





NGI "The Investigative Enabler"

How does NGI enable and enhance investigations and provide homeland, hometown and officer safety?



This Is The Beginnning!

How does NGI enable and enhance investigations and provide homeland, hometown and officer safety?

What NGL is Not!





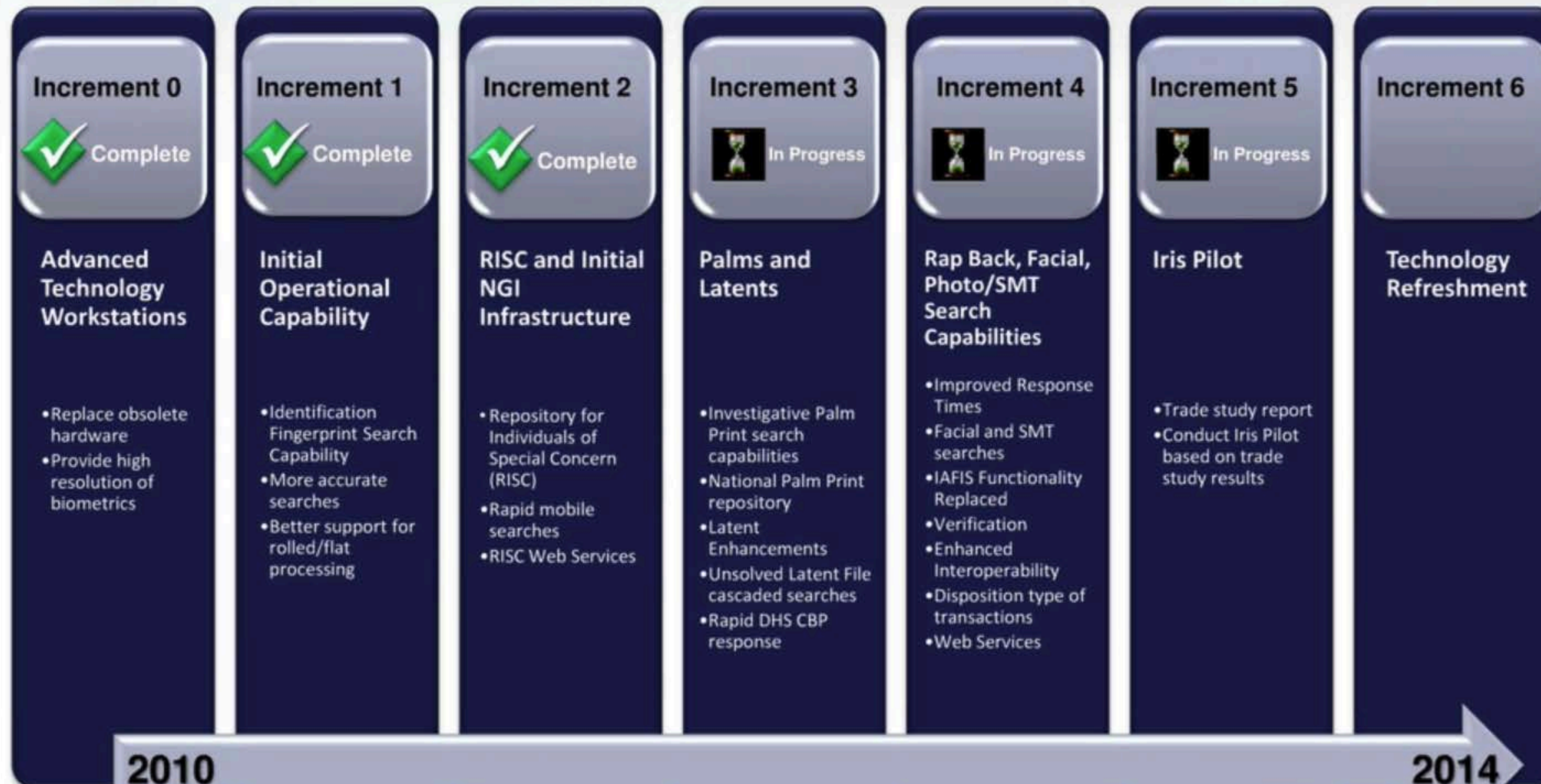
What NGI IS!

- NGI is bigger-better-faster
- IAFIS Upgrade

- *AFIT's increase in automated accuracy has allowed operations to reduce the dependency on a supplemental name check, resulting in a 90% (weekly) decrease in the number of manual fingerprint reviews required by our service providers.*
- *910 additional candidates were identified during the 5 day parallel run of AFIS/AFIT.*



NGI Implementation Schedule





What's in it for me?

NEXT GENERATION IDENTIFICATION

BIGGER – BETTER – FASTER

RAP BACK

RAPID MOBILE ID

IRIS

FACIAL

LATENTS

PALMS

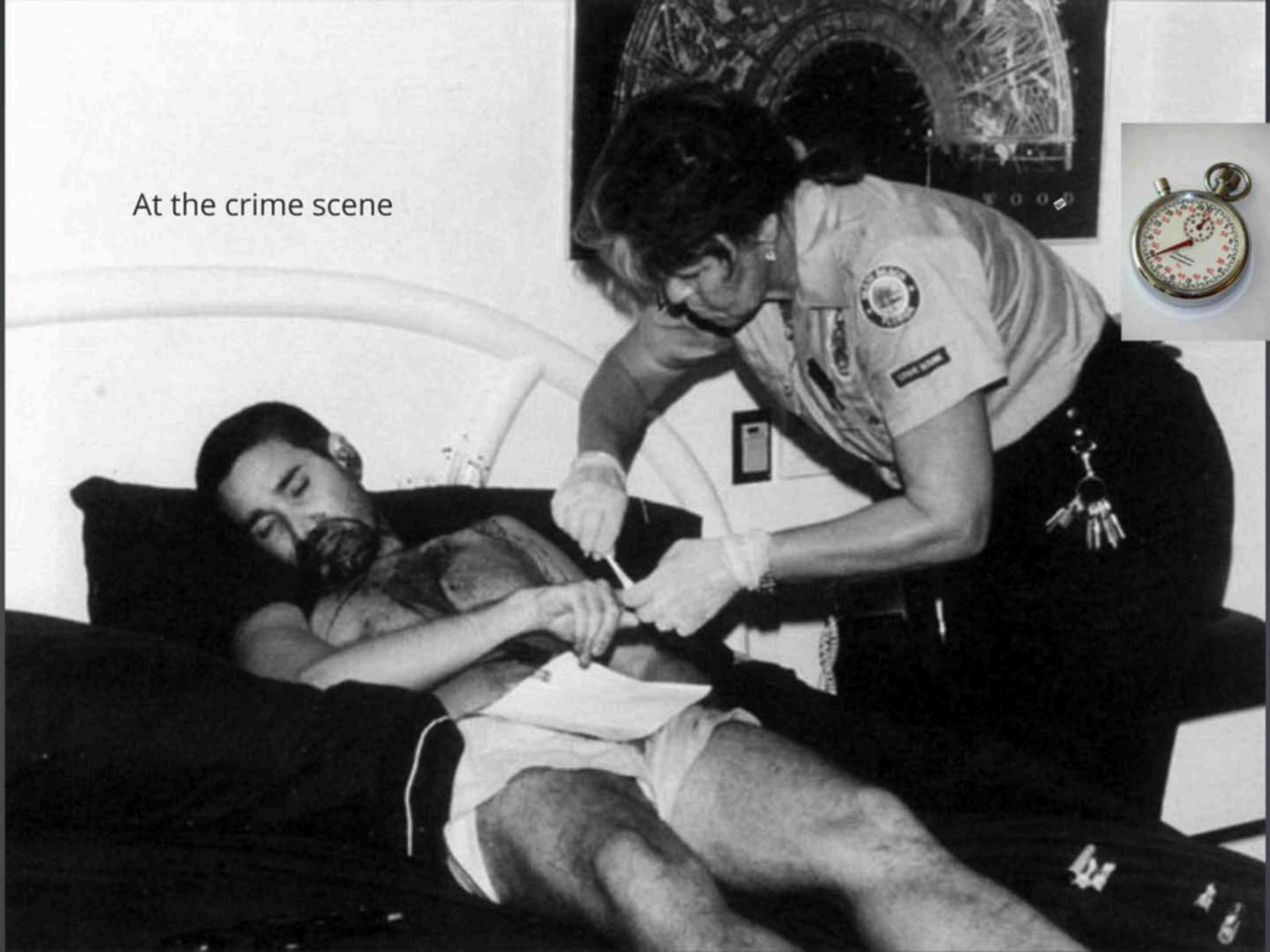




A crime has occurred



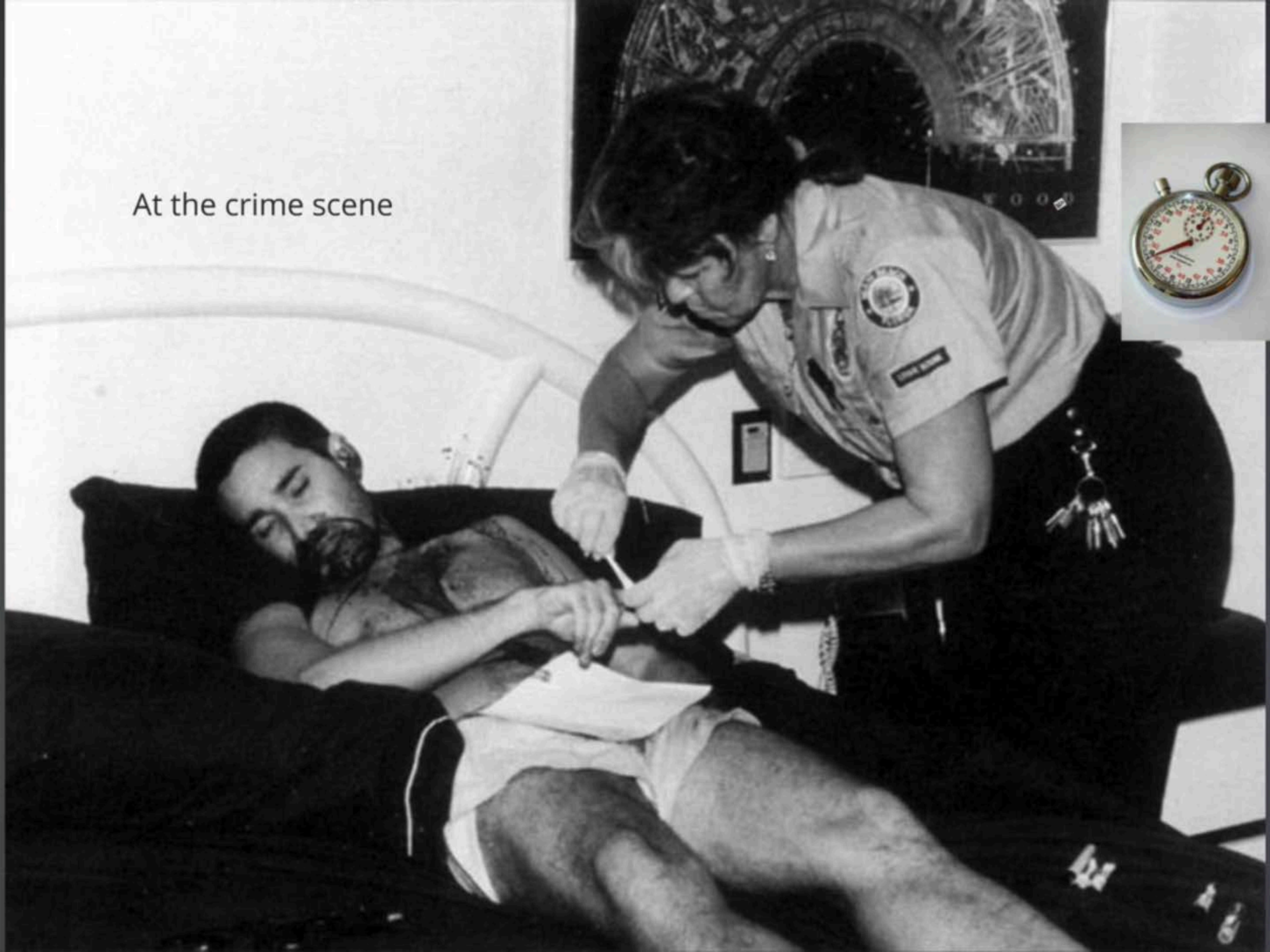
At the crime scene





Latent prints captured at crime scene

At the crime scene





*Palm prints
captured at crime scene*

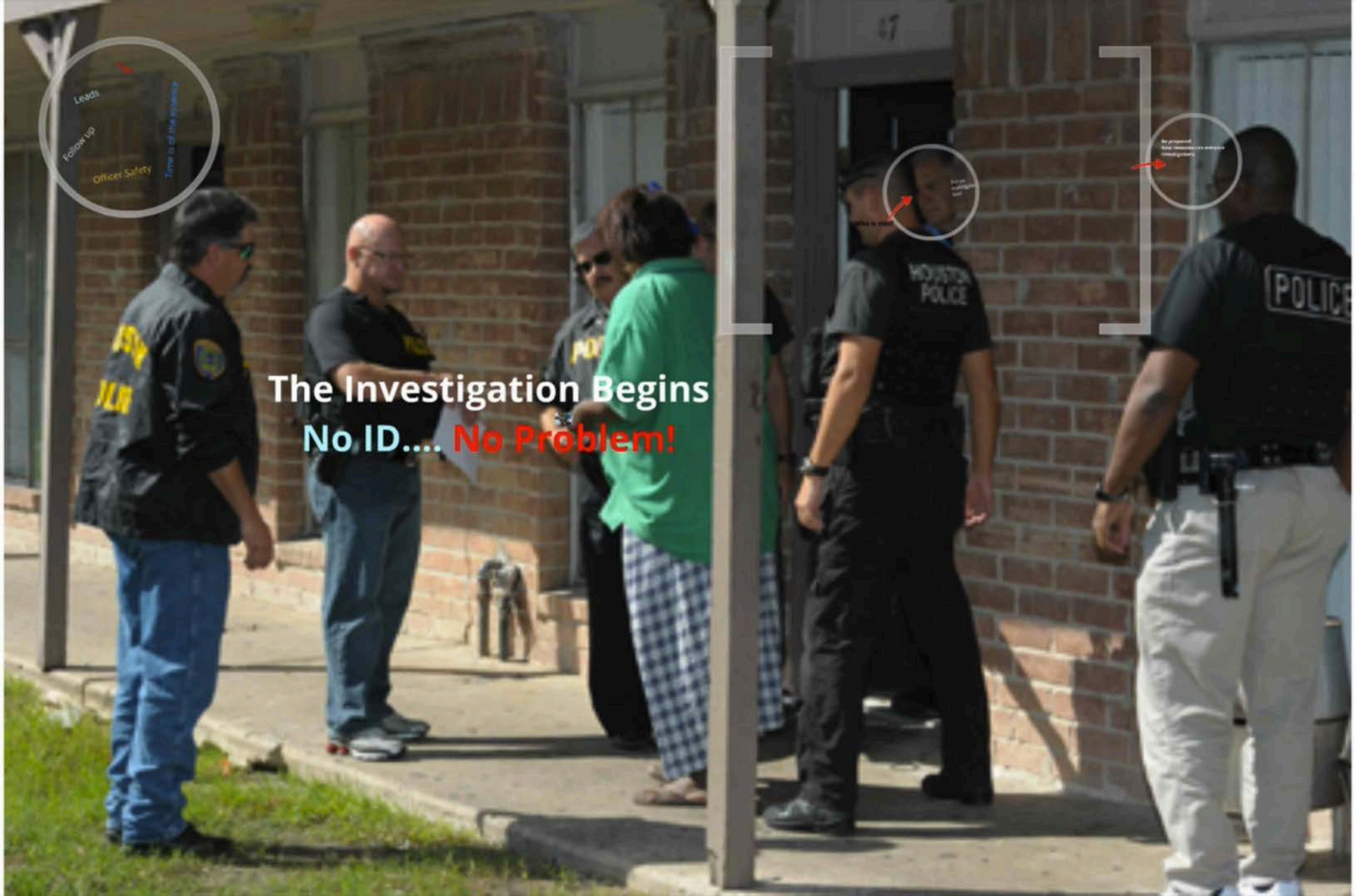
Do we always have resources?

- what tools can help our investigation?
- limited resources?



Do we always use available resources?

- what tools can help our investigation?
- limited resources?



The Investigation Begins
No ID.... No Problem!





RISC



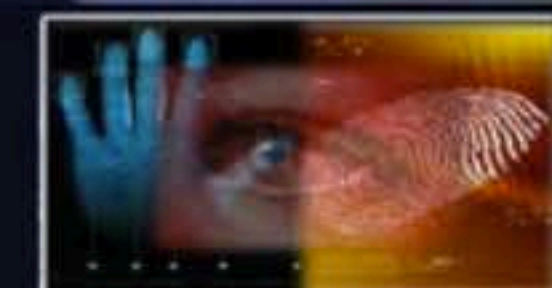
RISC

➤ Resulting Benefits

- Provides a rapid mobile fingerprint identification search using 2-10 rolled or flat fingerprint images
 - Available nationwide as of August 25, 2011
- 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
- Sexual Offender Registry subjects
- Known or Appropriately Suspected Terrorists
- Other Persons of Special Interest

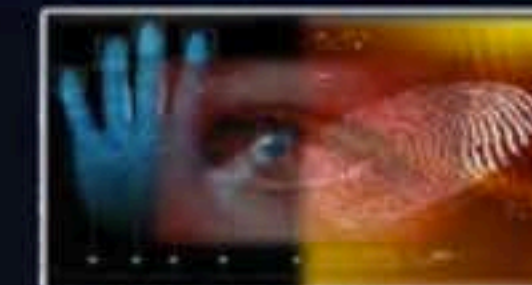




RISC

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 includes: 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





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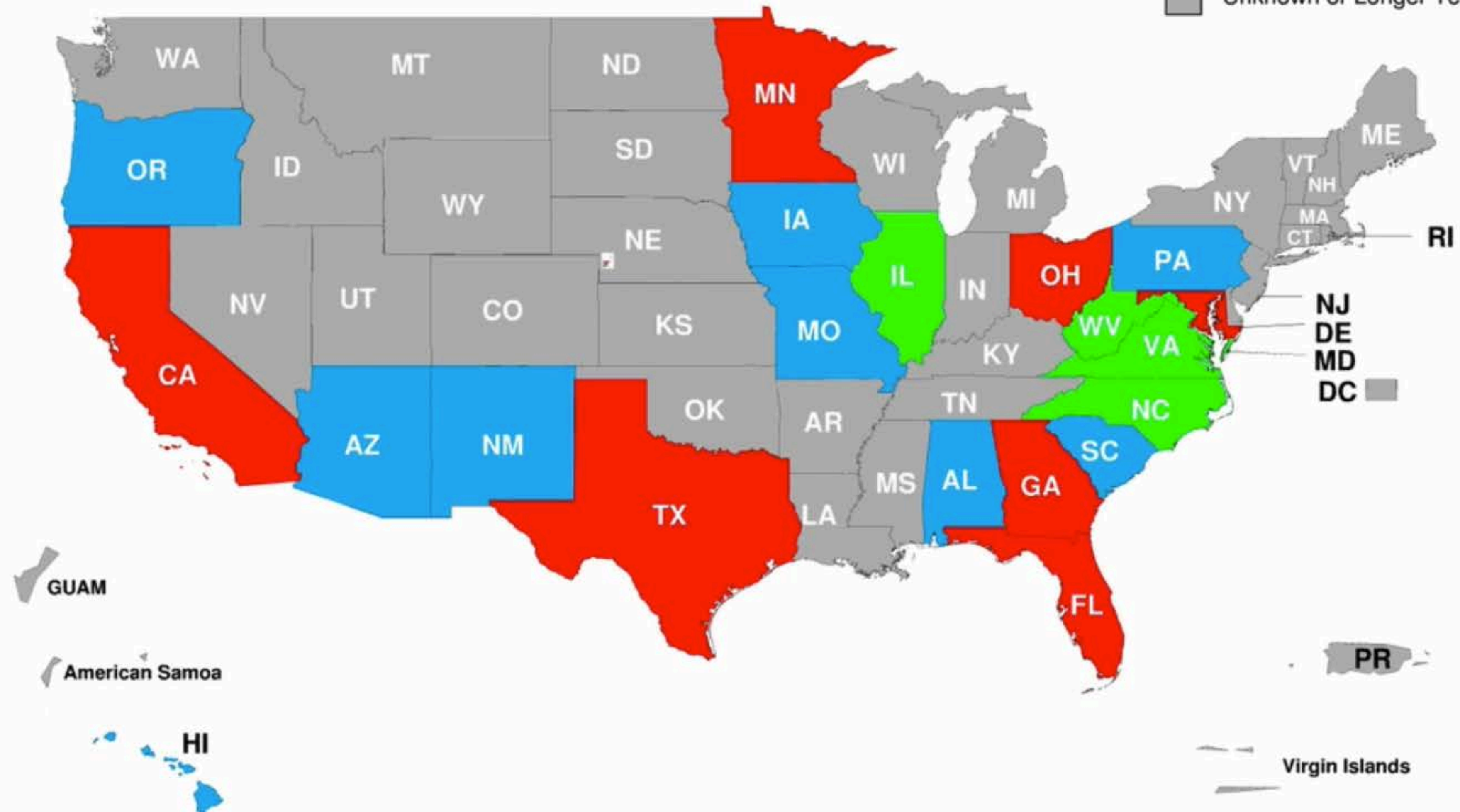


CJIS RISC Summary

- Number of Submissions processed – over 515,000
- Overall Red rate: 6.42%
- Average Response Time = 6.34 seconds
- Over 400 Agencies Participating



RISC Participation



The Statistics
 $((x/y)+3)=z$

27%

**RISC
 Submissions
 growth rate**

based upon comparison of
 fiscal year 2012
 to fiscal year 2011

FBI RISC Totals			
Total Number of Transactions 10/1/2011 - Present		62,095	
Result		Stats	
Green		93.19%	
Yellow		0.49%	
Red		6.32%	
Average Response Time		5.94 Seconds	
Average Daily Submissions		457	
Red Responses	Wants	2,827	72.82%
	Sex Offender Registry	1,055	27.18%



The Statistics
 $((x/y)+3)=z$

27%

**RISC
Submissions
growth rate**

based upon comparison of
fiscal year 2012
to fiscal year 2011



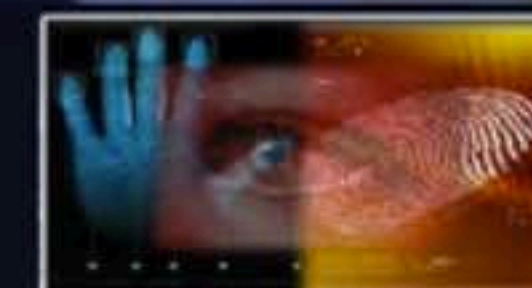


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Future Capabilities

- Ability to include additional datasets
 - IVF dataset
- Perform a Cascaded Unsolved Latent File (ULF) Search
 - Unsolicited response to the record owner of the latent image
- Provide Photos with a RISC Response
 - Users may request return of a photo (if available) with a Red or Yellow Response





Path to Mobile ID

<https://www.fbibiospecs.org> links to:

- Electronic Biometric Transmission Specifications
 - Version 9.1 for support of Increment 2
 - Version 9.3 published
- NIST Special Publication 500-280
 - Mobile ID Device Best Practice Recommendation

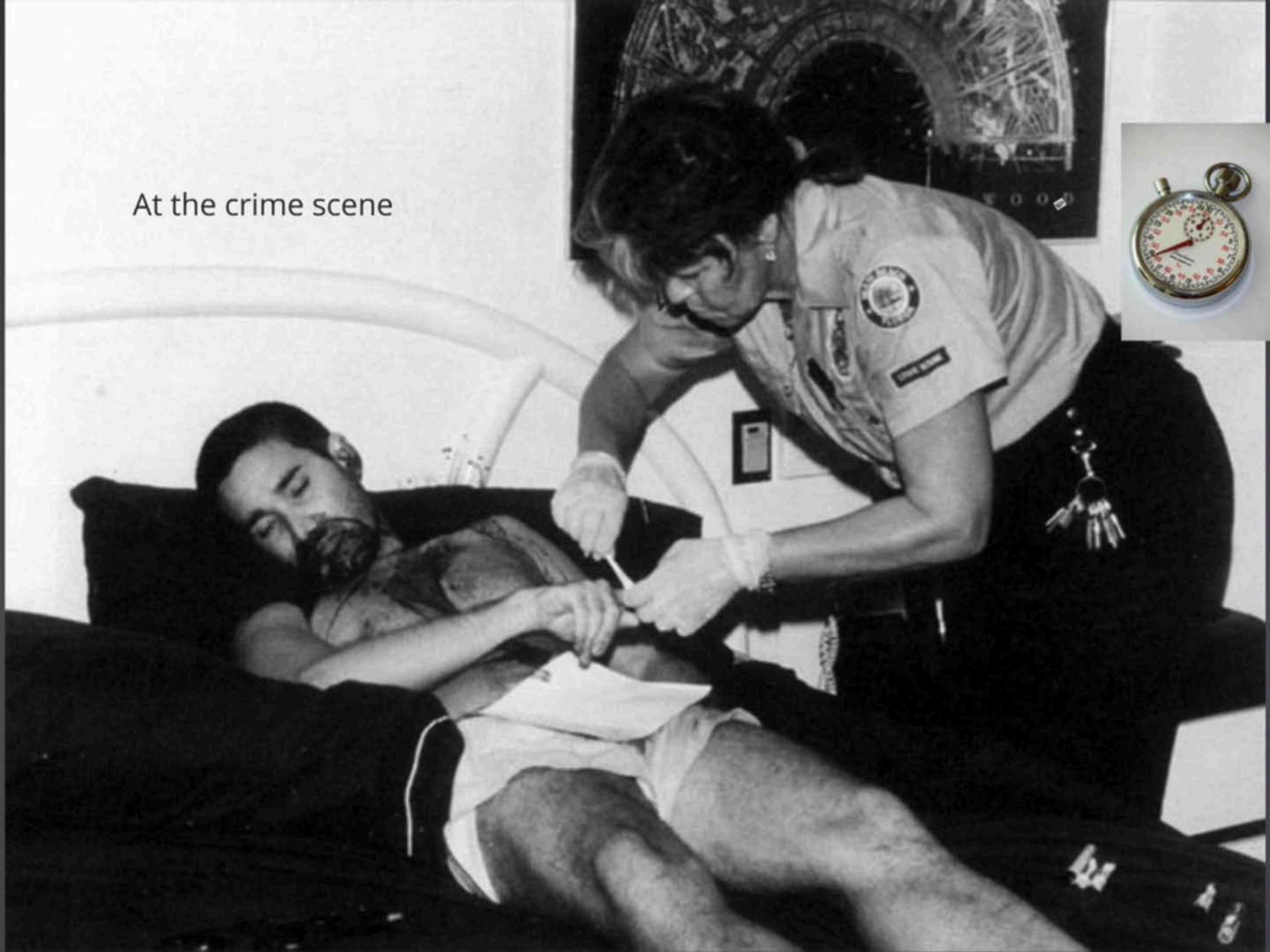
Additional Resources

- CJIS Security Policy
 - Version 5.0
- NGI User Guide (in development)



Palms & Latents

At the crime scene





*Palm prints
captured at crime scene*



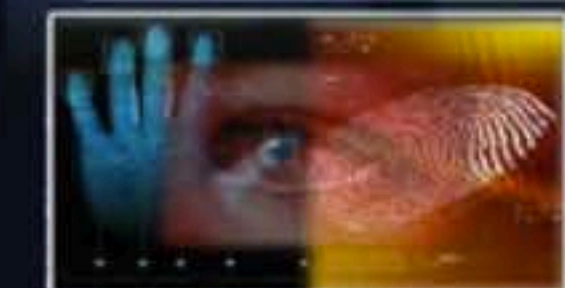
Palm Prints and Latents (Increment 3)

➤ Status

- Collected over 3 million palm prints to date
- EBTS 9.3 – Approved and Published

➤ Resulting Benefits

- Enable palm prints to be searched across the U.S.
- More latent identifications to support terrorist and violent crime investigations
- Upgraded Universal Latent Workstation Software
- Provides rapid response for DHS Customs and Border Protection transactions





Increment Four

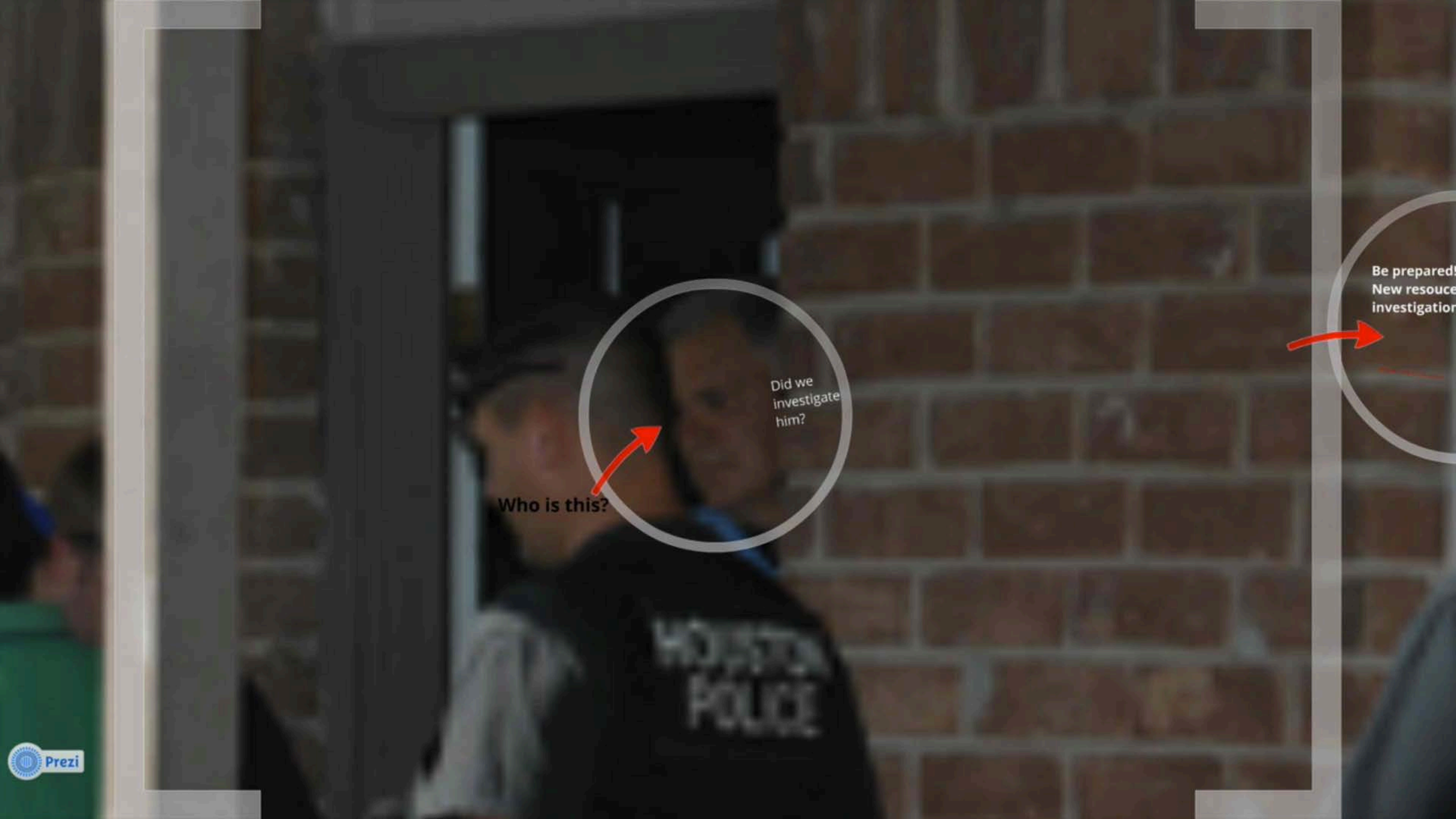
➤ Status

- Facial Search
- Text based scars, marks, and tattoo (SMT) searches
- Rap Back
- Enhanced Interoperability
- 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





Who is this?

Did we
investigate
him?

Be prepared!
New resource
investigation

Be prepared!
New resources can enhance
investigations



Remember! What is in the tool box?

Remember! What is in the tool box?

The Investigative Enabler?

PHOTO & FACIAL RECOGNITION

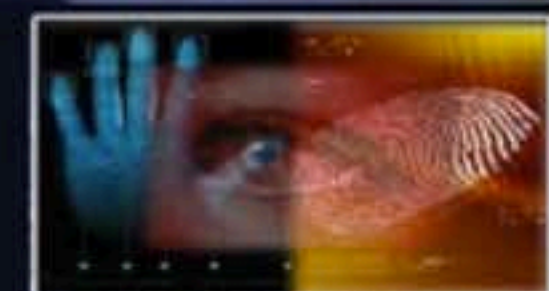


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Interstate Photo System Facial Recognition Pilot (IPSFRP)



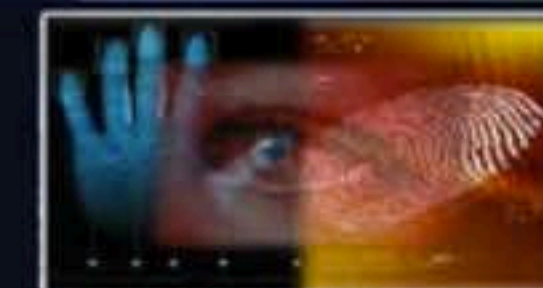
- External user access to the pilot is currently available
 - MOU's with three agencies
- Users will submit searches against a National repository of photos
 - Gallery will contain booking images collected at the arrest event (along with Ten Print submission to the FBI)
- Law Enforcement Users will receive a ranked investigative candidate list
 - Minimum - 2, default - 20, maximum – 50
 - Access within CJIS Security Policies





Face Pilot Objectives

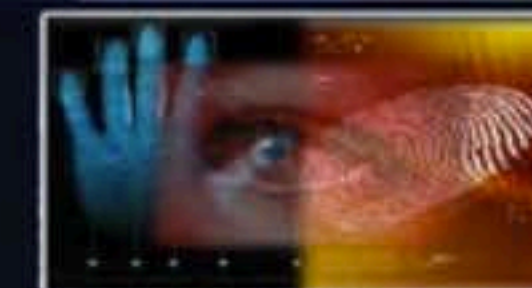
- Assess face search capabilities
 - Suitability to support Government requirements
- Working Face Pilot
 - Demonstrates reference implementation on real data
 - Exercises government technical specifications for face search
 - Establishes system metrics and refines business processes
 - Early design reference for NGI Increment 4
 - Demonstrates modular and scalable design for plugging in different potential vendor solutions
 - Demonstrates end-to-end face recognition capability





NGI Photo Repository

- Interstate Photo System Repository
 - All 50 states have data available for searching
 - IAFIS Interstate Identification Index photo updates
 - 6.75 million Identities
 - More than 18 million photos (Mug Shots)
 - NGI staff working with contributors to increase gallery images
 - Leverage for face pilot opportunities
- Expansion of the Repository
 - Bulk Photo Submissions
 - Criminal Answer Required (CAR) type of transaction electronic submissions






Face Quality Metrics

- Facial Recognition improved through best practices to system contributors
 - Educate the user community on those best practices today
- Two step image quality review
 - Using quality assessment tools (leveraging from federal partners, private industry, in-house developed)
 - Trained examiner review
- FBI Face Report Cards
 - Will be published to photo contributors, providing feedback of photo quality
- Working to adapt to higher Subject Acquisition Profile (SAP) requirements in user operations (driving better capture technology)



UFV



Did we
investigate
him?

Who is this?



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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

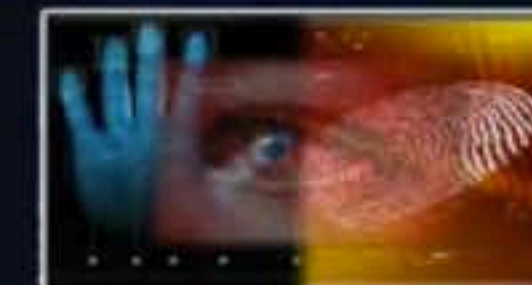
- Plan, design, prototype and demonstrate a face workstation which can be freely deployed by the FBI
- Develop services which can be carried over to NGI for biometric processing
- Employ a user experience design philosophy to develop UFW specifically for face examiners
- Permit examiners to:
 - Ingest, 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





Full Operating Capability

- Scheduled for 2014 as an NGI Increment 4 initiative.
- National implementation of Interstate Photo System enhancements.
 - New search functionality
 - Special Population Cognizant Files
 - Enhance photo enrollment
 - Enhance photo retrieval
 - Record biometric decisions

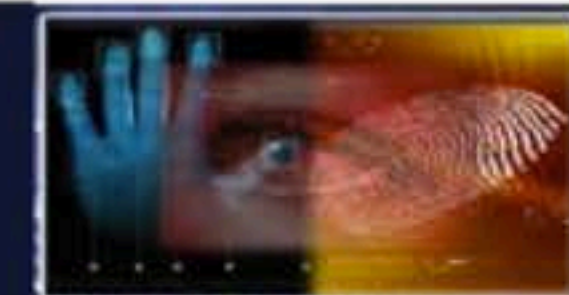


RAP BACK



Rap Back Activities

- Reviewing Best Practices and Lessons Learned
 - CJIS hosted first Rap Back Focus Group meeting
 - Strategic discussions to align with a national implementation
- Identifying Policy Focus Areas
 - Federal Privacy Laws differ from State
- Going Forward
 - Engage Law Enforcement Partners
 - Continue working with Subject Matter Experts





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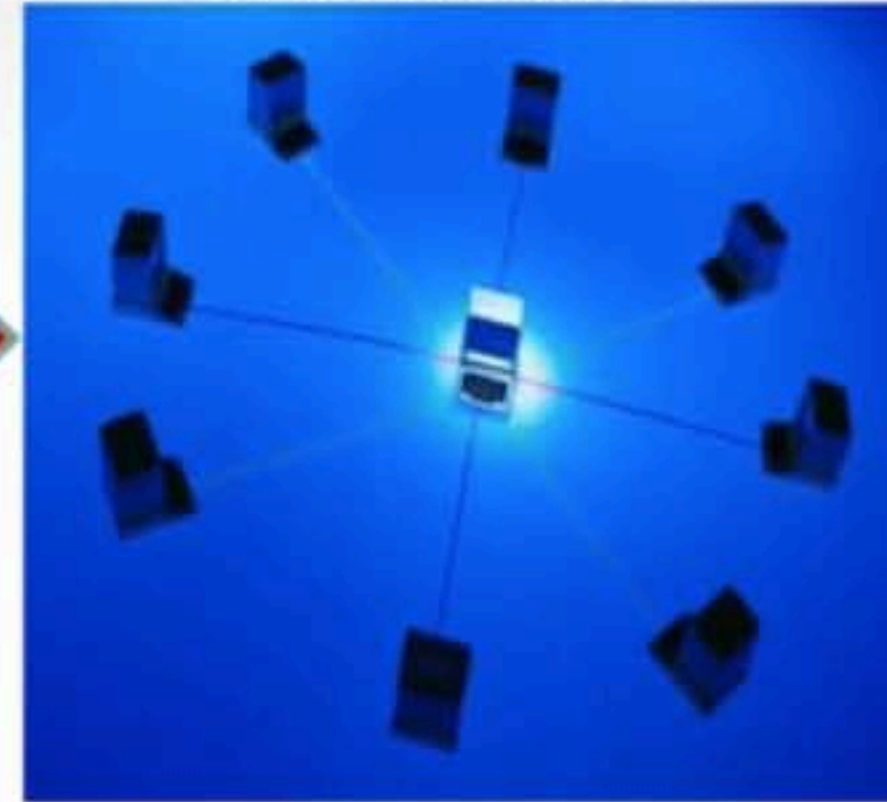


Civil Rap Back Notification

Triggering event



State Network



CJIS WAN



Subscriber



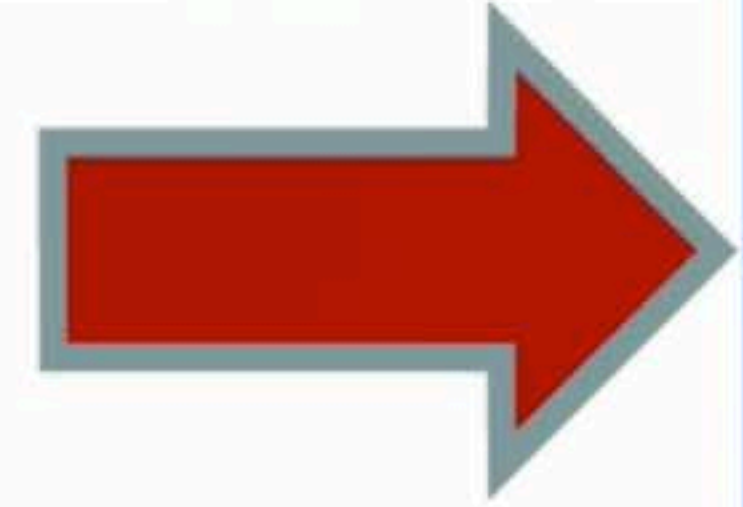
Interface Agency



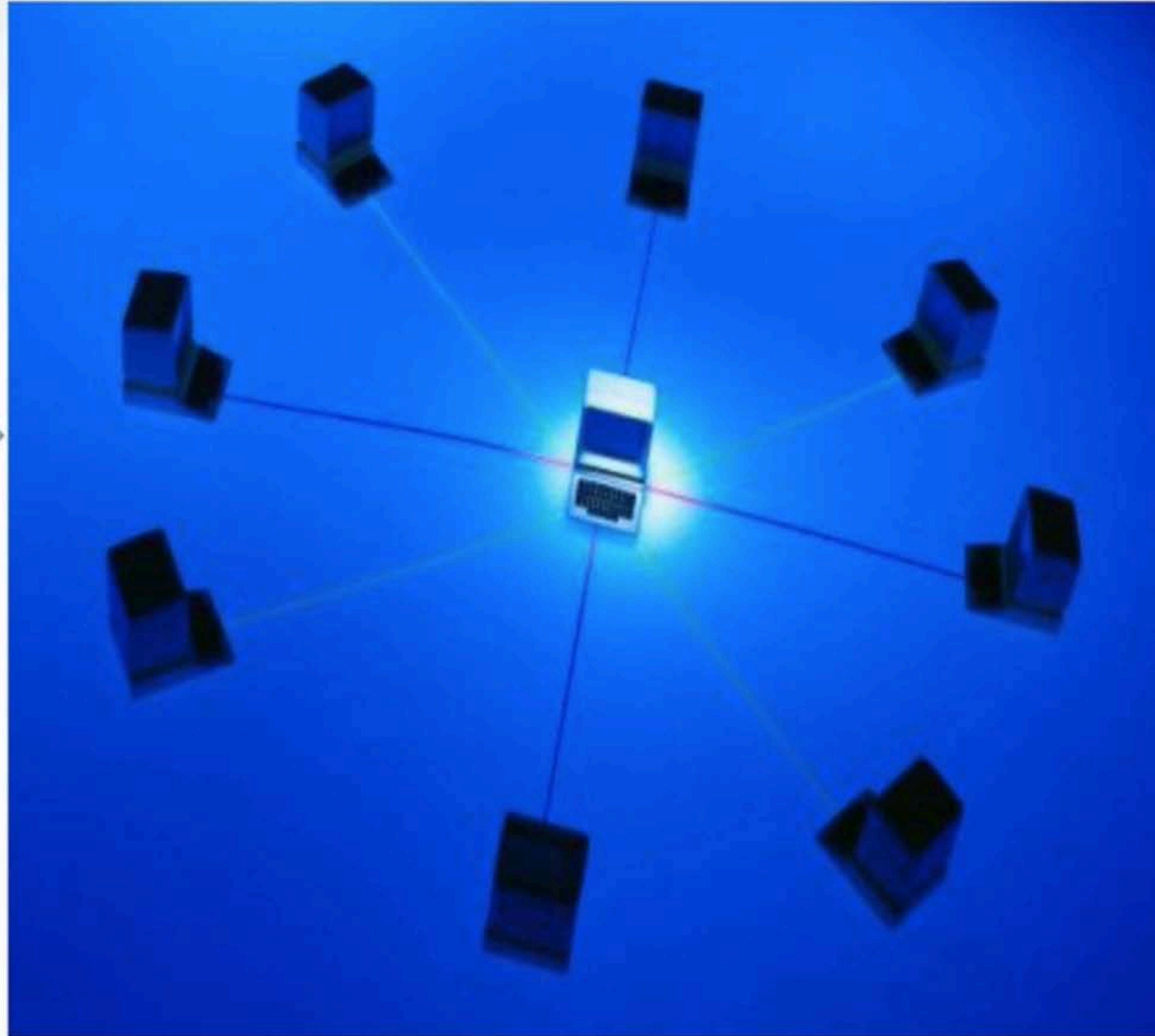
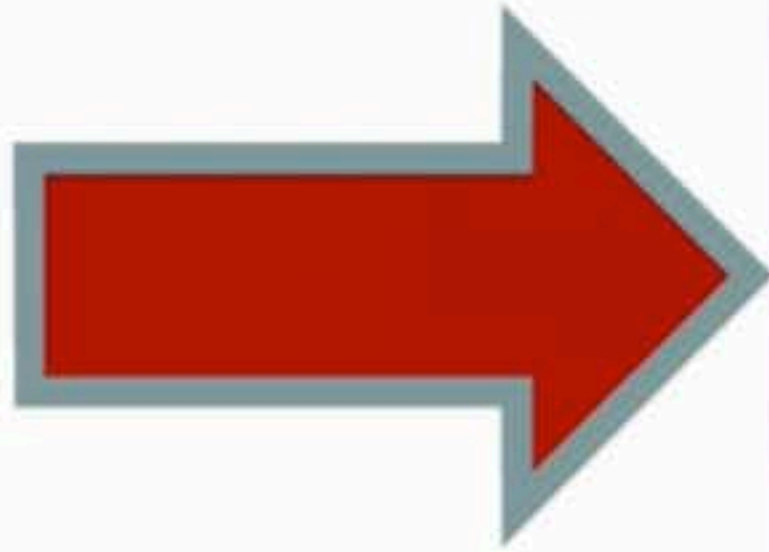
CJIS WAN



Triggering event



State Network



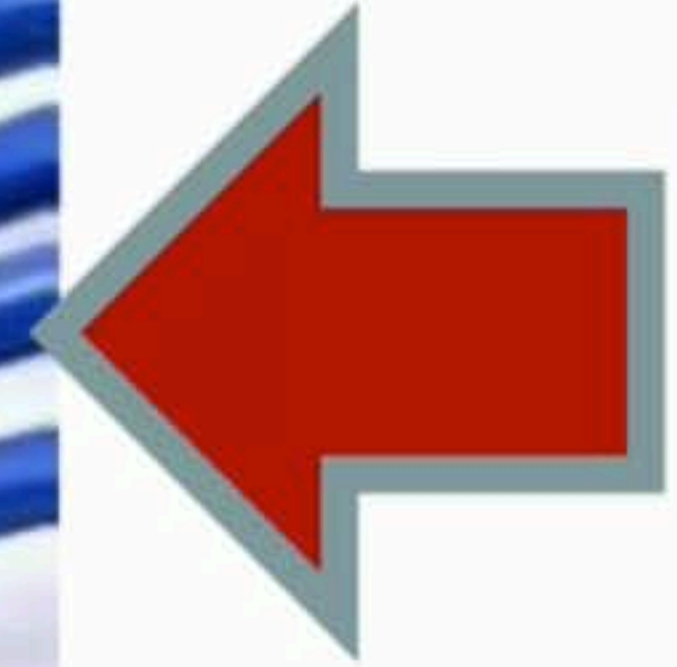
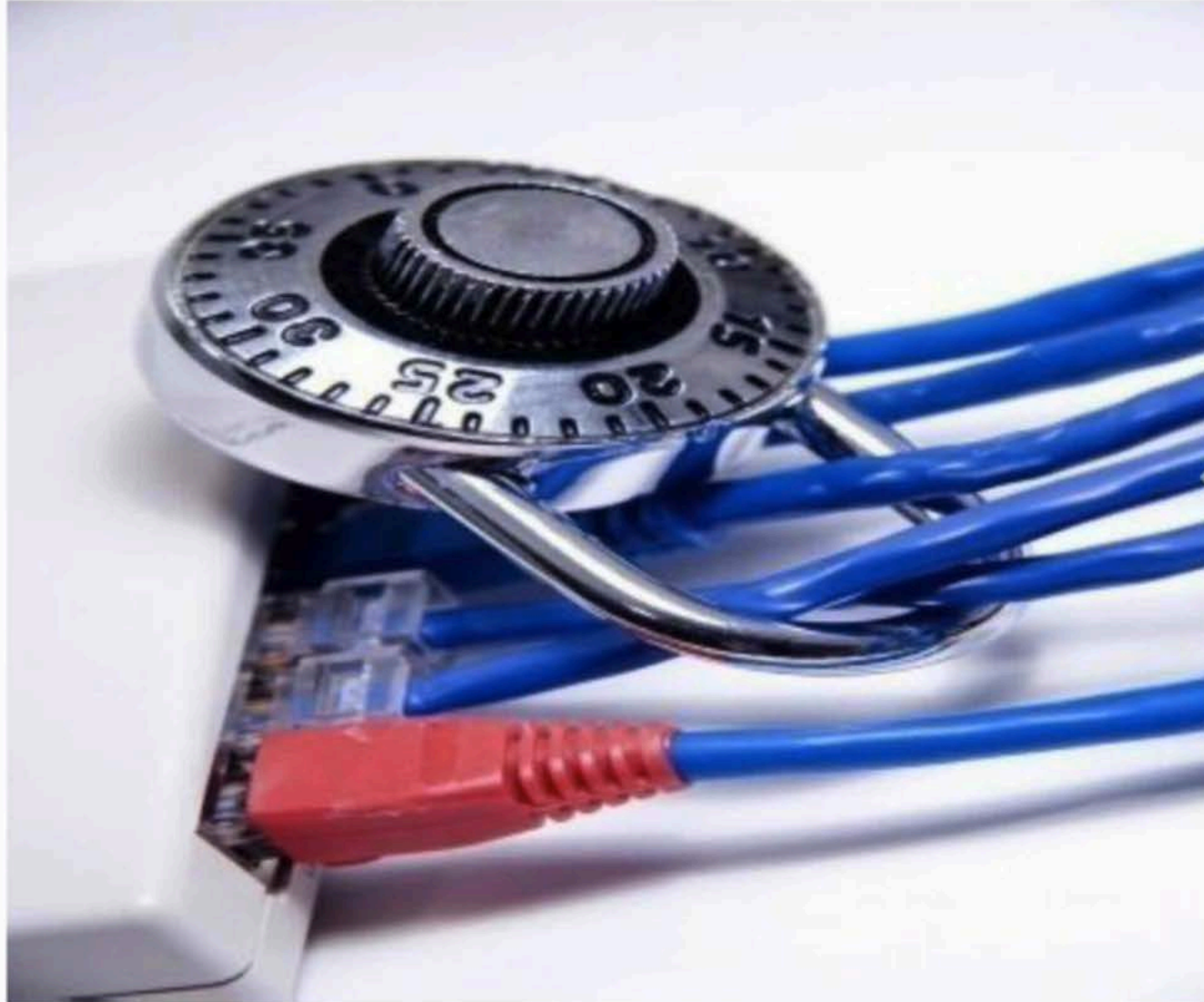
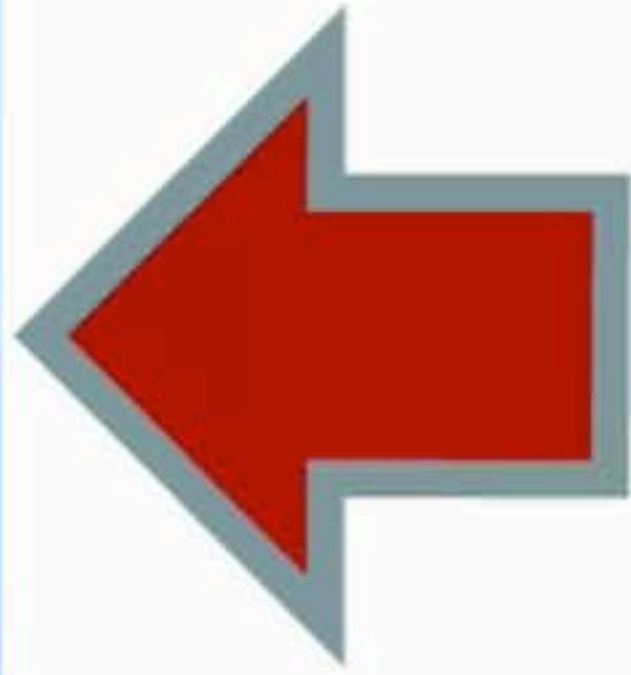
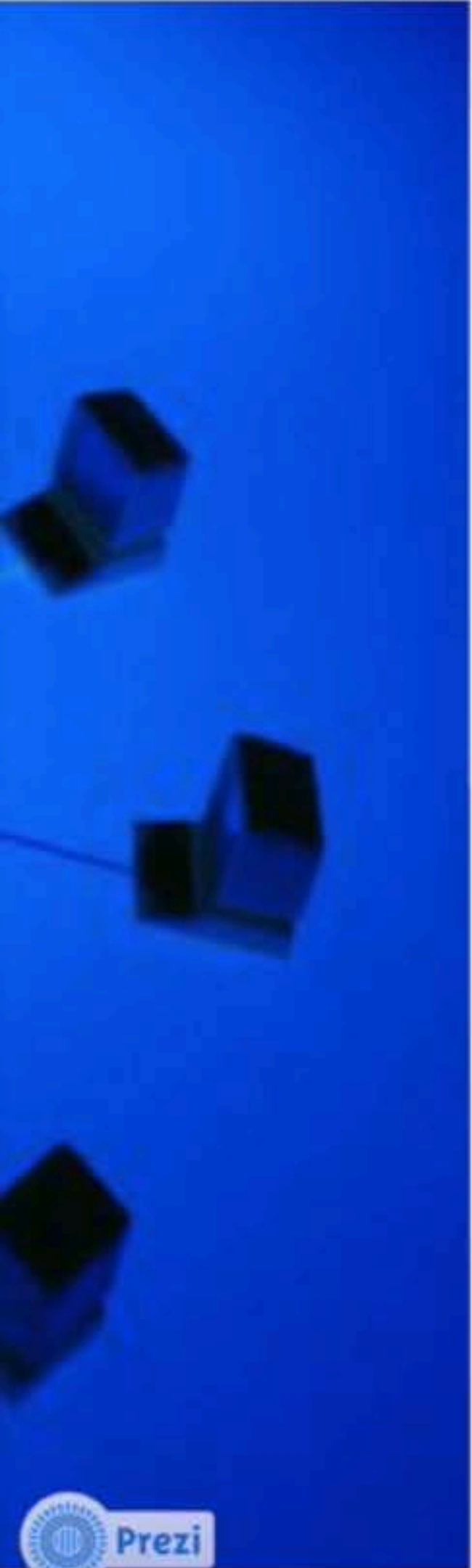
CJIS WAN



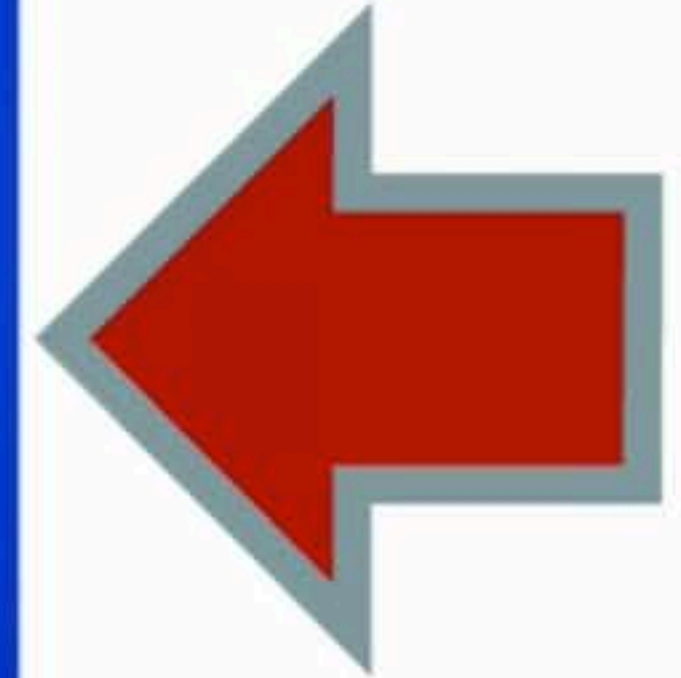
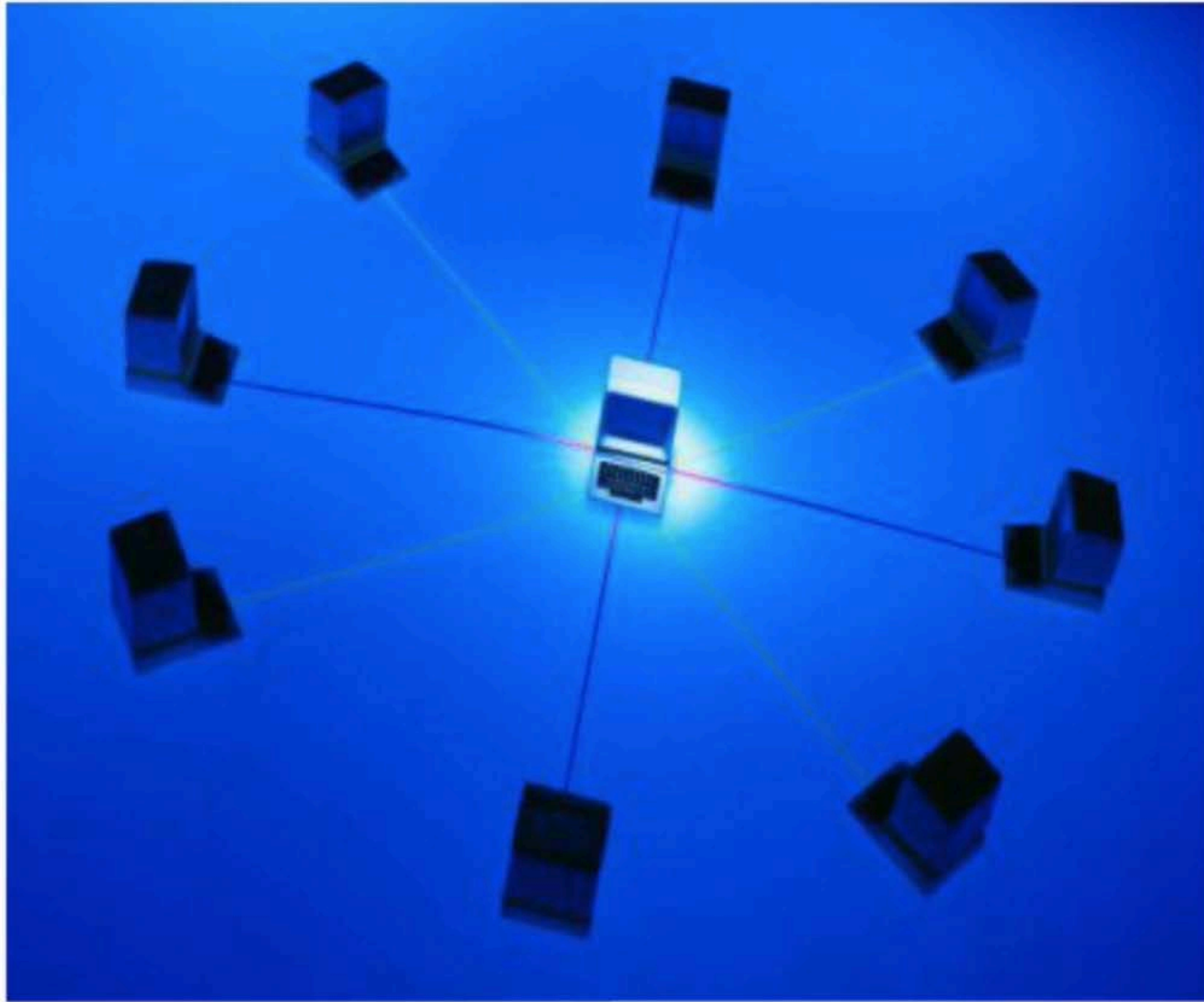
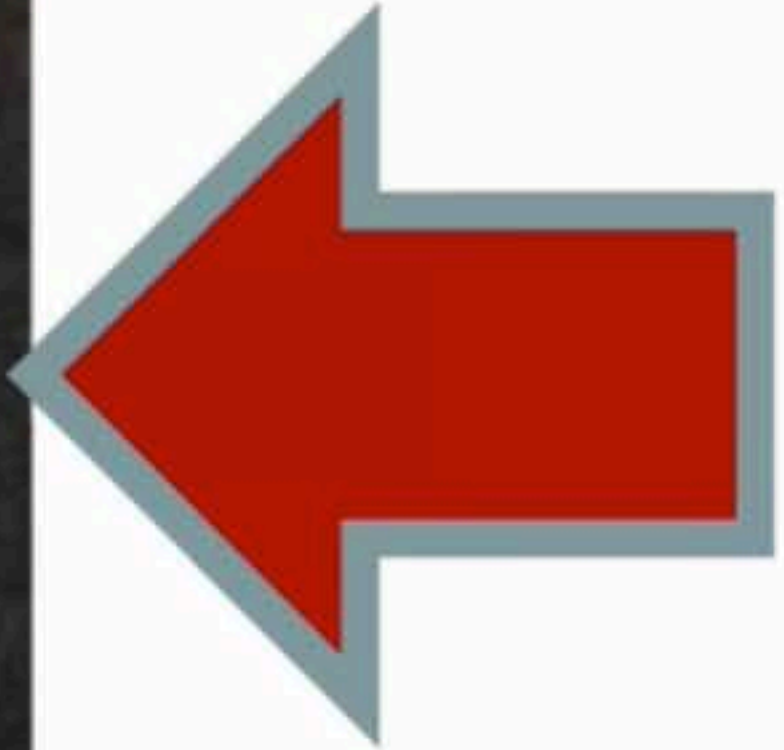
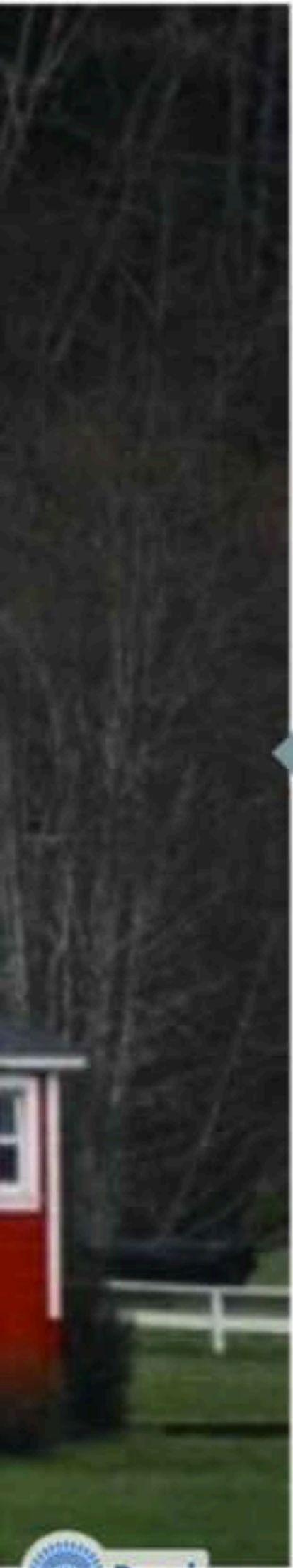


ency

CJIS WAN

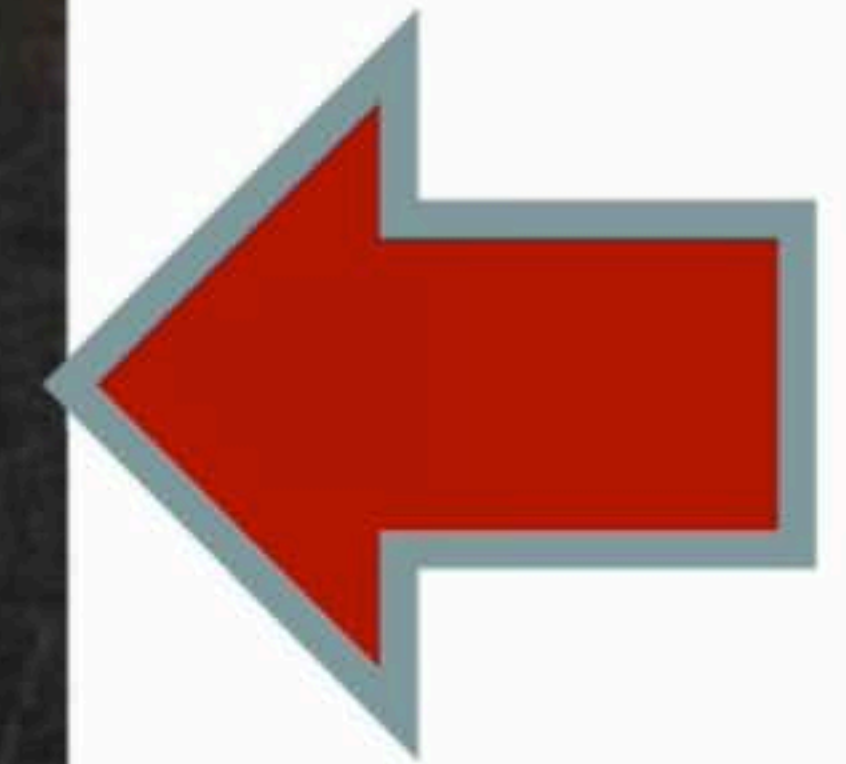


Interface Agency



Subscriber

In





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Iris Pilot & Technology Refreshment (Increments 5 & 6)

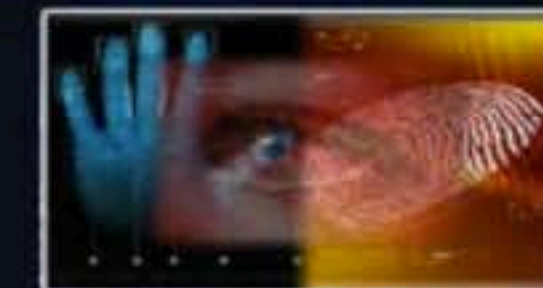


Iris Pilot

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

Technology Refreshment

- Additional system tuning to meet non-functional requirements
- Review hardware and software to ensure the deployed versions are the latest available



Iris Pilot



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Contact Information

**Federal Bureau of Investigation
Criminal Justice Information Services Division**

**Next Generation Identification Program Office
Implementation and Transition Unit**

Telephone: (304) 625-3437

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

Email NGI: FBINGI@leo.gov

