Department of Public Safety
Records & Technology Division
Records Bureau

NCJIS Advisory Committee Meeting

September 19, 2012

Julie Butler, Records Bureau Chief

CCH Modernization Study

- Retained MTG Management Consultants in late 2011 to conduct study of:
  - Computerized Criminal History System (CCH)
  - Offender Tracking Information System (OTIS)
  - Domestic Violence Protection Order Registry

- Recommend path for replacement

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The Need…

- All critical systems
- Not vendor-supported and not sustainable
- "Ancient" technology
- Soon to lose staff support through retirements
- Hard to recruit/retain staff with needed skills at DPS salary levels
- Cannot comply with federal requirements for criminal history record sharing
- Cannot accommodate new features and requirements from outside influences

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The Results…

- Current DPS environment is "overly complex"
- Can't simply replace the CCH without replacing
  - Law Enforcement Message Switch
  - Hot Files
  - Underlying indices and system data stores
- 20-50% risk of Failure within next 3 years

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Recommendations…

- Go with Commercial Off-the-Shelf (COTS) products rather than custom-built solutions
- Build an environment that supports key federal standards and requirements
  - III (Triple I) Compliance
  - Compact Council & National Fingerprint File
  - CJIS Security Policy
- Compartmentalized applications and products

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The Road Map…

- 6 Major Initiatives and 44 mini-projects
  - Program Initiation and Management
  - Migration Preparation
  - Core Environment Replacement (CCH, Switch Hot Files)
  - OTIS Replacement
  - Data Migration
  - Access Enhancement

- 6-year time span

- $18 million dollars

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Costs of Doing Nothing…

- Emergency replacement for failed system
  - Significantly increased costs
  - Less-than-ideal solutions

- Potentially tragic event as a result of system failure could lead to:
  - Time and effort responding to public scrutiny
  - Time, effort, and cost of legal actions
  - Forensic technical evaluations
  - Loss of confidence in DPS solutions

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Current Status…

- Educating decision-makers on the need
- Seeking grant funding to pay for some initial components and other funding to pay for remainder
- Submitted two work programs to Interim Finance Committee for initial planning efforts
  - 3 new positions
  - Middleware Proof-of-Concept

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Q & A

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2012 NGI USERS CONFERENCE

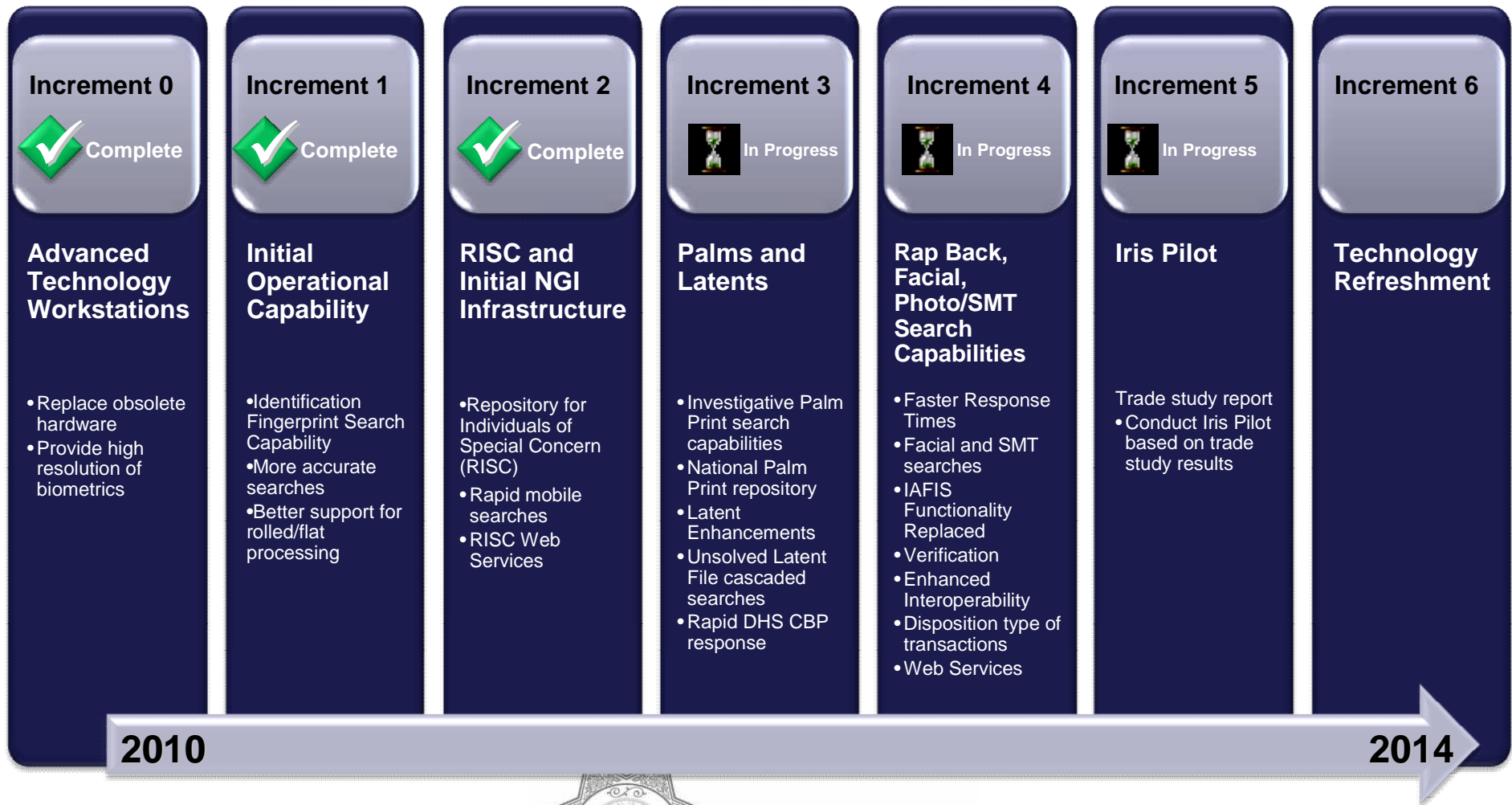## August 15, 2012 – Atlanta, GA

AGENDA

- ➤ Welcome/NGI Update & Overview
- ➤ Repository for Individuals of Special Concern (RISC)
- ➤ Iris Pilot
- ➤ Rap Back
- ➤ Latents and Palms
- ➤ Interstate Photo System
- ➤ Final Comments/Adjourn

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NGI Implementation Schedule

Increment 0	Increment 1	Increment 2	Increment 3	Increment 4	Increment 5	Increment 6
✔ Complete	✔ Complete	✔ Complete	⌛ In Progress	⌛ In Progress	⌛ In Progress	
Advanced Technology Workstations	**Initial Operational Capability**	**RISC and Initial NGI Infrastructure**	**Palms and Latents**	**Rap Back, Facial, Photo/SMT Search Capabilities**	**Iris Pilot**	**Technology Refreshment**
•Replace obsolete hardware •Provide high resolution of biometrics	•Identification Fingerprint Search Capability •More accurate searches •Better support for rolled/flat processing	•Repository for Individuals of Special Concern (RISC) •Rapid mobile searches •RISC Web Services	•Investigative Palm Print search capabilities •National Palm Print repository •Latent Enhancements •Unsolved Latent File cascaded searches •Rapid DHS CBP response	•Faster Response Times •Facial and SMT searches •IAFIS Functionality Replaced •Verification •Enhanced Interoperability •Disposition type of transactions •Web Services	Trade study report •Conduct Iris Pilot based on trade study results	

2010 ➡ **2014**

Next Generation Identification

➢ *On Scope*

✓

  ➢ NGI is a $ 1.2 Billion program: 7 years of development, 3 years of O&M

    ➢ 2 years of development remaining until Full Operational Capability

  ➢ Deployed capabilities are being utilized nationally

➢ *On Schedule*

✓

  ➢ Inc 1 - deployed one month ahead of schedule

  ➢ Inc 2 - deployed on schedule

  ➢ Inc 3 - currently in testing & on schedule

  ➢ Inc 4 - in development & on schedule

  ➢ Inc 5 – Iris pilot in development & on schedule

➢ *On Cost*

✓

  ➢ Continue to operate within budget

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Repository for Individuals of Special Concern (RISC)

Became nationally available in August 2011

➢ **Resulting Benefits**

➢ **Provides a rapid mobile fingerprint identification search using 2-10 rolled or flat fingerprint images**

➢ Expands identification capabilities from the booking environment to a mobile environment

➢ Biometric searches of "high value" subjects (IAFIS subset)

➢ Provides the "Street Cop" the ability to quickly assess subject's threat level

➢ **Datasets Searched**

➢ Wanted Persons with FBI Numbers in the NCIC entry

➢ Immigration Violator File Records

➢ Sexual Offender Registry subjects

➢ Known or Appropriately Suspected Terrorists

➢ Other Persons of Special Interest

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RISC Rapid Mobile Identification Service

➤ **Response Content**

  ➤ Returns a Red-Yellow-or Green response

    ➤ Red – Highly Probable Candidate(s)

    ➤ Yellow – Possible Candidate(s)

    ➤ Green – No Hit in RISC

  ➤ **Category of Hit (WW/NSOR/KST/Other)**

  ➤ **Red/Yellow response will include:**

  ➤ Master Name, FBI Number, and Limited NCIC Fields (WW and KST)

    ➤ Offense Field

    ➤ Original Offense Code Field

    ➤ Caution and Medical Conditions Field

    ➤ Subgroup Field (SGP) Handling Code Caveat

RISC Summary

RISC Totals:

Over 648,000 searches

Average daily transactions:

Over 800

Average Red Hit Rate:

6-10% weekly

Average response time:

7.42 Seconds
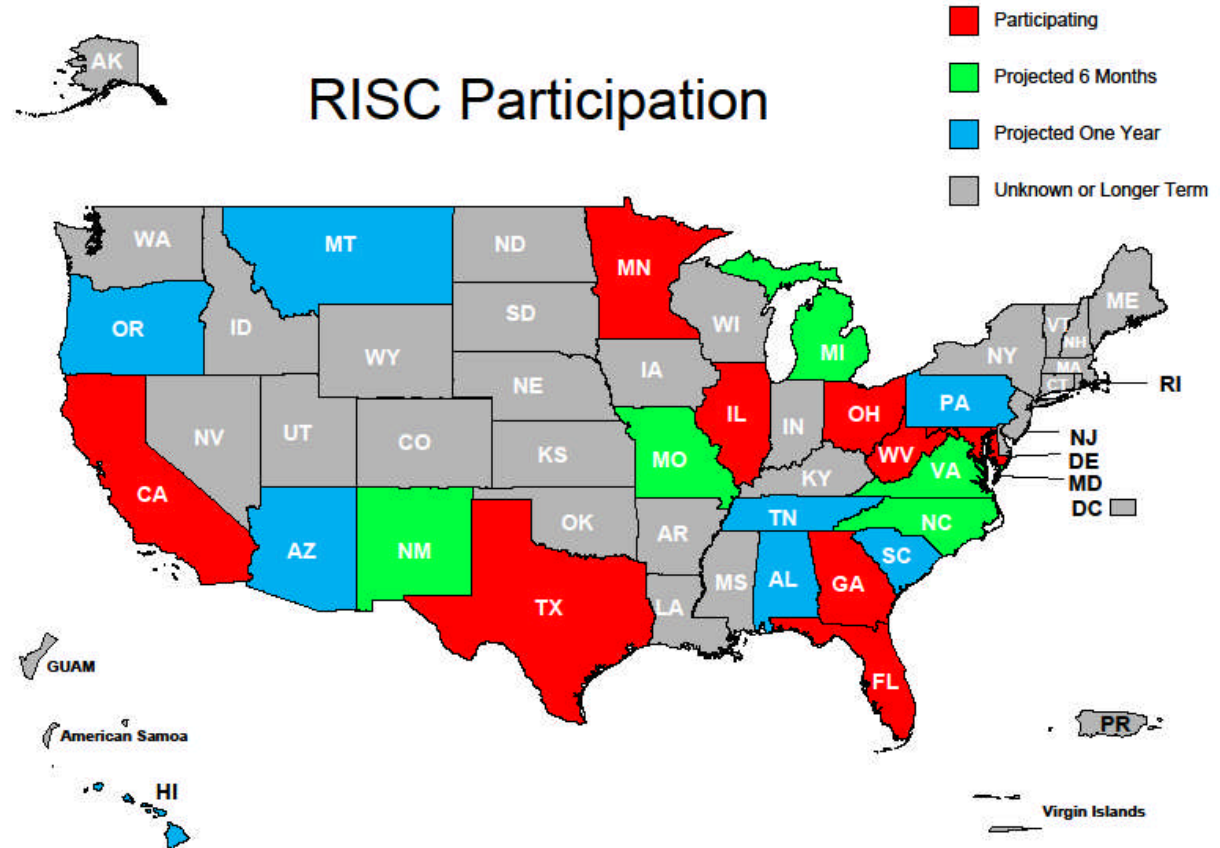
RISC Participation

- 🟥 Participating
- 🟩 Projected 6 Months
- 🟦 Projected One Year
- ⬜ Unknown or Longer Term

Why Iris ?

- Speed
  - Under one minute
- Accuracy
  - 98.4% for a single iris
- Hardware
  - Approximately 1KB per iris
  - Tenprint records can range from 30KB to 100KB
- Less interaction
  - Quick and clean capture potential

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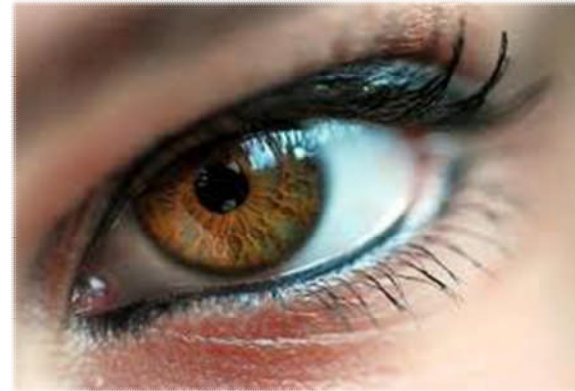
Iris Recognition Pilot
(September 2013)

➢ Develop and deploy a pilot system capable of performing iris image recognition services

➢ Evaluation opportunities for:

  ➢ Iris technology in a large scale operational setting
  ➢ Iris capture devices to establish a certification program

➢ Search one to many mode

  ➢ Return top candidate

➢ Provide operational observations to assist the FBI in planning efforts for NGI's national iris service

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Iris Recognition Pilot
(September 2013)

➢ Seed an iris repository

➢ Leverage the National Sheriff's Association Partnership
  ➢ Over 350 Sheriff's Offices and Correctional Agencies in 47 states participating in an iris project

➢ Ongoing discussions
  ➢ California
  ➢ Colorado
  ➢ Missouri
  ➢ New York
  ➢ Pennsylvania

➢ Department of Defense
➢ Department of Homeland Security

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Iris Recognition Pilot
(September 2013)

➢ **Correctional Facilities currently using iris recognition**
  - ➢ Monitor entry and egress of inmates, visitors, and staff
  - ➢ Verify the identity of an inmate appearing in court
  - ➢ Account for who is in a facility in the event of an emergency
  - ➢ Verify the identity of an inmate being transferred from one facility to another (if enrolled in the national pilot)

➢ **Correctional Facilities NOT currently using iris recognition**
  - ➢ Provide assistance for subject enrollment and technology implementation
  - ➢ Provide guidance in procuring applicable iris recognition system

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Iris Recognition Pilot
(September 2013)

➢ **Supervised Release**

    ➢ Tracking offenders on probation and parole

➢ **Sex Offender Registration**

    ➢ Approximately 800,000 registered sex offenders in the U.S.

    ➢ Register, track and quickly identify sex offenders

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Iris Recognition Pilot Summary

Rap Back Overview/Features

➤ The NGI Rap Back Service was developed in response to a need for notification of activity that occurs after the initial processing and retention of fingerprint transactions

  ➤ Scheduled implementation in Summer 2014

➤ SIB/interface agency/channeling agency is responsible for routing information to authorized designees

➤ Subscriptions available for both criminal and civil submissions

Rap Back Service

Features

- ➢ **Offer flexible subscription options**
  - ➢ User-defined expiration dates
  - ➢ Provide ability to opt out of receiving state triggered events
  - ➢ Multiple subscription options
  - ➢ Type of Notification
    - ➢ Pre-notification
    - ➢ Triggering Event
    - ➢ Full Identity History Summary

- ➢ **One-time fee for civil submissions, no fee for criminal justice purposes**
  - ➢ Fee study in progress; initial Rap Back rate available at least one year prior to service availability

Rap Back Triggers

- ➤ **Criminal retain submission**
  - ➤ Criminal Print Ident – CPI
- ➤ **Dispositions**
- ➤ **Civil for limited purposes**
- ➤ **Expungement/Partial Expungement**
- ➤ **Warrants**
- ➤ **Sex Offender Registry entry**
- ➤ **Death Notices**

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Rap Back Focus Group

➢ Compact Council formed Rap Back Task Force

  ➢ Initial meeting August 11-12, 2009

➢ The Task Force was redefined as the Rap Back Focus Group to concentrate on operational and policy impacts related to Rap Back implementation

  ➢ Established June 2011

  ➢ Next meeting is on August 23, 2012

➢ Instrumental in providing guidance on CONOPS, privacy mitigation strategies; will provide direction on development of Implementation Guide

Other Rap Back Activities

➢ NGI Implementation and Transition Unit developed a Business Concept of Operations Document to provide information to system implementers on the concept of services available for the NGI Rap Back Service.

➢ Currently developing Rap Back Policy and Implementation Guides (for both Criminal and non-Criminal Justice users) to provide a roadmap of required policies and operations to entities who want to participate in NGI's Rap Back program.

➢ State outreach with users to better examine policy/operational implementation issues

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Privacy Mitigation Tools

➤ Existing state practices to mitigate privacy risk may not be sufficient for federal Rap Back participation

➤ NGI Rap Back must protect against three potential risks:

  ➤ Release of CHRI to unauthorized persons

  ➤ Release of PII

  ➤ Extended retention of subscriptions no longer of interest to an agency

➤ Tools Identified for Mitigating the Risks

  ➤ Training and Auditing

  ➤ Pre-notification

  ➤ Validation

  ➤ Expiration Date

  ➤ Specific Language to Notify Applicants of Use of Fingerprints and CHRI

  ➤ Use of Formalized Subscription Management Procedures

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"One Size Does Not Fit All"

➢ Can we create a suite of strategies that are adequate and workable across the country?

➢ Plan for moving forward:
  ➢ Pre-Notification with Validation or Mandatory Expiration within Three Years
  ➢ Authority for Term of License
  ➢ Statutory Authority for Set Term
  ➢ One-Year Validation or Expiration
  ➢ Subscription Synchronization Through Automated or Formalized Procedures

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Next Steps

➢ Continue information gathering through Rap Back Focus Group/Standards/Compact Council

➢ Provide criminal justice considerations to the ISCG and proceed through the Identification Services Subcommittee/APB

➢ Continued development of privacy documents (e.g., Privacy Impact Assessment) for civil retention authority and Rap Back service

➢ Site visits with end users to better vet implementation issues

Palm Prints, Latents and Rapid Response

➢ **Status...**

➢ Working towards System Acceptance Review

➢ Collected over 4.4 million palm prints

  ➢ 29 States & 9 Federal Agencies

➢ EBTS 9.3 - Published

➢ **Expected Results**

➢ Enables latent palm prints to be searched Nationwide

➢ Enhanced Latent Functionality and Accuracy

➢ Rapid response for DHS Customs and Border

➢ **Deployment – March 15, 2013**

Latent Enhancements

➢ Perform latent searches of all fingerprint, palm print, and supplemental print event records

➢ Generate and assign Universal Control Numbers (UCN) to unsolved latent cases

➢ New Universal Latent Workstation (ULW) software

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National Palm Print System

➢ **Establishes an electronic palm print repository**

➢ **Enrollments with tenprint fingerprint submissions**

➢ **Bulk Submission Enrollments**

➢ **Palm Print Retrieval**

➢ **Investigative latent palm print searches**

➢ **Searches of known palm prints against the Unsolved Latent File (ULF)**

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Increment 3 Deployment

- ➤ **Cutover (March 15, 2013)**
  - ➤ Anticipated outage timeframe consistent with past NGI deployment
  - ➤ Users slow/stop searches 48 hours prior

- ➤ **Operational customer support available**

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NGI Interstate Photo System (IPS) Initiative
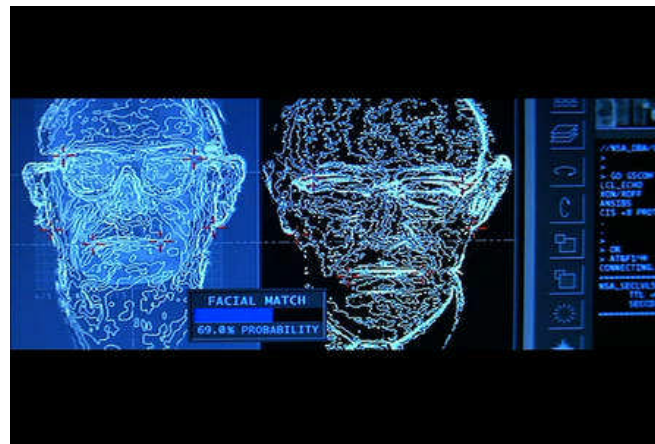
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Facial Recognition and Law Enforcement

➢ Many law enforcement agencies throughout the nation have been utilizing facial recognition successfully for years in the following areas:

  ➢ Corrections Processing

  ➢ Identification and Verification at Booking

  ➢ Mobile Identification – Street Level Identification

  ➢ Investigations

➢ Pinellas County Sheriff's Office

➢ Michigan State Police

➢ Pierce County Sheriff's Department

➢ South Carolina Law Enforcement Division

Authority/Privacy

Authority:

28 U.S.C. § 534

- ➢ Acquire, collect, classify, and preserve identification, criminal identification, crime, and other records
- ➢ Exchange such records and information with, and for the official use of, authorized officials of Federal, State, tribal, and local criminal and noncriminal justice departments and agencies

42 U.S.C. § 3771

- ➢ The Director of the Federal Bureau of Investigation is authorized to develop new or improved approaches, techniques, systems, equipment, and devices to improve and strengthen criminal justice

Privacy:

- ➢ Facial Recognition was initially addressed by the June 9, 2008 Interstate Photo System (IPS) Privacy Impact Assessment (PIA)
- ➢ The 2008 IPS PIA is currently being renewed by way of Privacy Threshold Analysis (PTA), with an emphasis on Facial Recognition

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Policy – Governance

➢ Governed as all CJIS Systems (NCIC, IAFIS, N-DEx etc.) under shared management of the CJIS Advisory Policy Board

➢ Memorandum of Understanding signed by participating agencies

➢ Limited to authorized criminal justice agencies for criminal justice purposes

➢ Access to IAFIS and dissemination/use of FBI provided information apply

➢ Information will be treated as "law enforcement sensitive"

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Interstate Photo System Facial Recognition Pilot (IPSFRP) Objectives

➤ Assess face search capabilities

  ➤ Suitability to support Government requirements

➤ Working Face Pilot

  ➤ Demonstrates reference implementation on real data
  ➤ Exercises government technical specifications for face search
  ➤ Establishes system metrics and refines business processes
  ➤ Early design reference for NGI Increment 4
  ➤ Demonstrates modular and scalable design for plugging in different potential vendor solutions
  ➤ Demonstrates end-to-end face recognition capability

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IPSFRP

- ➢ External user access to the pilot began in December 2011
- ➢ Users submit searches against a National repository of photos
  - ➢ Gallery contains booking images collected at the arrest event (along with tenprint submission to the FBI)
- ➢ Law Enforcement Users will receive a ranked investigative candidate list
  - ➢ Minimum - 2, default - 20, maximum – 50
  - ➢ Access within CJIS Security Policies

NGI National Photo Repository

➤ **Interstate Photo System Repository**

   ➤ Most states have submitted photos for searching

      ➤ NGI staff working with states that are not submitting (NFF)

   ➤ Approximately 13 million photos (Mug Shots)

      ➤ NGI staff working with contributors to increase gallery images through Bulk Photo Submissions

      ➤ All photos can trace to fingerprint cards

         ➤ Identity Based Repository

   ➤ IAFIS Interstate Identification Index photo updates

      ➤ Enrollment into repository is completed by submitting mug shots with normal Criminal Answer Required (CAR) electronic submission

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Investigative Candidate List

➤ **Search Results Biometric (SRB) response**

➤ Includes the number/default of candidates requested

➤ Candidates will be ranked

➤ The Universal Control Number (UCN /FNU) of each candidate will be returned

➤ The original probe image will be included as "Candidate 0"

➤ Caveat regarding investigative response

IPS Full Operating Capability

➢ Scheduled for 2014 as an NGI Increment 4 initiative

➢ National implementation of Interstate Photo System enhancements.

  ➢ New search functionality

    ➢ Text based image and SMTs

  ➢ Special Population Cognizant Files

  ➢ Enhance photo enrollment

  ➢ Enhance photo retrieval

  ➢ Record biometric decisions

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Universal Face Workstation (UFW)

➢ FBI user software to support access to NGI Face Pilot and NGI System face search capabilities

➢ Search preparation, submission, and candidate list review

➢ Cross Platform (Windows, OSX, Linux)

➢ Built on open source frameworks

➢ Extensive support for user developed plugins

➢ Available for authorized Law Enforcement use free of charge
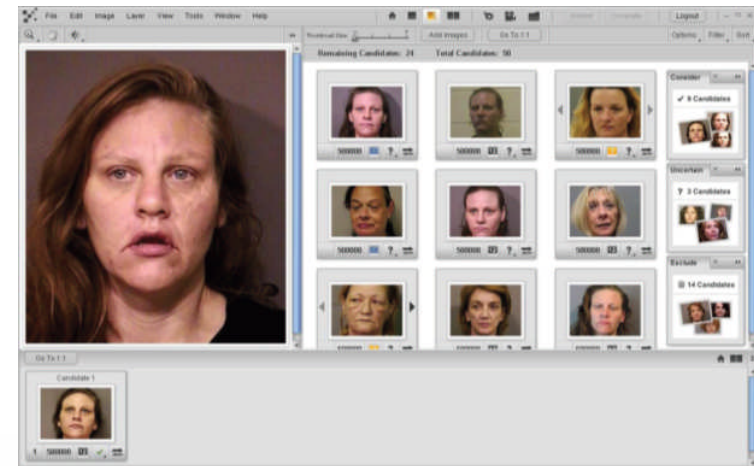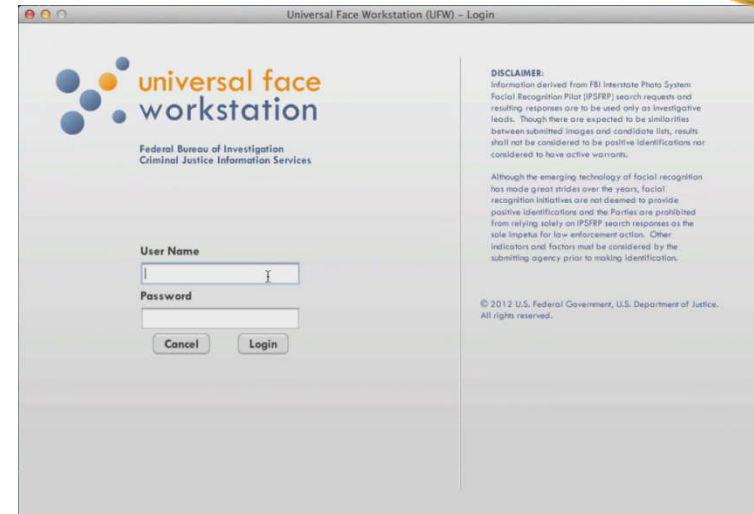
UFW Objectives

➤ 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 Increment 4 HMI for face search processing

➤ Design user interface specifically for face examiners

➤ Permit examiners to:

  ➤ Acquire, 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 Capabilities

➢ Extract face images from media/storage devices

➢ Enhance face images and prepare search TOTs

➢ Submit face search TOTs to FBI face pilot

➢ Receive and review candidates in response TOTs

➢ Request additional images based on FNU/UCN

➢ Generate reports based on candidate review

➢ Provide Transaction and Case Management

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Coming Soon

- UFW 1.0 Distribution set for Fall 2012
  - UFW will be distributed to states and agencies wishing to participate in the FBI Face Pilot that do not currently have a FR system
    - For more information contact:

      Brian Edgell

      Brian.Edgell@ic.fbi.gov

      304-625-3551

- UFW Application Programming Interface (API)
  - Provides users the ability to incorporate new functionality into UFW User Interface
  - Available for distribution September 2012

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Future of State Hot Files

- Hot File – immediate notification to law enforcement that an individual is:
    - Concealed Weapons Permit holder
    - Dangerous Offender
    - Subject of a Protection Order
    - Sex Offender
    - Fugitive from justice (warrants)

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National Hot Files Available

- ## 21 Files in NCIC
  - Stolen items/vehicles/license plates/guns
  - Wanted Persons/Foreign Fugitives
  - Missing Persons/Unidentified Persons
  - Protection Orders
  - Sex Offender
  - Known or Suspected Terrorist
  - Immigration Violators
  - Dangerous Person (future)

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Future of State Hot Files

- Recommendation of MTG to use national files unless they don't meet Nevada's needs
  - Protection Orders
  - Dangerous Offender Notification
  - Use Business Process Analyst position to study
- Duplication cost vs. benefit

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Discussion and Decision

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