

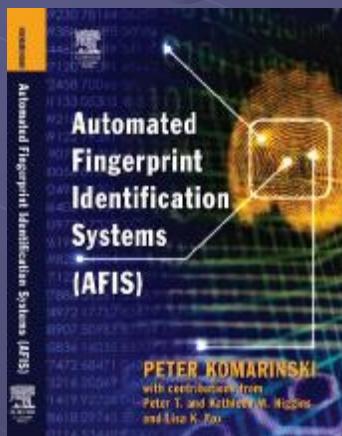
Task 7: Interoperability of Automated Fingerprint Identification Systems

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AFIS

Peter D. Komarinski

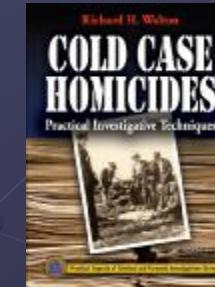
Komarinski Credentials

- Over 20 Years AFIS Experience
- Testifying Expert Witness
- Chair, AFIS Committee, International Assoc. for Identification
- AFIS Lecturer and Consultant
- Author, *Automated Fingerprint Identification Systems (AFIS)*



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Komarinski & Associates, LLC



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Interoperability of AFIS

- I. Interoperability
- II. Brief Overview of AFIS
- III. Forensic AFIS – Tenprint & Latent Print
- IV. Current Issues
- V. Recommendations

I. Definition

- DOD:

The condition achieved among communications-electronics systems or items of communications-electronics equipment when information or services can be exchanged directly and satisfactorily between them and/or their users.

Business Process Interoperability

- Wikipedia:

Business Process Interoperability (BPI) is a state that exists when a business process can meet a specific objective automatically utilizing essential human labor only.

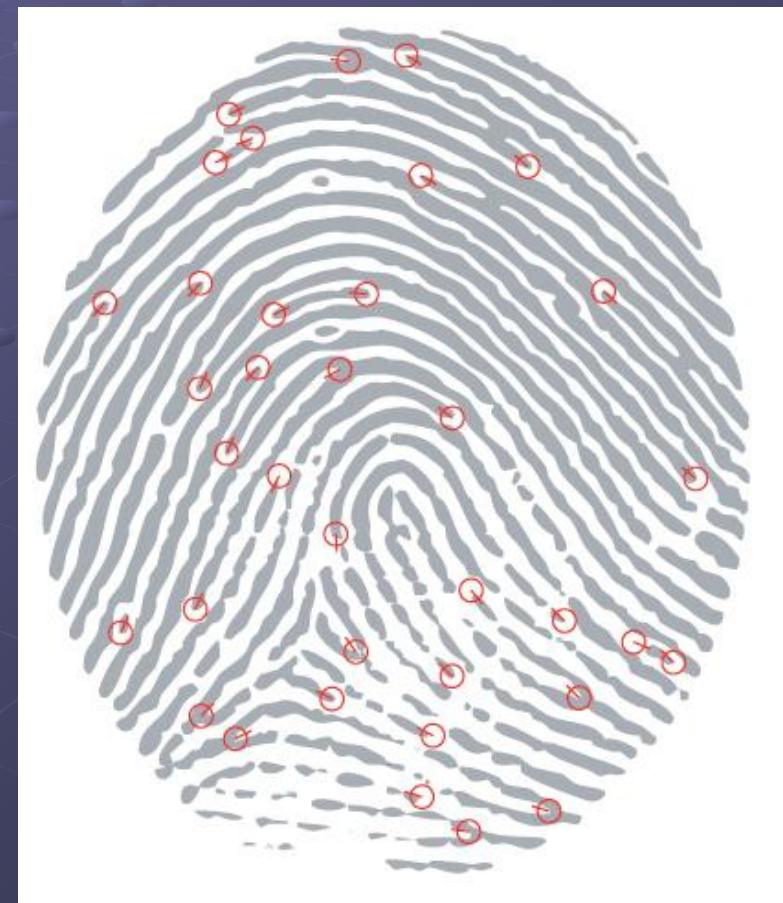
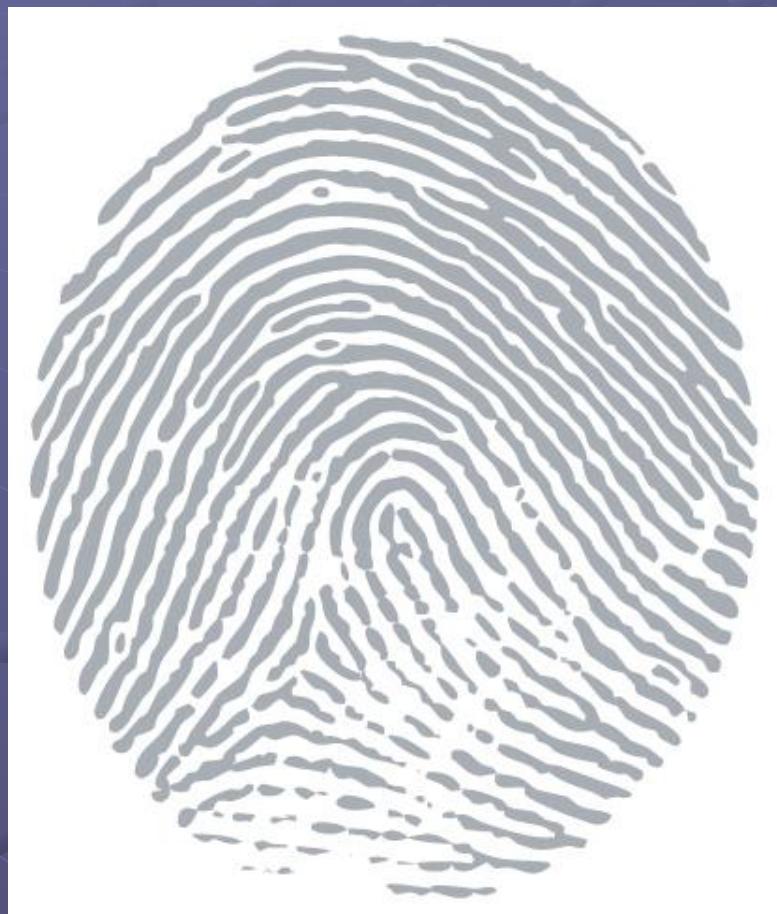
II. Brief Overview of AFIS

- Uses finger image features such as
 - ▀ Ridge endings
 - ▀ Bifurcations (“splits”)
 - ▀ Islands
 - ▀ Direction of ridge flow
- Compares these image features of print in question to image features of enrolled prints
- Sends response to inquiring agency

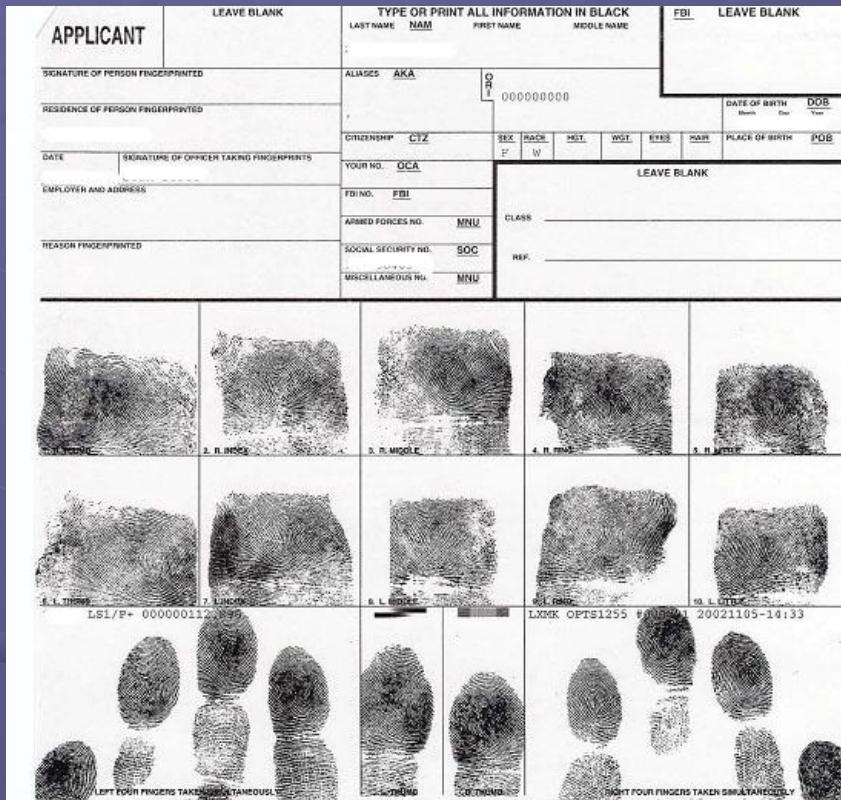
Minutiae & Ridge Flow

i.e.,

Image Features



Finger Image Sources



III. Forensic AFIS Use

- **Tenprint Applications**

- Arrest
 - Job Applications
 - Other uses (e.g., SAFE Child; Inmate reception)
 - May interface with CCH (Computerized Criminal History) to produce Rap sheet
 - Search FBI IAFIS, therefore some interoperability

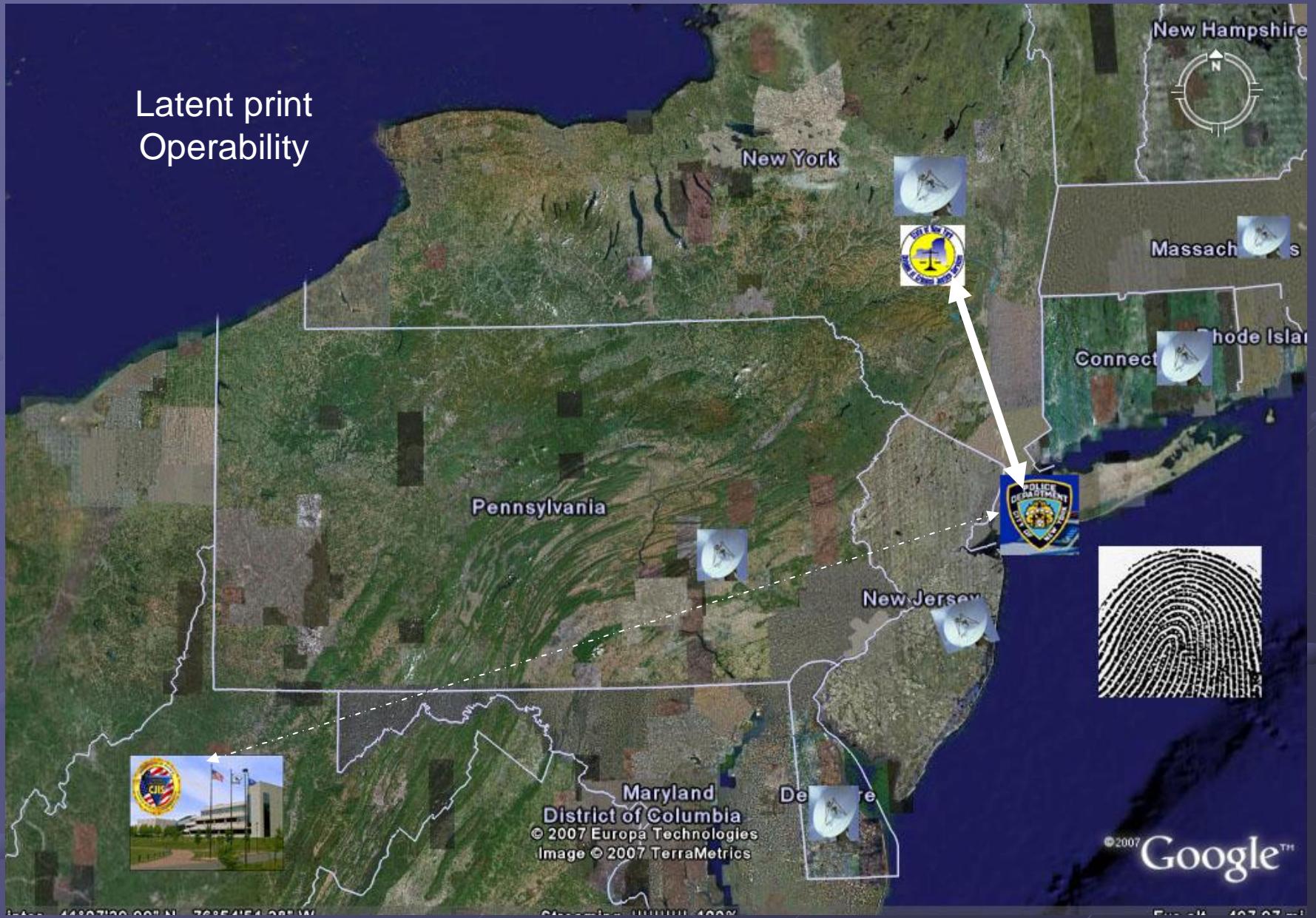
- **Latent Print Applications**

- Crime scene prints
 - Access to other databases very limited
 - Interoperability sparse

Tenprint Interoperability



Latent print Operability



IV. Current AFIS Issues

- Lack of Forensic Interoperability
- Erosion of AFIS Experienced Personnel
- Expanded Use of AFIS systems
- Current systems and practices are limited



Latent Print Interoperability Issues

Technical

Different Systems
Different Platforms

Administrative

New Procedures
Record Keeping

Funding

Revenue stream
Value of this program
over other programs

Legal

MOU's
Hold Harmless

Political

Willingness to share
Mutually beneficial

Improvements

- Fast Capture Devices
- Extended Fingerprint Feature Set
- Lights Out for Tenprint Applications
- Major Case (Palm) Prints
- Multi-modal identification
- FBI CJIS will offer multi-modal features

We Don't Know What We Don't Know

- Do not follow a business model
- Many more Idents could be made
- AFIS not fully understood by users
- No uniformity in data collection
- “We will give them what they ask for!”

V. Recommendations

- Establish a Scientific Working Group
- Improve latent print search to CJIS NGI
- Process all available records
- Provide funding to states similar to NCHIP

Recommendations

- More research in AFIS latent print area
- Create national training and certification
- Develop a business model
- Make interoperability easier

The Name of the Game is...

Idents
Idents
Idents

Richard Higgins
Chief of Identification Services (Ret.)
NYS Division of Criminal Justice Services

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Thank You !

Questions?