



NEXT GENERATION IDENTIFICATION

BIGGER — BETTER — FASTER

RAP BACK

RAPID MOBILE ID

IRIS

FACIAL

LATENTS

PALMS





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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



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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



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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

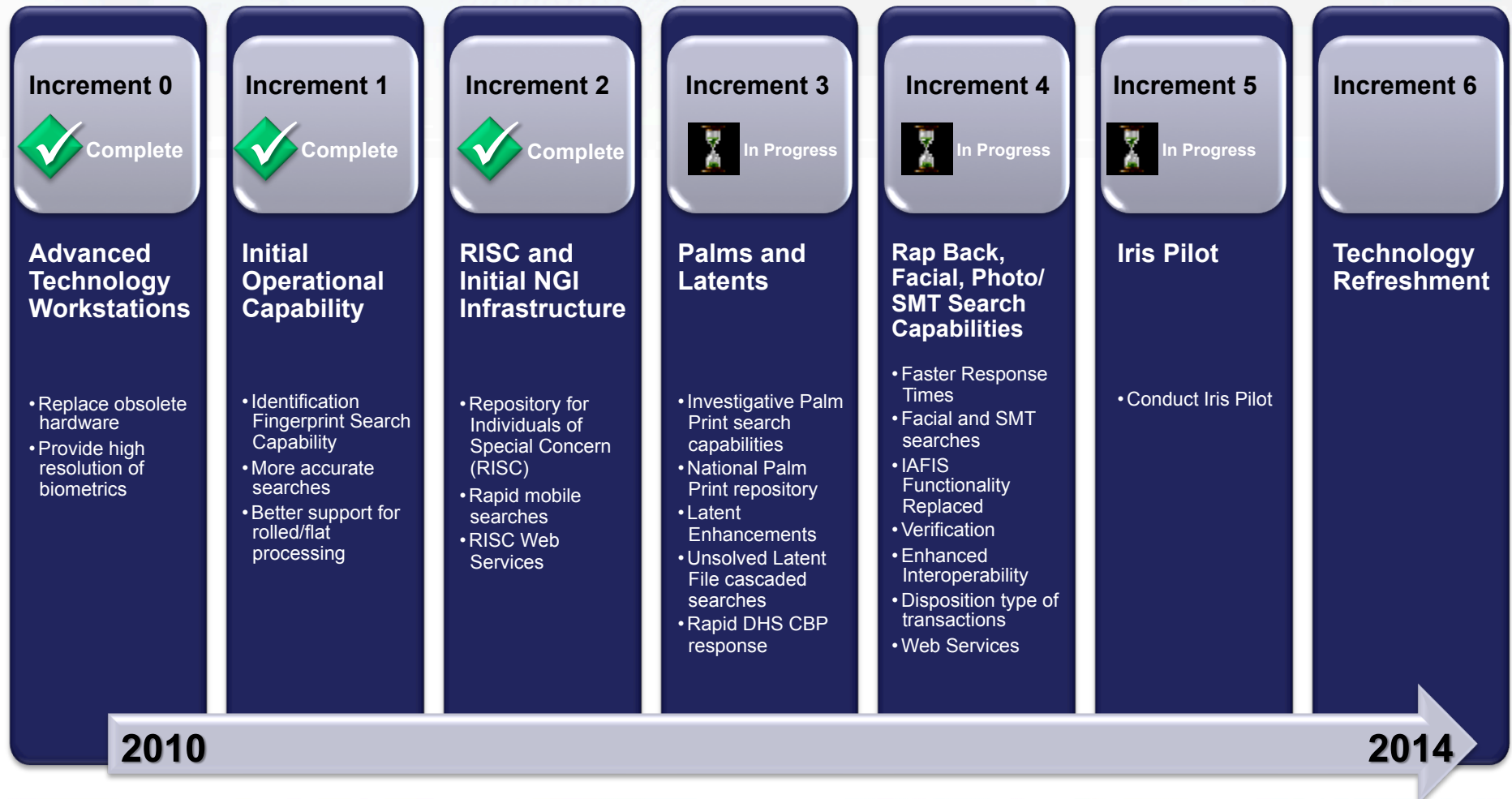




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NGI Implementation Schedule



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Biometric Search Analysis Study

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



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Increment 0 and Increment 1- **Completed**

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



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AFIT Successes (Increment 1)

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



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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



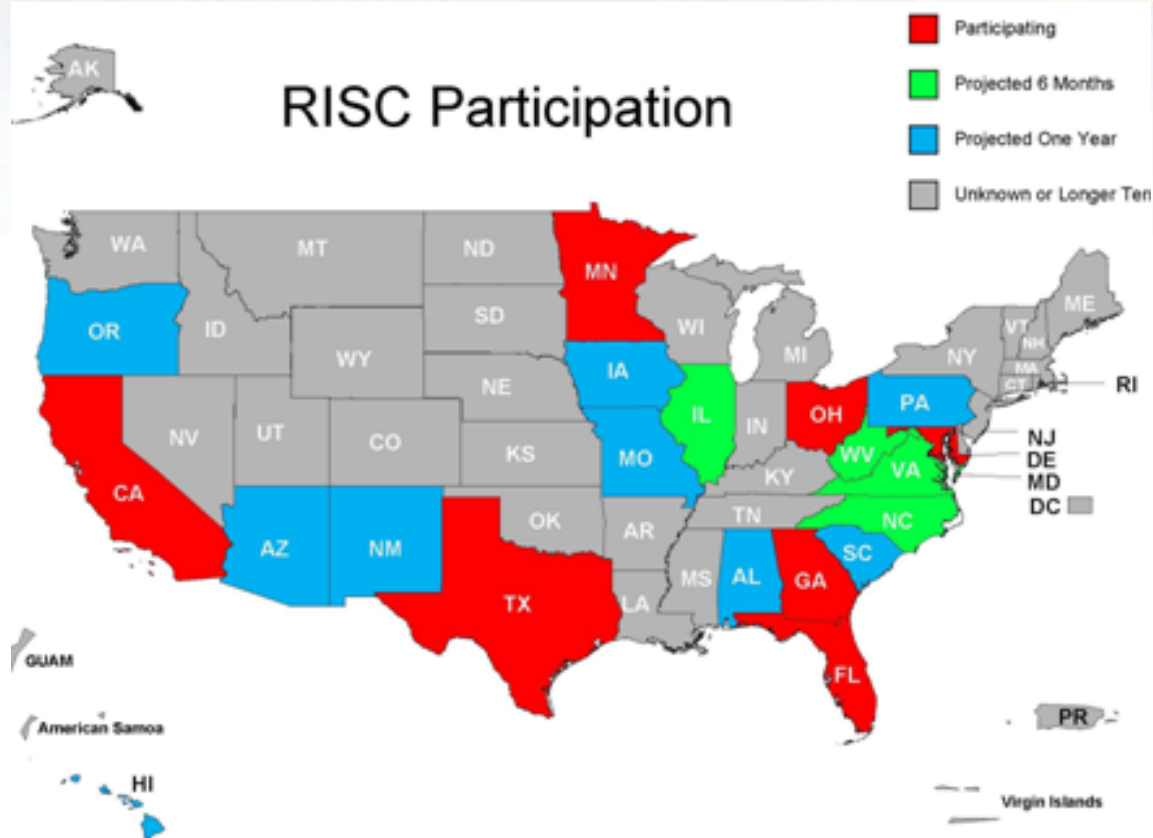
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RISC



➤ Status

- RISC Totals: Over 535,000 searches
- Average Red Hit Rate: 6-10% weekly
- Average response time: 6.00 Seconds (since 10/1/2011)



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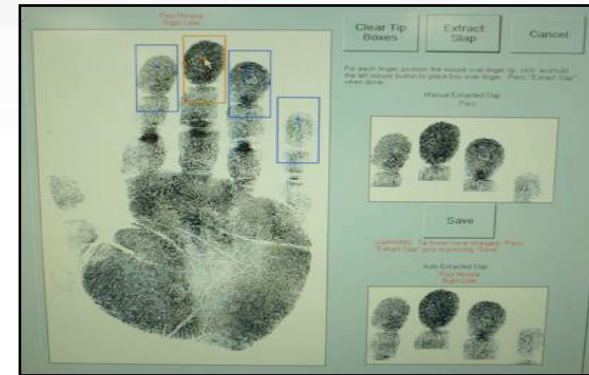
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Palm Prints, Latents and Rapid Response (Increment 3)

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



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Palmprints and Latents (Increment 3)



MorphoTrak Solution



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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



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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

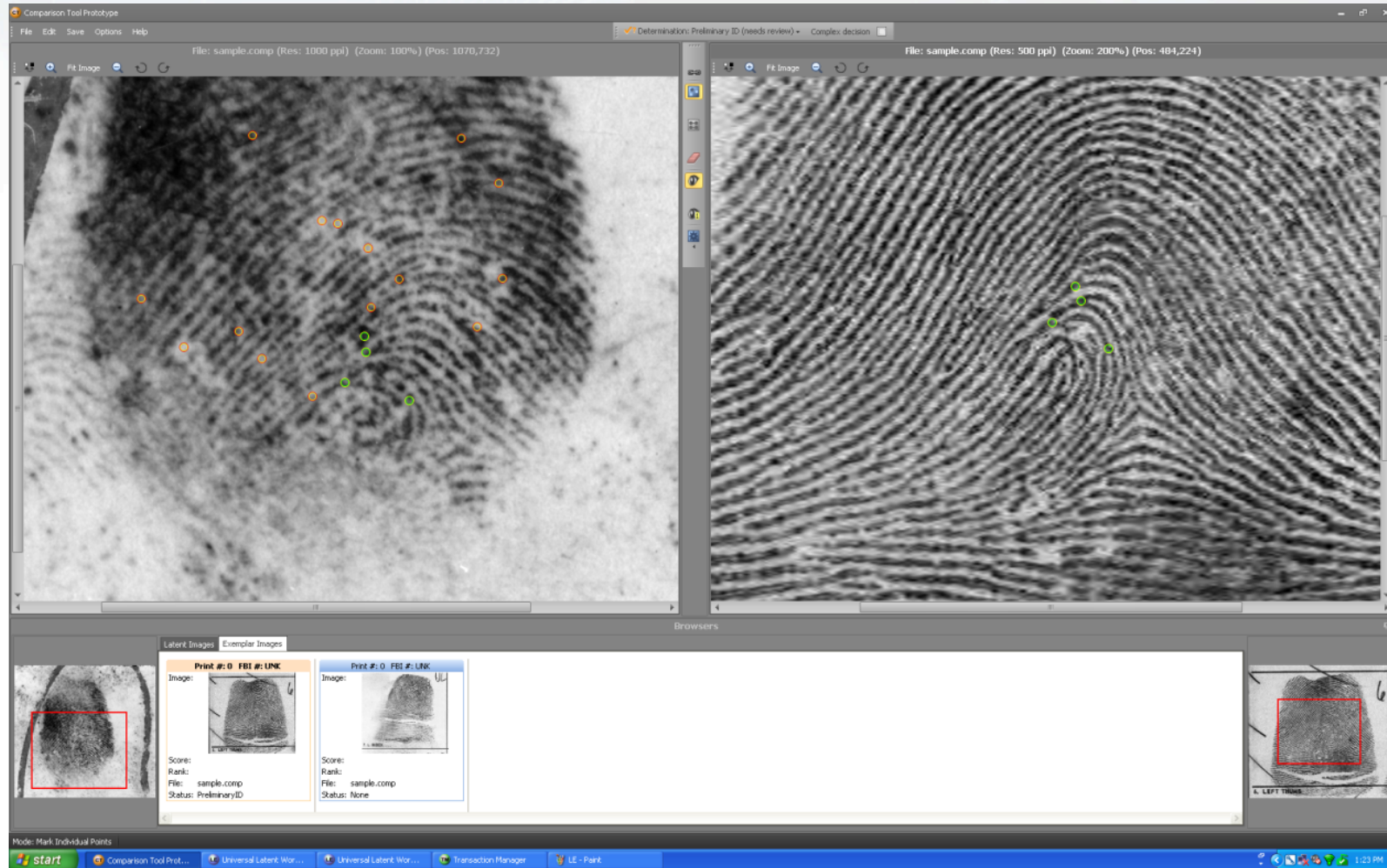
- All Types of Transactions



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Universal Latent Workstation



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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



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Rap Back

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



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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

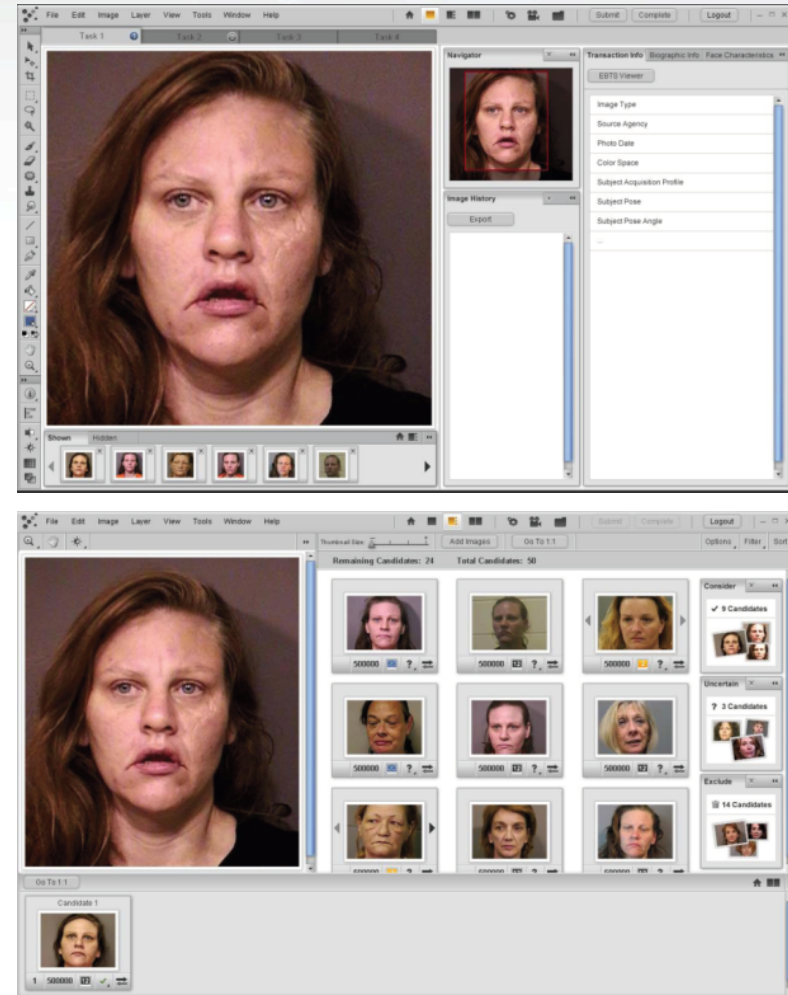
Universal Facial Workstation software



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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



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UFW – Home Screen

File Edit Image Layer View Tools Window Help

universal face workstation
Version 12.0, Federal Bureau of Investigation

Getting Started
Training Mode

Recent Tasks

Task One 11/19/2011 [X]
Task Two 11/16/2011 [X]
Task Three 11/15/2011 [X]
Task Four 11/12/2011 [X]
Task Five 11/12/2011 [X]
Text-Based 11/12/2011 [X]

Open Clear

Notices

Image Request Response	Task Name One	11/19/2011
Image Request Response	Task Name Two	11/16/2011
Image Request Response	Task Name Three	11/15/2011
Image Request Response	Task Name Four	11/12/2011
Image Request Response	Task Name Five	11/12/2011

Manage Program Settings and Preferences ▶
☐ Don't show again

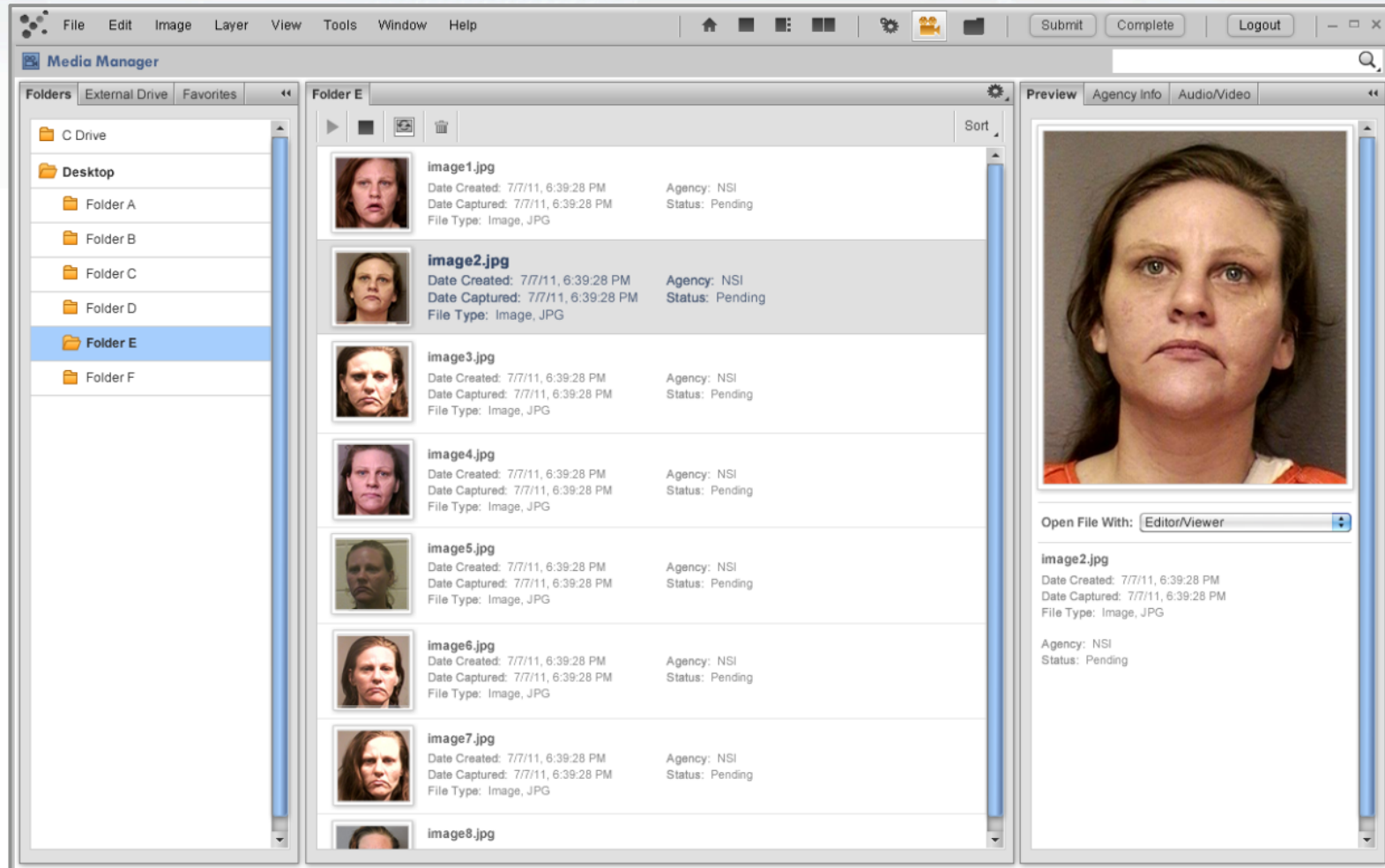
noblis
www.noblis.org



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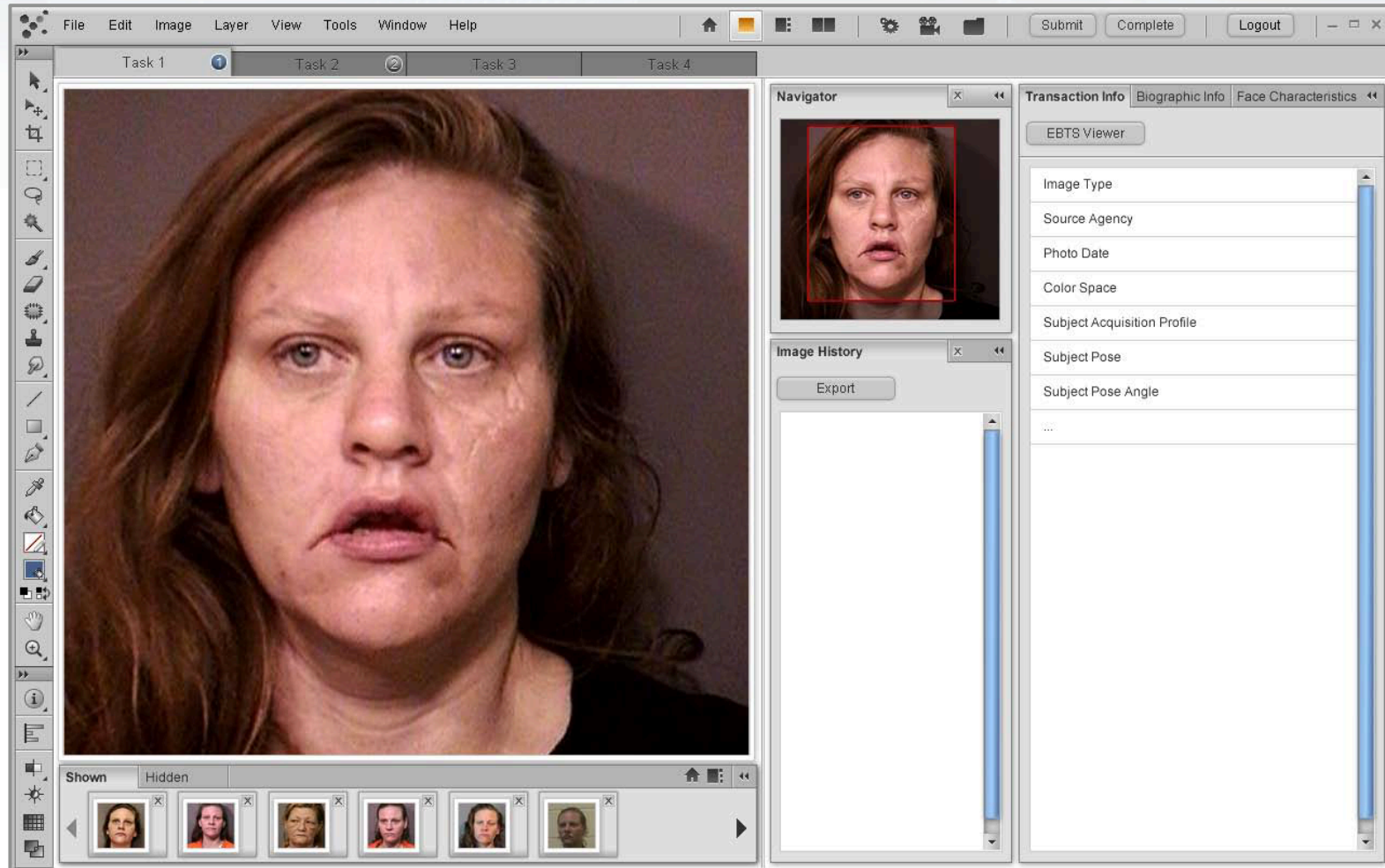
UFW – Media Manager



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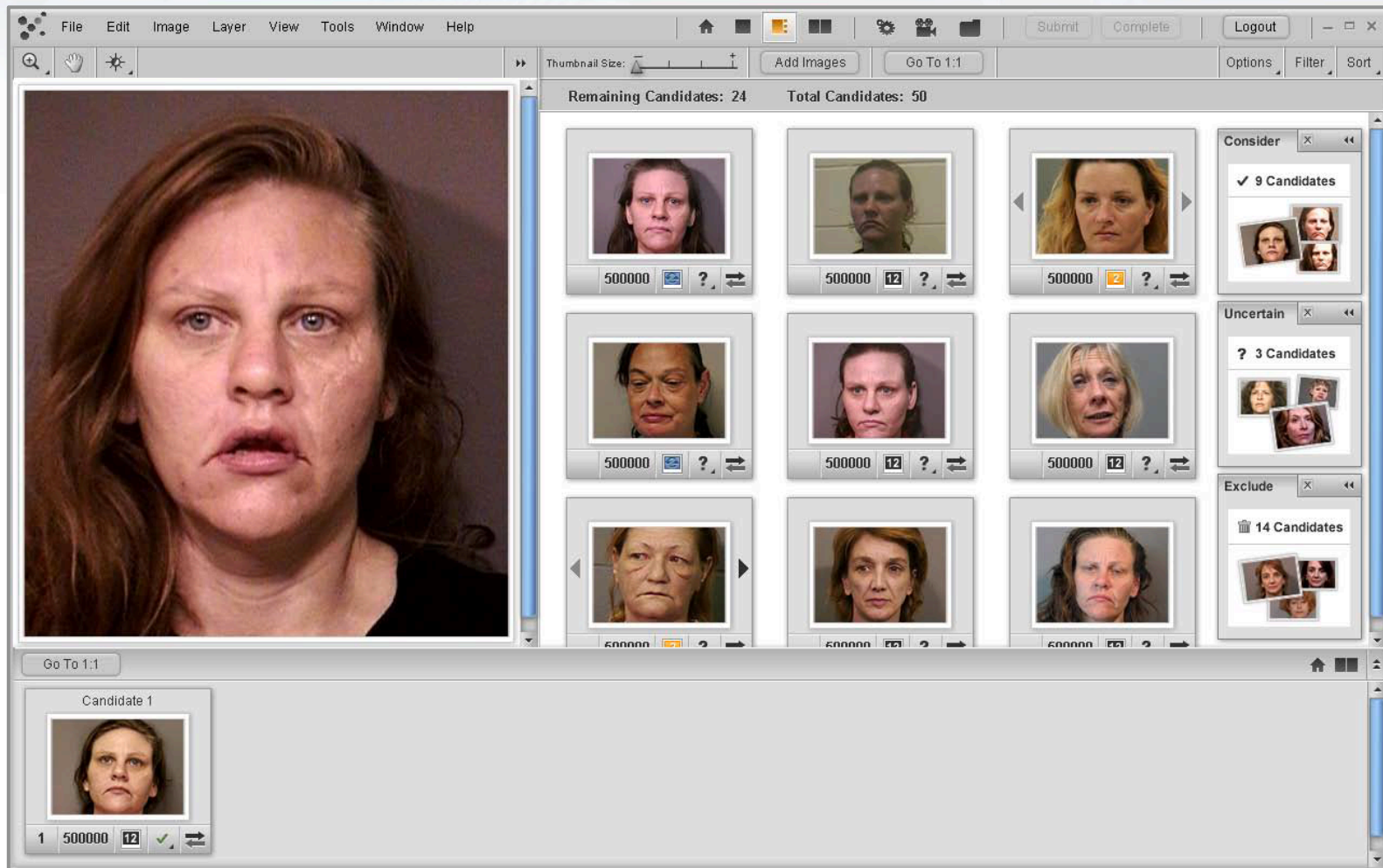
UFW – Editor/Viewer



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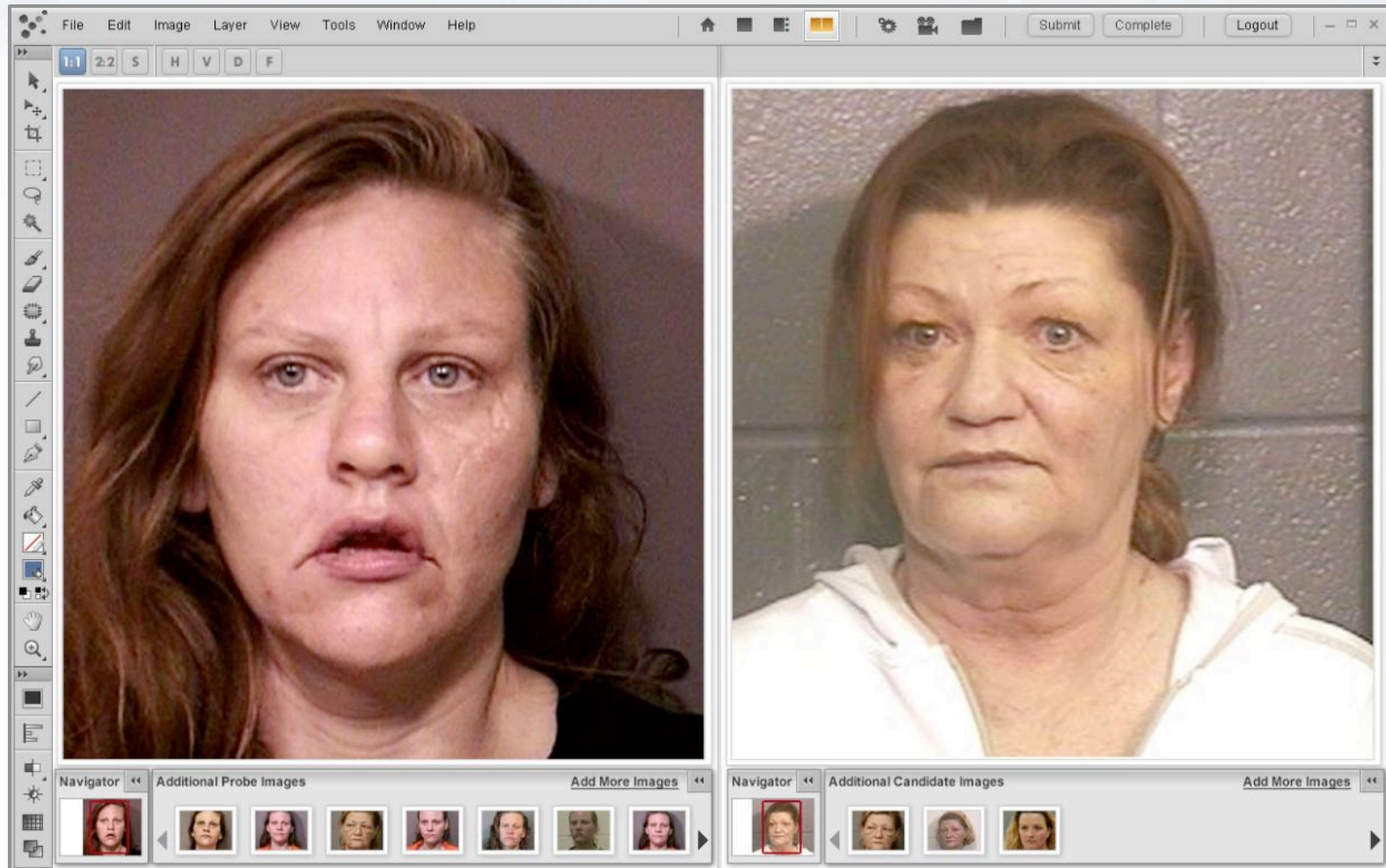
UFW – 1:N Comparison



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UFW – 1:1 Comparison



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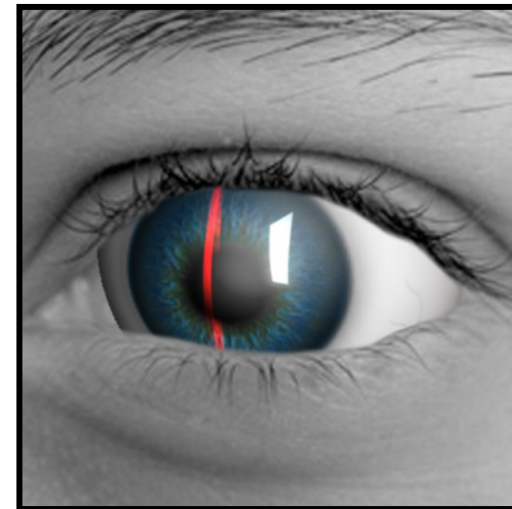
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Iris Pilot

Iris storage, search and verification functionality

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



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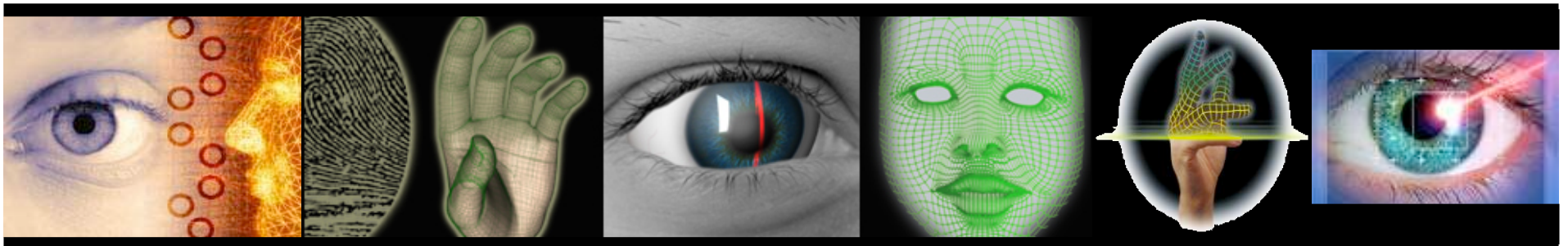
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Technology Refreshment

All performance specifications will be met

Additional system tuning to meet non-functional requirements



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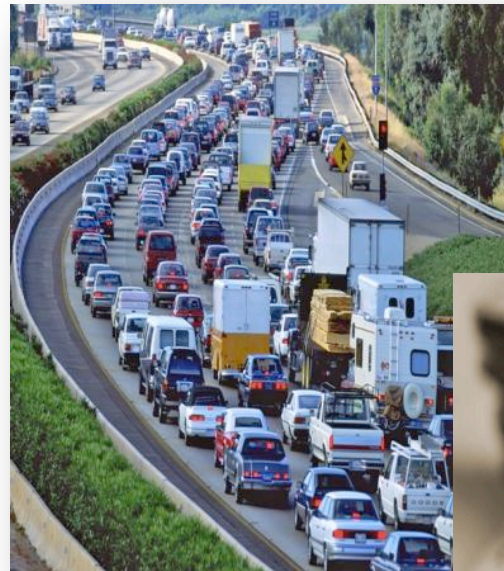


Shared Management

Governance



Drivers & Requirements



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Summary

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



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Questions / Comments

Federal Bureau of Investigation

Criminal Justice Information Services Division

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

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

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