

# NIST ELFT-EFS Evaluation of Latent Fingerprint Technologies: Extended Feature Sets

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# ELFT-EFS Purpose

- This is an evaluation of automated latent fingerprint matching software. The purpose of this evaluation is to determine the effectiveness of human latent examiner-marked fingerprint features on latent fingerprint search accuracy, specifically with respect to the comparative accuracy of image-only searches, image+minutiae searches, and image+extended feature searches.



# ELFT-EFS Overview

- Public Challenge problem
  - Open-book test to validate formats and protocols
  - Latents are the SD27-1000 EFS markup
  - Exemplars are the SD27 (500&1000) and SD29/30 (500&1000)
  - Results are not for substantive analysis
  - Mid-April 2009 through mid-June 2009
  - Targeted NIST workshop in June 2009 to discuss lessons learned
- ELFT-EFS 1<sup>st</sup> Evaluation
  - Planned to run July-September 2009
  - Datasets will be multiple sources, each broadly representative of casework
  - Specifically to identify any near-term benefits NOT to identify long-term feasibility/accuracy
- ELFT-EFS Subsequent Evaluations
  - To identify long-term feasibility
  - Respond to lessons learned



# Issues for discussion

- Gallery
  - Size is a function of time
    - *How early can gallery enrollment start?*
  - Roll – roll & segmented slap separately -- roll & segmented slap combined
    - *Gallery will include mix of inked and livescan, so segmentation issues for rotated inked slaps*
  - 500 v 1000
    - 500ppi identifies near-term benefit; 1000ppi is long-term benefit
    - Larger 500-ppi galleries available
    - Plan: Larger tests on 500, smaller 1000 for comparison
- Features availability
  - Current SD27-EFS + ridge flow + ridge path + off-center position (left/right/tip)
- Level of features for subtests
  - Must have: Image-only, Image+Minutiae, Image+EFS
  - Additions? EFS only? Effort levels?
- Transactions
  - These are “LFFS” – but not really
    - *Should be CFRM? (Complete Friction Ridge Markup?)*
- Q&A period through 5 April

