

FBI Next Generation Identification (NGI) Overview



**Biometric Consortium Conference
Tampa, Florida
September 21, 2010**



The BCOE is the FBI program for exploring new and advanced biometric capabilities to solve crimes and protect national security.

FBI Biometrics Today

The Biometric Interoperability Program establishes interoperability between the FBI IAFIS and other biometric systems.



Next Generation Identification

The NGI program will enhance the current IAFIS and offer state-of-the-art biometric identification services.



Integrated Automated Fingerprint Identification System (IAFIS)

IAFIS

- National fingerprint repository
- Supports over 18,000 Law Enforcement agencies
 - Local, State, Federal, Tribal, and International agencies
- Currently exceeding requirements
- Over 10 years old
- Initial capacity = 62,500
- Record high receipts = 300,113
- Accuracy = 92%



- IAFIS has lived up to and vastly exceeded performance expectations
- Now is the time to design for the future, rather than reacting to it





NGI Implementation Schedule

Increment 0



Complete

Advanced Technology Workstations

- Replace obsolete hardware
- Provide high resolution of biometrics

Increment 1



In Progress

Initial Operational Capability

- Identification Fingerprint Search Capability
- More accurate searches
- Better support for rolled/flat processing

Increment 2



In Progress

RISC and Initial NGI Infrastructure

- Repository for Individuals of Special Concern (RISC)
- Rapid mobile searches
- RISC Web Services

Increment 3



In Progress

Palms and Latents

- Investigative Palmprint search capabilities
- National Palmprint repository
- Latent Enhancements
- Unsolved Latent File cascaded searches
- Rapid DHS CBP response

Increment 4

Rap Back, Facial, Photo/SMT Search Capabilities

- Increased Response Times
- Facial and SMT searches
- IAFIS Functionality Replaced
- Verification
- Enhanced Interoperability
- Disposition type of transactions
- Web Services

Increment 5

Iris

- Conduct Iris Pilot based on trade study results

Increment 6

Full Operational Capability

- Technology refreshment

2010

2014



Advanced Technology Workstations Increment 0 – Completed March 2010

Resulting Benefits

- ▶ Workstations include 30 inch monitors
- ▶ Higher resolution results in increased operational efficiency
- ▶ Cost effective way to accommodate future biometric technologies
- ▶ Upgraded towers, scanners, keyboards, and mice



“My productivity increased by 10 submissions per hour since the new ATWs were implemented. The bigger monitors make processing the work seem less stressful.”—CJIS Service Provider



Initial Operating Capability (Increment 1)

Automated Fingerprint Identification Technology (AFIT) Deployment

Status

- ▶ Identification Fingerprint and Slap Fingerprint Segmentation Trade Study
 - ▶ Completed with contract awarded on July 17, 2009
- ▶ Currently in Implementation and Integration phase
- ▶ Operational Testing to begin Fall 2010

Resulting Benefits

- ▶ Increases fingerprint search accuracy to over 99%
- ▶ Reject less, process more
- ▶ Anticipate approximately 200 additional fingerprint hits per day
- ▶ Improves flat fingerprint searching
- ▶ Advanced matching algorithms



RISC and Initial NGI Infrastructure (Increment 2)

Status

- ▶ Currently in Final Design Stage
- ▶ Anticipate deployment 2011

Resulting Benefits

- ▶ Biometric searches of the worst of the worst – currently searching 1.2 million fingerprints of wanted persons, known or appropriately suspected terrorists, sex offenders, and persons of special interest
- ▶ Provides the “Street Cop” the ability to quickly assess subject’s threat level
- ▶ Response within seconds
- ▶ Supports mobile fingerprint identification operations on a national level



RISC Pilot – Implemented September 2007

▶ Pilot Agencies (Live)

- ▶ Ohio Bureau of Criminal Identification and Investigation
- ▶ Texas Department of Public Safety (Houston PD)
- ▶ Florida Department of Law Enforcement
- ▶ Maryland
- ▶ Cleveland FBI
- ▶ Cincinnati FBI



▶ Pilot Agencies (Test)

- ▶ Minnesota Bureau of Criminal Apprehension
- ▶ **Houston PD apprehended 78 criminals within one year**
 - ▶ **Average response time 16 seconds**



Palmprints and Latents (Increment 3)

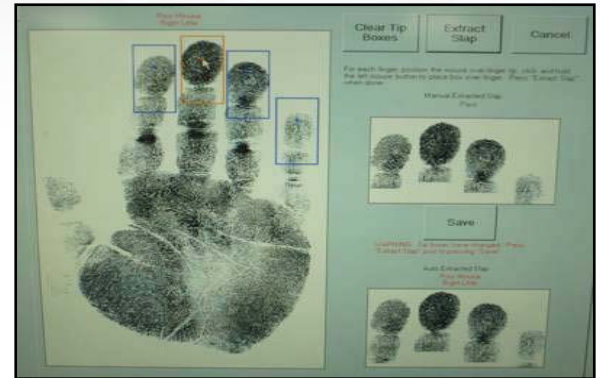
Establishes the National Palmprint System

Status

- ▶ Collected 1.4M palmprints to date
- ▶ Investigation (Latent) Fingerprint and Palmprint
 - ▶ Trade Study Report completed on January 22, 2010

Resulting Benefits

- ▶ Enable palmprints to be searched across the U.S.
- ▶ Palmprints have the potential of 30% higher conviction rates
- ▶ Provides rapid response for DHS Customs and Border Protection transactions
- ▶ More latent identifications to support terrorist and violent crime Investigations



Rap Back, Facial, SMT Search Capabilities Migration of Remaining IAFIS Functionality (Increment 4)

- ▶ Rap Back notification of criminal activity on previously enrolled individuals
- ▶ Facial Search
- ▶ Text based scars, marks, and tattoo (SMT) searches
- ▶ Enhanced Interoperability to include transition of shared services to NGI
- ▶ Fingerprint verification services
- ▶ Improved Response Times

Resulting Benefits

- ▶ Enhance public safety
- ▶ National level investigative searches of photos/SMTs
- ▶ More accurate and complete criminal history records
- ▶ Flexible and scalable architecture for future needs



Human



Animal



Plant



Flag



Object



Abstract



Symbol



Other



Response Time Improvements

IAFIS	Criminal	Civil
Response Time	2 hours	24 hours

NGI 	Criminal	Civil
High	10 minutes	15 minutes
Routine	30 minutes	2 hours
Low	24 hours	24 hours
Non-Urgent	15 days	15 days
Verification	15 minutes	15 minutes



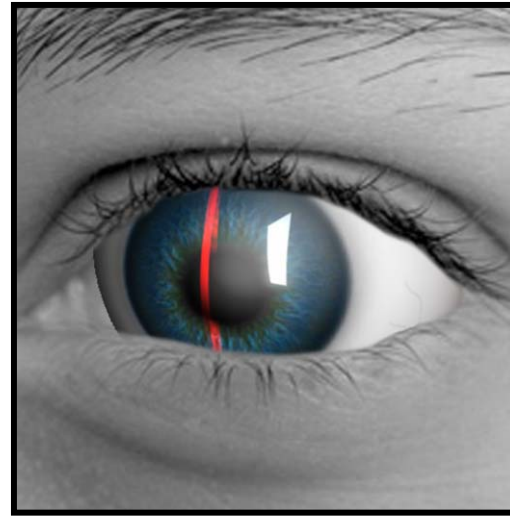
Iris Pilot (Increment 5)

Deploys all remaining NGI user functionality

- ▶ Iris Pilot

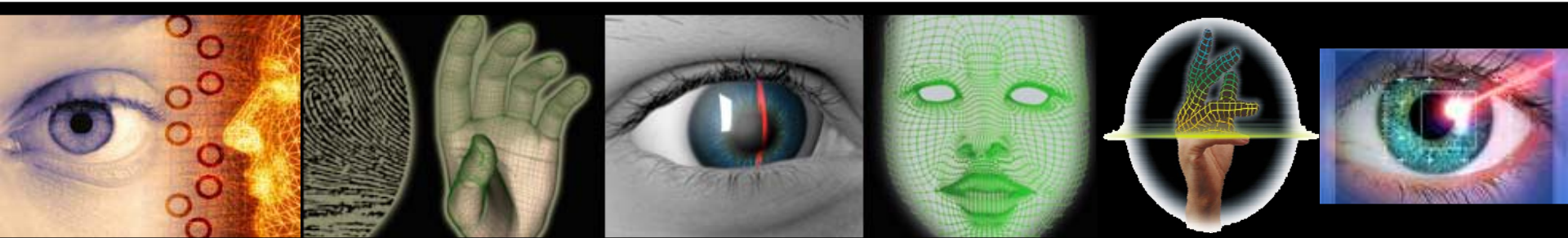
Resulting Benefits

- ▶ Enhanced correctional officer safety
- ▶ Less interaction
- ▶ Quicker acquisition
- ▶ Reliable
- ▶ Business value



Full Operational Capability (Increment 6)

- ▶ All performance specifications will be met
- ▶ Additional system tuning to meet non-functional requirements
- ▶ Technology Refreshment



NGI...The Key Piece



Next Generation Identification

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THANK YOU!

