



# Biometric Quality Workshop

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National Institute of Standards and Technology (NIST)

Integrating Standard Biometric Quality Metrics  
within the FBI IAFIS

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# IAFIS Background

## Integrated Automated Fingerprint Identification System (IAFIS)

- Houses the largest collection of digital representations of fingerprint images, features from the digital fingerprint images, and criminal history information in the world.
- Collectively, this data comprises the biometrics, content, format, and units of measurement for the electronic exchange of information that may be used in the fingerprint identification of a subject.
- The current IAFIS was implemented in July 1999 and allows for the electronic exchange of fingerprint identification data effectively across jurisdictional lines and between dissimilar systems.

# NGI Program Background



## Current Challenge

Given the technological advances in automated fingerprint identification equipment, including hardware, software, and digital imaging, and to remain responsive to law enforcement and other customer changing business needs, it is essential that enhancements be made to the IAFIS.



## The NGI Vision

A **Multi-modal Biometric** framework within the NGI Program will provide:

- The ability to accept and store additional biometric information
- The ability to search additional biometric information independently by modality
- The study of fusion within IAFIS to combine the results of various biometric modalities



## The NGI Vision

- NGI will identify near-term opportunities for:
  - Searching of the Interstate Identification Index (III) Photo File,
  - Adopting standards to begin collecting and searching IRIS records
  - Improving and continuing the search of the Fingerprint Criminal Master File, and
  - Establishing a National Palm Print Repository



# NGI Initiatives

1. **Advanced Fingerprint Identification Technology (AFIT)**
  - Enhanced Terrorist Identification Service (ETIS)
2. **Quality Check (QC) Automation**
3. **Interstate Photo System (IPS) Enhancements**
  - (Mugshots with Scars, Marks, & Tattoos)
4. **Disposition Reporting Improvements (DRI)**
5. **Enhanced IAFIS Repository (EIR)**
  - Rap Back
6. **National Palm Print System (NPPS)**
7. ***Multimodal Biometric Framework***
8. ***Expanded Latent Services***

# Standardizing Quality Metrics



- Fingerprints
  - Train NFIQ to better reflect rolled fingerprint images
  - Provide a more meaningful metric
    - More than a metric which is passed from AFIS to AFIS (live-scan to AFIS)
    - Ensure NFIQ has meaning to major AFIS systems (IAFIS and US VISIT)
  - Tune NFIQ to process faster independent of hardware
  - Develop public reject schemas (best practices)
- Other Biometrics

Questions/Comments?



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