

Department of Homeland Security

Biometrics Overview



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Importance of Biometric Standards in Post 9/11 Environment

- **Dramatic Increase in Utilization of Biometric Data**
 - US-VISIT Registration and Watchlist
 - Enforcement
 - e-Passport
 - Registered Traveler Programs
- **Increased Sharing of Data Between Applications and Agencies**
- **Increased Civil Submissions**
- **Deployment of Mobile, Rapid Identification Systems**
- **New Technologies**
 - “Slap” Scanners
 - “Fast Scan”
- **Improved Algorithms and Analysis**
 - NIST FpVTE, SDK Tests, SlapSeg 04



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DHS Biometrics Applications

- **Biometrics Study Group Chartered to Assess DHS Use of Biometrics**
- **Identified Over 60 Biometrics Initiatives Across 10 DHS Organizations**
- **Provided Recommendations for Developing Coordinated DHS Approach**

Key Recommendations/Strategy

Common standards, unified processes, one identity should characterize the Department's biometrics strategy.

A **common set of standards** will enable greatly enhanced interoperability among systems and processes, increased coordination among stakeholders, and more targeted research and development.

Unified processes will enable the Department to realize greater efficiencies and cost savings through the consolidation of like activities, and will facilitate the sharing of knowledge and resources.

Establishing and confirming **one identity** for each individual that crosses all business processes across the Department will greatly improve the Department's ability to perform its mission.



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DHS Biometrics

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Management

Chief
Information
Officer

- DHS Smart Card
- Employee ID Card (PIV)

U.S. Coast
Guard

- Common Access Card
- Investigative Case Management
- Investigative Credentialing
- Int'l Seafarers ID Card
- Pilotage ID Card
- Mariners Admin Card
- Mobile IDENT
- Merchant mariners Card
- TWICS
- Helath Record DNA

Border and
Transportation
Security

U.S. Citizenship &
Immigration
Services

- Application Support Centers
- Asylum
- Biometric Storage System
- Integrated Card Production
- Image Storage 7 retrieval
- Refugee

U.S. Secret
Service

- AFIS

Immigration
and Customs
Enforcement

- AFIX Tracker
- Detention & Removal
- ENFORCE
- Federal air Marshall
- Federal Protective Service
- Forensic document Lab
- IDENT
- IDENT/IAFIS
- NSEERS

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- E-Passport
- IDENT

Customs and
Border Patrol

- Airport Security
- Biometric Verification System
- Bonded Warehouse
- Carriers License
- Centralized Exam Station
- Credentialing
- Foreign Trade Zone
- Global Enrollment System
- INSPASS
- NEXUS
- SENTRI
- TECS

Transportation
Security
Agency

- Airport Access Control
- Alien flight Student
- Armed LEO
- Credentialing
- HazMat Driver
- MD3 Workers
- Registered Travler
- TWIC



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DHS Utilization of ANSI/NIST (EFTS) Fingerprint Standard

Criminal: >2.4M IAFIS EFTS Transactions/Yr

**ENFORCE/IDENT - 10-Print Used to Simultaneously
search & enroll into IAFIS and IDENT**

Civilian: >3M IAFIS EFTS Transactions/Yr

Criminal Background Checks of IAFIS

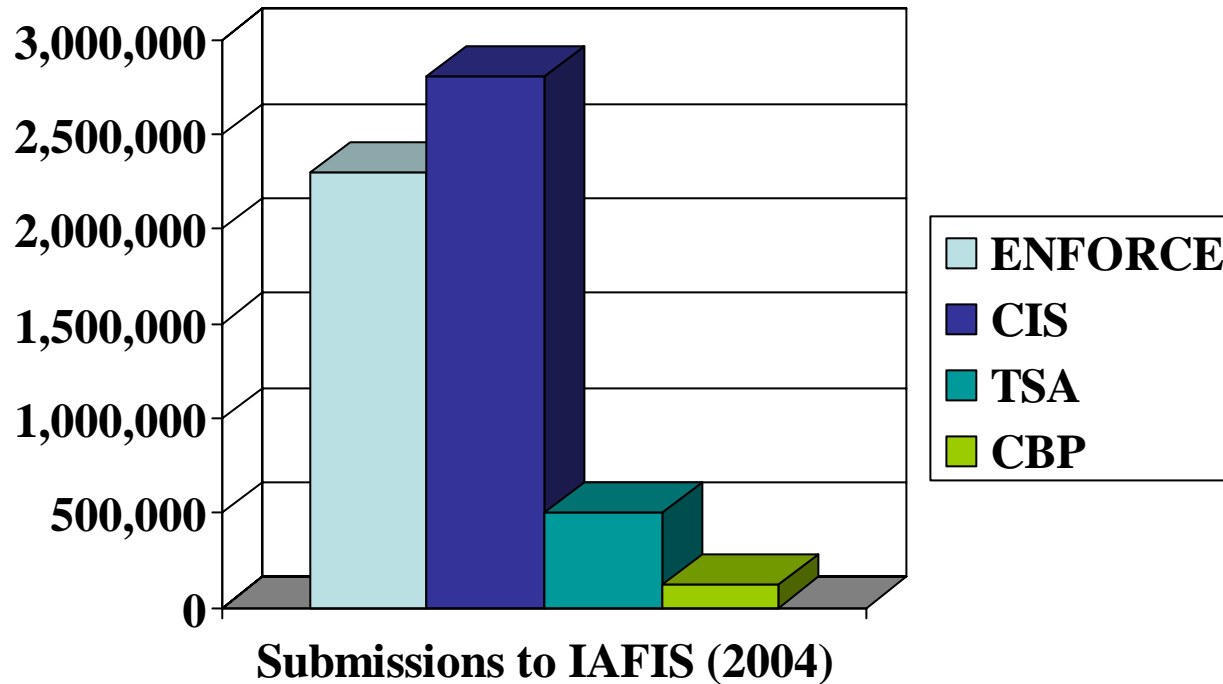
- **TSA – Credentialing Programs Such As HazMat Driver, Foreign Flight Student, Screeners, etc.**
- **CIS – Applicants for DHS Benefits**
- **CBP – International Registered Travelers, Truckers (FAST)**
- **DHS – Employee Criminal Background Checks**
- **US-VISIT - Uses EFTS format for transmission of 2-P EXIT Transactions**



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DHS Utilization of ANSI/NIST Fingerprint Standard



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DHS Utilization of ANSI/NIST Fingerprint Standard

External Receipt of ANSI/NIST (EFTS) Records

- FBI IAFIS
 - Wanted (Daily Updates) (>500K)
 - Terrorists (>10K)
 - Aliens with Criminal History (310,000)
 - Sexual Registrants (13,000)
- California Department of Justice (10,128)
- Los Angeles County (33,449)
- Interpol (1,699)
- Department of Defense (85,486)



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DHS IDENT Overview

IDENT: Biometric processing system for rapid identification and verification utilizing fingerprints

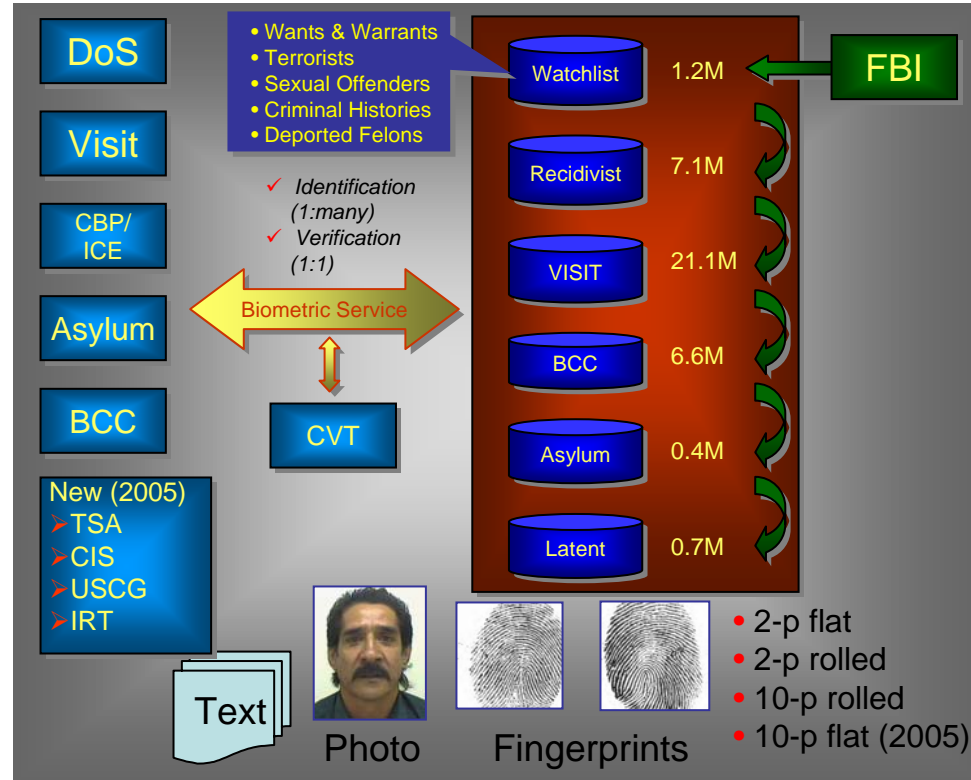


Civilian



Highlights

- 35 Million People (FINS)
- 45 Million Transactions (Encounters) Processed
- 125,000 Transactions/Day
- Over 9 Million Identifications
- Over 15,000 Wanted Criminals Identified (Including DC Snipers)
- NIST Certified Accuracy*
- Matcher Power of 50 Million Matches/Sec
- Inputs From Over:
 - 15,000 Users
 - 5,000 Clients
 - 180 Countries
- Automated Synchronization with FBI IAFIS



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*96.7% TAR, 0.01% FAR

US-VISIT: Continuum of Security Measures – Current Status

Pre-entry:

- More than 211 Department of State visa-issuing posts collect biographic and biometric data

Process:

- Visitors place the left, then the right index finger on the fingerscanner
- Photograph is scanned into the system
- Fingerscans are checked against watchlists and are linked to the travel document
- Travel document is not issued until biometrics are verified



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US-VISIT: A Continuum of Security Measures – Current Status

Entry:

Digital fingerscans are checked against a database of known and suspected terrorists and criminals to determine the person applying for entry into the U.S. is the same person issued the visa.

Process:

- Visitors place the left, then the right index finger on the fingerscanner
- A digital photograph is taken



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US-VISIT: A Continuum of Security Measures

Status Management:

- Should the traveler seek to adjust status or extend his/her stay, US-VISIT would be updated with any modifications to the individual's status.
- Arrival and departure records are reconciled, and any inconsistency allows US-VISIT to determine when a visitor has overstayed.



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US-VISIT: Continuum of Security

Measures – Exit

Exit:

In August 2004, the exit pilot program was expanded to various airports and seaports.

Visitors may experience the following:

1. A self-service exit station, supported by a contracted US-VISIT Workstation Attendant (WSA).



or

2. A mobile device operated at the gate area by a WSA.



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US-VISIT: A Continuum of Security Measures – Exit

or

3. A self-service exit station and a WSA who will confirm the visitor's receipt at the gate of departure.

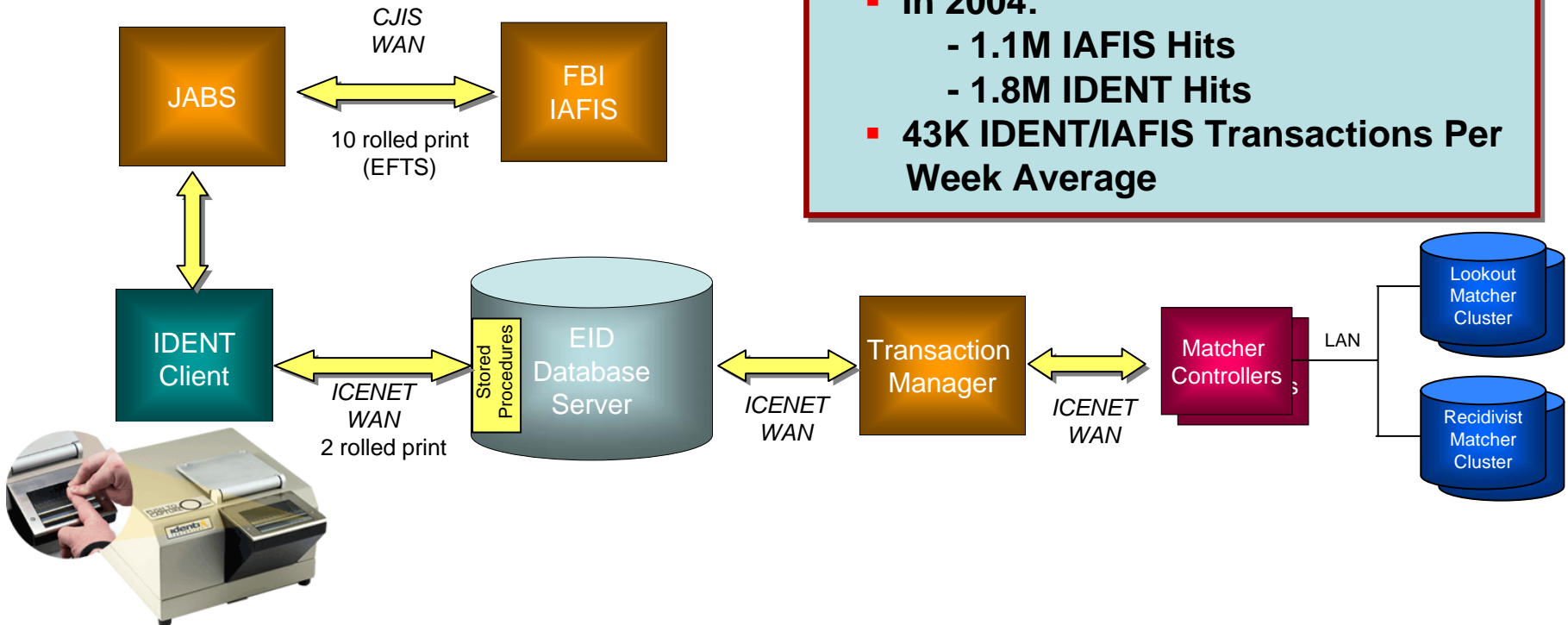


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ENFORCE/IDENT

Parallel 10-P, 2-P Processing



- **Deployed at:**
 - 113 Border Patrol Stations
 - 103 POEs (All by 8/2005)
 - 31 District Offices
- **In 2004:**
 - 1.1M IAFIS Hits
 - 1.8M IDENT Hits
- **43K IDENT/IAFIS Transactions Per Week Average**



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ENFORCE/IDENT

Ident
File Action Administration Screen Help

User: Terminal ID:
 Search and Enroll Search Only Search with Verification SAR Search Booking System Status

MISSING Amputated	MISSING Unable to print					
R. Thumb	R. Index	R. Middle	R. Ring	R. Little		
L. Thumb	L. Index	L. Middle	L. Ring	L. Little		
L. four fingers taken simultaneously		L. Thumb	R. Thumb	R. four fingers taken simultaneously		

Transaction ID	FINS	Submit Time	Site	Type	Sys	LO #	RC #	AR #	Status
IDCOW786100303113448	-	10/03/2003 11:34:48	COW	S	IDENT	0	1	0	RC Hit Info Ready
	N/A	10/03/2003 11:34:48	COW	TPRS	IAFIS	-	-	-	IAFIS Hit Info Ready
IDCOW786100303113334	-	10/03/2003 11:33:34	COW	S	IDENT	0	1	0	RC Hit Info Ready
	N/A	10/03/2003 11:33:34	COW	TPRS	IAFIS	-	-	-	IAFIS Hit Info Ready
IDCOW786100303112640	-	10/03/2003 11:26:40	COW	S	IDENT	0	1	0	RC Hit Info Ready

Ready... Important Message: None.



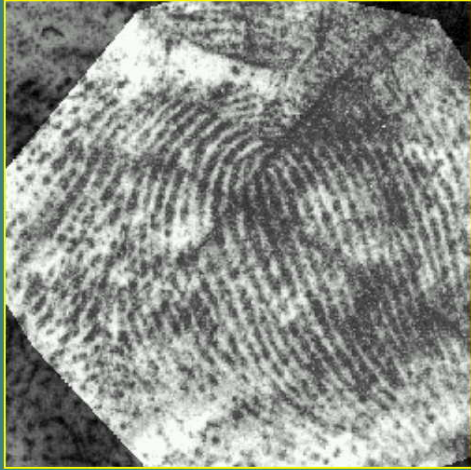
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IDENT Latent Capability


Latent Processing/Verification Window

Latent Print A



H = 0 Q = 5 M = 36 P = ? matched = 0

File Print A



H = 1 Q = 1 M = 53 P = \ matched = 0

Edit

Search

Candidates

Switch Pair

Minutia On

Analyze

Confirm Yes

Confirm No

End Trans.

Print Info

Dup Trans.

Insert To DB

Verify

Refresh Trans.

Help

Quit

Both **Brightness** **Contrast** Reset

Trans No. RC005L0406220003 **ID Number** 7963966 **DB Name** Criminal Database

Message **Rank** 2 **LT1** 2 **LT2** **Score1** 1097 **Score2**

Transactions

Trans. No.	Status
ST002L0404190001	Enrolled/New#
ST002L0404190002	Enrolled/New#
ST002L0404190003	Enrolled/New#
ST002L0404190005	Enrolled/New#
ST002L0404190006	Enrolled/New#
ST002L0404190007	Enrolled/New#
ST002L0404190008	Enrolled/New#
ST002L0404190009	Enrolled/New#
ST002L0404190011	Enrolled/New#

Other Information Show Photo

Trans. No.	RC005L0404
Case No.	LT042004
Latent Card ID	82669844
Latent ID.	1
CSI Name	
CSI ID	

Candidates FULL Other Information

Card ID	FP Score
5851687	2 1112
7963966	2 1097
3604264	2 1072
8218709	2 1046
861804	2 1034
9578217	2 1024
7684462	2 1023
453305	2 1014
7113060	2 1009

Trans. No.	
SID	
Book No.	
Last Name	
First Name	
Middle Name	
Suffix Name	



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DHS Perspective: What's Next?

- Increased Need to Share Linked Biometric and Biographical Information (XML, CBEFF, BioAPI)
- Multiple Biometric Types (Fingerprint, IRIS, Facial, etc.)
- Need for Open, Non-proprietary Systems
- Emphasis on Data Quality to Enhance Match Accuracies
- Need Standards for Less Than 10-P Systems



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