

NEXT GENERATION IDENTIFICATION BIGGER – BETTER – FASTER

RAP BACK RAPID MOBILE ID IRIS FACIAL LATENTS PALMS



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



The Path to NGI



Mission Evolution

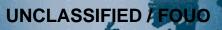
- Changed since IAFIS went live in 1999
- Supports both criminal and noncriminal justice requirements
- Counterterrorism mission

Changing Business Needs

- Increased federal, state and local demand for identification services
- New legislation has significantly increased background checks
- Interoperability

Focus on Technology Advancements

- Improve biometric services
- Enhanced CJIS services
- Technological advancements to improve the system



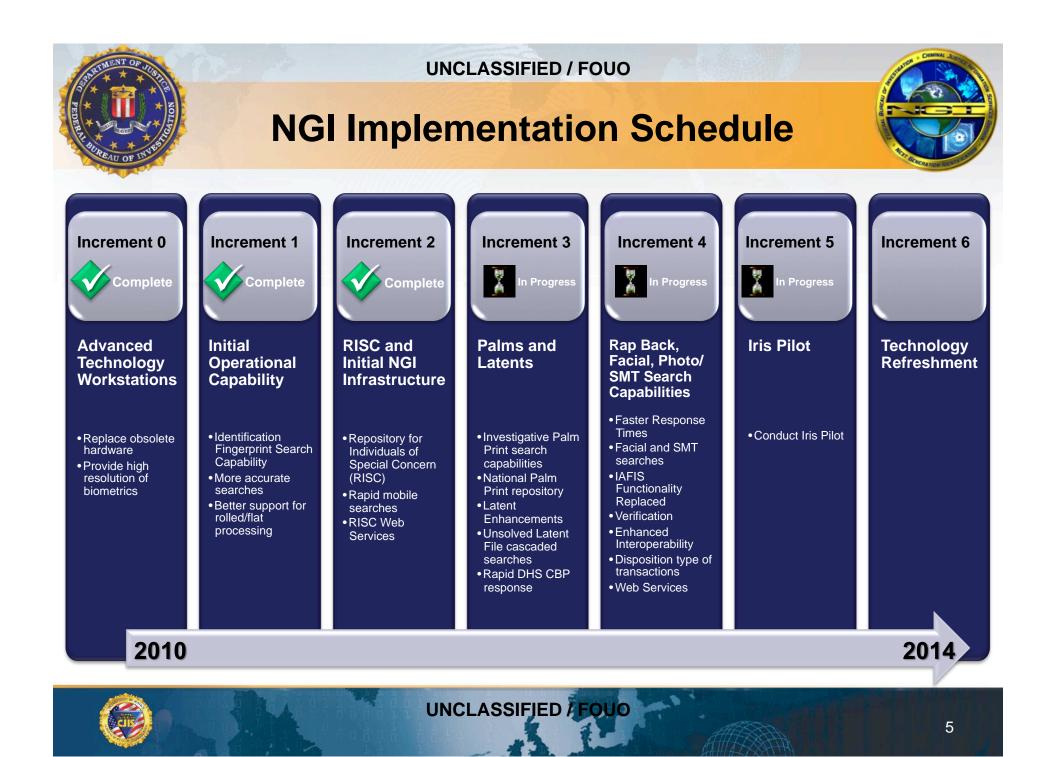


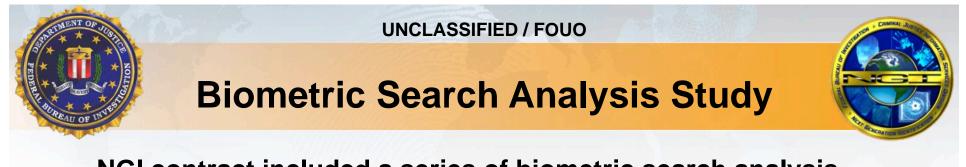
Stakeholder Concepts

State & Territory Agencies Canvassed	111
Federal Agencies Canvassed	54
FBI	27
Non-FBI Federal	27
Authorized Non-Criminal Justice Agencies	18
Special Interests	10
Total Completed	193



Over 1,000 Individuals Represented Over 1,000 Stakeholder Concepts Identified



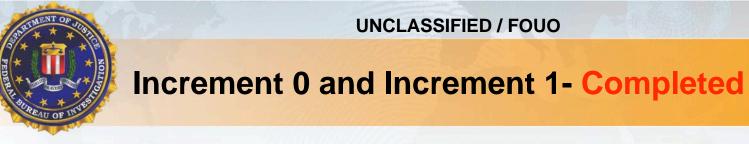


NGI contract included a series of biometric search analysis studies (Trade Studies)

- Assess biometric technology
- Provide recommendations for biometric implementation

Five specific technologies :

- Identification fingerprint and Slap fingerprint segmentation
- Palmprint
- Investigation (latent) fingerprint
- Face
- > Iris



No Action Needed From Our Law Enforcement Users

Increment 0 – Advanced Technology Workstations (ATWs) (Completed March 2010)

Resulting Benefits of New ATWs

- Workstations include 30-inch monitors
- Higher resolution results in increased operational efficiency

Increment 1- Initial Operating Capability (Completed February 2011) Resulting Benefits of the Advanced Fingerprint Identification Technology (AFIT)

- Increases fingerprint search accuracy to 99.6% (previously 92%)
- Improves flat fingerprint searching
- Advanced matching algorithms



AFIT identified criminal subjects with current charges of:

- ➢ Murder in the 1st degree
- Manslaughter
- Assault on Police
- Fugitive from Justice
- Harboring Aliens
- Smuggling Aliens
- Felony Abduction



Additionally, during civil background investigations, AFIT identified subjects with prior charges of;

- Assault with a Deadly Weapon
- Masked Armed Robbery
- Immigration violation



RISC and Initial NGI Infrastructure (Increment 2) - Completed



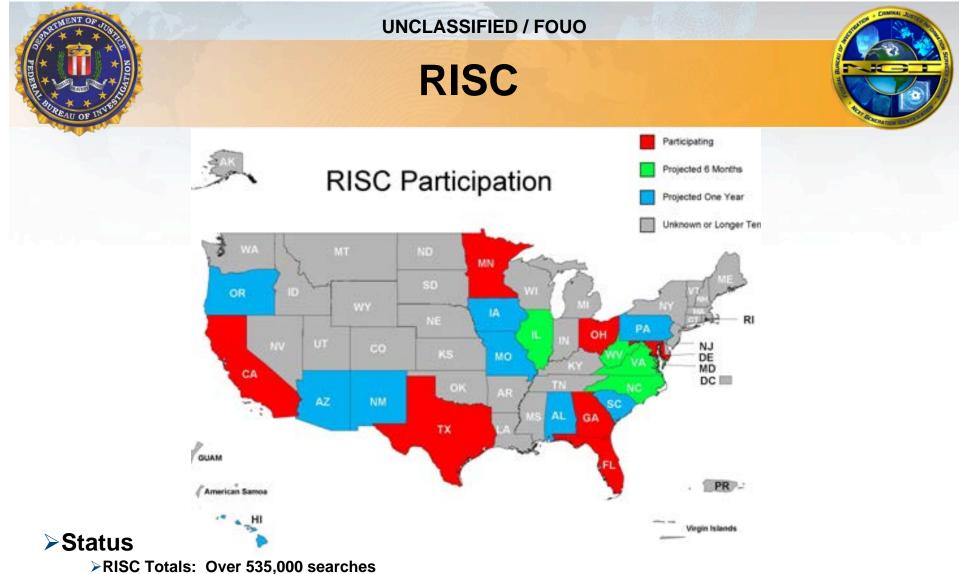
Status

Nationally available as of August 25, 2011

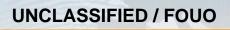
Resulting Benefits

- Supports mobile fingerprint identification operations on a national level
- Biometric searches of the worst of the worst 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





- >Average Red Hit Rate: 6-10% weekly
- >Average response time: 6.00 Seconds (since 10/1/2011)







Status

- Completed successful Critical Design Review
- Working towards System Acceptance Review
- Target Deployment Spring, 2013
- Collected 3.4 million palm prints (as of 1/28/2012)
- EBTS 9.3 Published

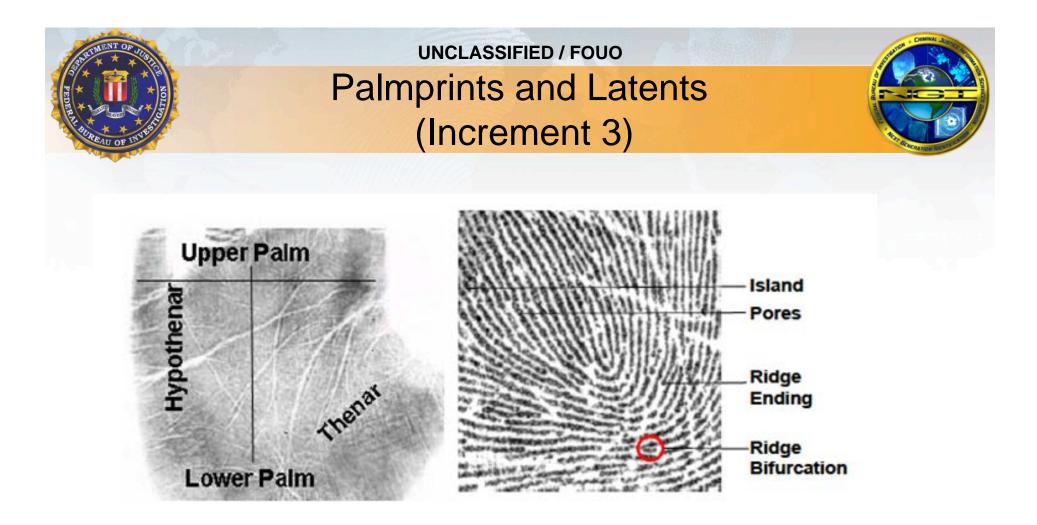
Resulting Benefits

- Enables palm prints to be searched across the U.S.
- > 30% of all prints left at crime scene are palm prints
- Provides rapid response for DHS Customs and Border Protection transactions
- More latent identifications to support terrorist and violent crime investigations
- Upgraded Universal Latent Workstation software









MorphoTrak Solution



End User Benefits (Increment 3)

Decision Recording

- Reports to justify investments
- Show the Identification community's hard work to Decision Makers
- Search considerations

Enhanced Processing

- Eliminate Ridge Counting
- Increased Accuracy
- Search\Retrieve all Events



End User Benefits (Increment 3)



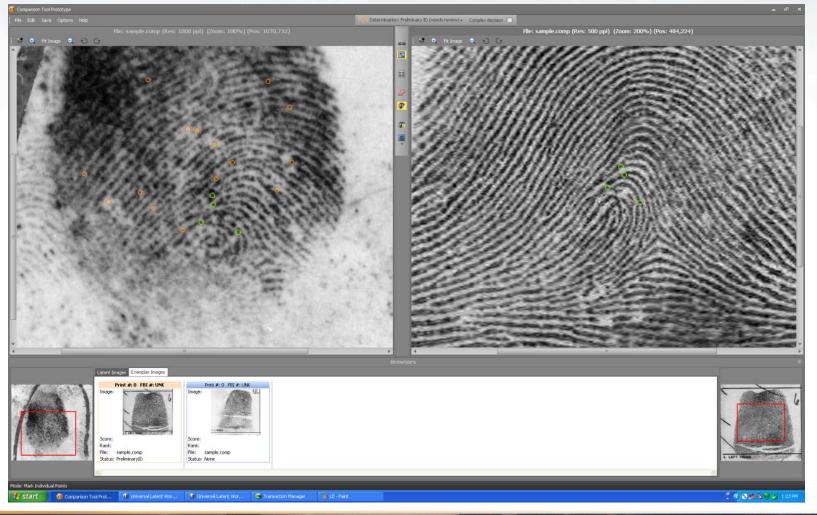
Increased Penetration

- 30% limitation eliminated
- ➢ 50% average

Latent Search Capabilities

- Civil online file
- Additional 27 million
- **ULF Search**
 - Direct Search capability
 - Correlation value
- **ULF** Cascades
 - All Types of Transactions

Universal Latent Workstation





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

Status

- Rap Back
- Facial Search
- Text based scars, marks, and tattoo (SMT) searches
- Enhanced interoperability
- Fingerprint verification services
- Improved response times
- Target deployment Summer, 2014

Resulting Benefits

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







Reviewing Best Practices and Lessons Learned

- Currently identified 31 states with Rap Back business lines
- Strategic discussions to align with a national implementation

Identifying Policy focus areas

Going Forward

- Engage Law Enforcement partners
- Continue working with Subject Matter Experts

Rap Back Pilot



NGI Face Pilot



Face matching system – Currently Available

- > 12 million Local/State/Federal searchable photos
- Focus on contributor image quality

Currently soliciting participation

Contact (304) 625-3437 for more information

Universal Facial Workstation software



Universal Face Workstation (UFW)

- FBI user software to support access to NGI Face Pilot and NGI System face search capabilities
- Cross Platform (Windows, OSX, Linux)
- Built upon a Biometric Integration Platform
- Built on open source frameworks
- Extensive support for plugins
- Will be available for Law Enforcement use free of charge





UFW Objectives

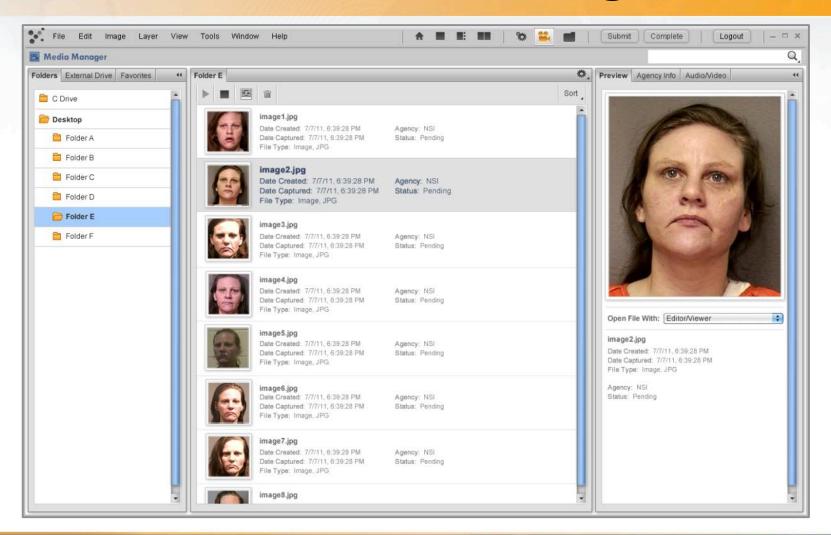
- Plan, design, prototype and demonstrate a face workstation which can be freely deployed by the FBI
- Develop services which can be carried over to NGI for biometric processing
- Employ a user experience design philosophy to develop UFW specifically for face examiners
- Permit examiners to:
 - Ingest, analyze and enhance images
 - Select sub-frames or sub-images areas for further analysis
 - Submit files to local and remote matching systems
 - Review, store and match search results

UFW – Home Screen

File Edit Image L		Tools Window	Help							Logout	
• wo	orkst	ation eau of Investigation							Tra	ining Mode	
Recent Tasks								≡ ∗	FR Creat	e New Task	
E.	Ø	(C) (C)	-	A				Î	🖻 Open	it New Image Media Source	Request
	Task Two 11/16/2011	Task Three 11/15/2011	Task Four 11/12/2011	Task Five 11/12/2011	Text-Based 11/12/2011				C Mana	ge Plugins	
<mark>ề</mark> Open 🛛 🍀 Clear								*			
Notices								¢ ±			
😔 Image Request Res	sponse	Task Name Or	ne				11/19	/2011 📫			
Image Request Response Task Name Two					11/16	/2011					
Image Request Response Task Name Three							11/15	/2011			
S Image Request Response Task Name Four						11/12	/2011				
Image Request Response Task Name Five 11/12/20							/2011 🖕				
Manage Program Setting	gs and Preferen	ces 🕨							pobli	c	
Don't show again							noblis.				

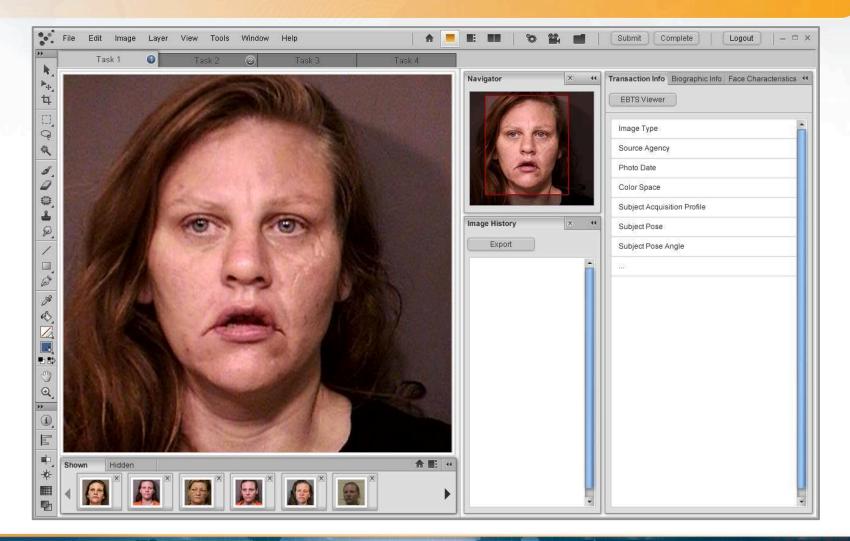


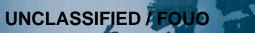
UFW – Media Manager



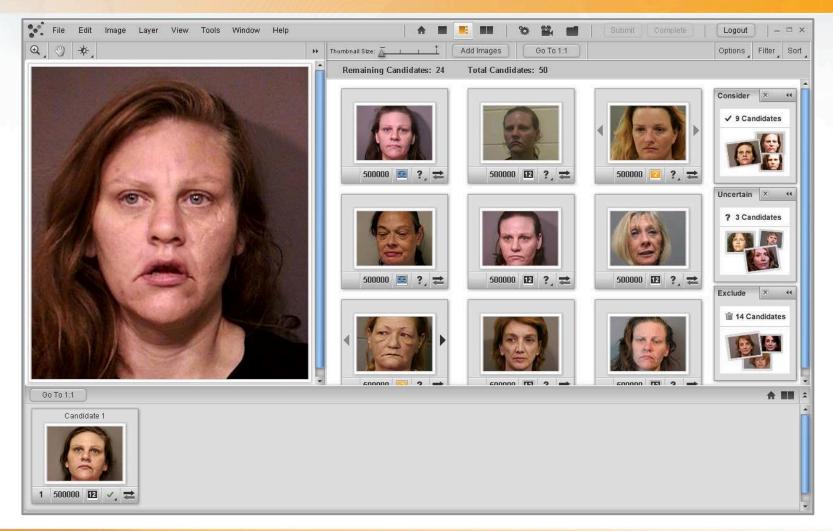


UFW – Editor/Viewer





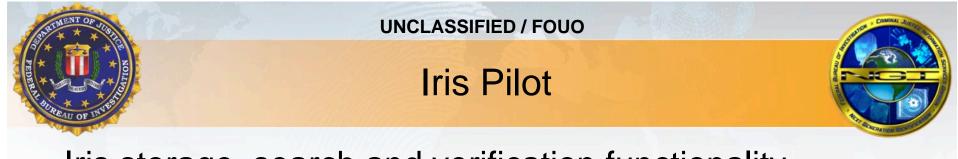
UFW – 1:N Comparison





UFW – 1:1 Comparison





Iris storage, search and verification functionality

- Iris Benefits
 - Quicker acquisition
 - Reliable
 - Accurate
 - Business value
 - Less interaction
 - Enhanced officer safety







All performance specifications will be met

Additional system tuning to meet non-functional requirements







NGI Offers Bigger, Better, Faster Biometric Services to Support, Local State, & Federal Stakeholders

- Development of future services currently underway
- The time to begin planning for participation in future NGI Services is now





Next Generation Identification Program Services Evaluation & Analysis Unit Nick Megna Unit Chief

Telephone: (304) 625-2767

NGI Web Page: http://www.fbi.gov/hq/cjisd/ngi.htm

nicky.megna@ic.fbi.gov



