers as they walk down the jet way. Specifically, the Working Group recommends that the following results of the BE Mobile effort be shared in regard to:
    - How well the technology works in identifying that departing foreigners are who they say they are
    - How well the mobile biographic information matches airline passenger manifests for foreign nationals
    - How well the technology works for collecting and matching qualified enrolled fingerprints
    - How quickly the technology worked to enroll, match, verify and update immigration records
    - Any significant issues with the technology or its processes
    - Watchlist hit statistics, if tested
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- DHS AEER initially limited testing to a number of commercially viable finger, face and iris technologies. The Working Group supports its second outreach effort to the industry to invite additional biometric and electronic document authentication technologies for testing. However, the Working Group recommends DHS AEER:
  - Remain open to solutions that suggest a other concepts of operations, that are not yet considered and that may employ biometrics not currently being tested
  - Engage the Working Group in best practices and proposed minimum standards and considerations
  - Engage the Working Group in holistic, integrated end-to-end solutions as well, and not limit its testing and recommendations to biometric hardware and software products

### ***E. Assuring Privacy and System Integrity***

- The Working Group recommends DHS AEER's recommendations to CBP include:
  - Policies in regard to the use, storage, and handling of personally identifiable information of the categories of individuals to which biometric entry/exit will apply, similar to the tenants of the [Privacy Impact Assessment](#) published by DHS AEER on May 28, 2014
  - Drafting of privacy statements for the traveling public as to whom air entry and exit applies upon deployment, as well as how privacy issues will be addressed during pilot testing at airports

### ***F. Supporting Congressional Oversight and Appropriations***

- The Working Group seeks to provide input that will help:
    - Formulate sound recommendations that will form the basis for securing a cost-effective funding mechanism to test, install and deploy air entry and exit solutions
    - Inform Congressional oversight of DHS AEER program activities and recommendations, as well as implementation by CBP
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**The Working Group is:**

3M Company  
Abanacle Corp.  
Accenture Federal Services  
Animetrics  
Aware, Inc.  
Deloitte & Touche, LLP  
Document Security Systems  
*(on behalf of the Document Security Alliance)*  
HID Global  
Iris ID Systems  
L-3 Communications  
MorphoTrak (Safran Group)  
Pro-Qual IT  
SE Solutions  
Secure Identity & Biometrics Association (SIBA)  
Secure Planet  
Security Industry Association (SIA)  
SITA (Aero)  
SpeechPro  
Vision-Box

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