

Technical specifications for FED Solution

The specifications mentioned below are of indicative nature, these are the minimum specification which the bidders must comply with.

FED (Finger Print Enrollment Devices)
Specifications:
Proposed FED should be fully integrated and compliant with proposed National AFIS (NAFIS)/ State AFIS system, i.e. FED should be directly operated from NAFIS/State AFIS application as well as from stand alone application provided by OEM/SI for local operation. Stand alone application includes Capturing, Ten Digit Slip printing in NCRB format, local 1: N search with facility of Capturing and printing of mug-shot taken from web camera and local database storage and retrieval of 10000 persons. The SI/OEM will develop all necessary interfaces and tools for integration with NAFIS, State AFIS. All required drivers and API will be procured by SI/OEM.
1.Platen Size:
- Single platen and single prism 3.2 * 3.0 architecture (81 mm *76 mm) uniformly illuminated capture area
2.Scanning area:
- Plain four fingers up to 3.2" x 3.0"
- Two plain thumbs up to 3.2" x 3.0"
- Rolled finger up to 1.6" x 1.6"
3.TEMPERATURE
- Operating: From +0°C to +49°C. But higher operating temperature and negative temperature operability will be preferred owing to Indian conditions
- Storage temperature 0 to 60 degree centigrade (preferred)
4.HUMIDITY
- From 10 to 90% (non-condensing)
5.WEIGHT
- Maximum 3.0 Kg .Lesser weight will be preferred
- The system should be portable for field operation with notebook computer
6.DIMENSIONS
- Smaller than 160mm x 160mm x 160mm
7.ACQUISITION FEATURES
- Optical resolution - 500ppi,
- Grey scale - 256 (0 to 255)
- Scanning time 4sec , slap 5sec with segmentation .
8.COMPUTER INTERFACE
- USB 2.0 or better.
- Preferably dual power supply along with USB 2.0 interface
9.QUALITY STANDARDS AND FORMATS
- UL Certified (for product safety) Manufacturer or OEM will be preferred

- ISO 19794-4 : 2005 Section 7 and Annex A certification requirements (IAFIS Appendix F certified). (for storing, recording and transmitting biometrics data) preferred -2 for FP minutiae,
- FBI IAFIS IQS CJIS-RS-0010 (V7) Appendix F compliance ANSI/NIST-ITL 1-2011
- ISO/IEC FCD 19794-4
- ANSI/NIST-ITL 1-2000 or latest Interpol Implementation.
- BioAPI 2.0 (Biometrics Application Programming Interface) or latest preferred
10.DEVICE/ ACQUISITION QUALITY CHECK
- Calibration and Diagnostic Test: factory calibrated and sealed with self test / diagnostic at device start up
- The system should be able to notify regarding the quality of acquiring FPs prior to the capturing of next acquisition.
11.AUTO CAPTURE
- Sensing of slap/single finger placement on the scanner and auto capture of prints before going to next acquisition.
12.SLAP SEGMENTATION/ AUTOMATIC SEQUENCE CHECKING AND CORRECTION:
- Real time and display Automatic segmentation of four- slap and two thumbs fingerprint images in single flat images. Real time display of slap segmentation on acquisition screen. Slanted slaps should be automatically segmented
- System should be able to spot sequence error and should be able to place wrong sequence to correct sequence in 10 digits slip.
- Slap segmentation algorithm should comply with the NIST Standards.
13.ELIMINATION OF LATENT/GHOST PRINTS
- Elimination of latent/ghost prints originated from recent/past scans. This is most important for operating under Indian condition as platen always contains the ghost or latent print.
14.ROLLED FINGERPRINT CAPTURING
- Display in real-time, self-adaptive to rolling speed and directions, seamless composite image generation, automatic stop detection and acquisition.
15.IMAGE QUALITY CHECKING
- Dynamic estimation and notification of fingerprint image quality during scanning process; NISTIR7151 compliant
- Real time Quality check and notification of acquiring FP: Quality check such as nail to nail rolling, smudging, non correct placement, poor quality acquisition etc
- Detects deformations of fingerprints due to sliding during acquisition.
- Highest quality image selection during flat fingerprints scanning.
16.IMAGE COMPRESSION
- WSQ Compression - FBI certified software/algorithm to compress the fingerprint images.
- JPEG2000 Compression for Mug-Shots
17.CONNECTIVITY
- Should be able to connect NAFIS and State AFIS system through CCTNS WAN system/ SWAN and existing GSM/CDMA network when operating with notebook or handheld devices

<ul style="list-style-type: none"> - The Application software should have Remote Biometric Data Submission Module for submitting captured Fingerprints, Mug-Shots & Demographic data to the Central Data Center (NCRB). 	
18.MUG-SHOT CAPTURING	
System should capture mug shot (JPG 2000 compliant) of the subject, front , left and right. Should be compatible with Face recognition system. Face Acquisition through Minimum 2MP(not greater than 4MP) web Camera,	
19.GENERAL FEATURES:	
<ul style="list-style-type: none"> - The FED and associated software should have capability to configure in all official languages of State/UT in India 	
<ul style="list-style-type: none"> - Should have capability of producing and accurately printing ten digit and plain FP slip with mug shot and other demographic data. 	
<ul style="list-style-type: none"> - Option for marking amputated and bandaged /webbed fingers, it should reflect in the printout of 10 digit slips 	
<ul style="list-style-type: none"> - The application software should have capability to perform search on single finger in local database (this will help to build local data base of active criminals) , the size of local database should be at least 10000 criminals (ten FP data along with demographic details inclusive of Mug-Shots) 	
<ul style="list-style-type: none"> - Option for deletion of record by administrator only but record should remain archived in main database. 	
<ul style="list-style-type: none"> - The system should have biometric user access management module, application login and database level for authorized usage 	
<ul style="list-style-type: none"> - System should have facility to archive up to 20 slips if duplicate slip is found. 	
<ul style="list-style-type: none"> - Various types of customized reports as per NCRB requirements, such as daily activity reports, local data report, searches based on crime types etc. 	
<ul style="list-style-type: none"> - Should have mechanism to capture FP in all weather and all types (dry and Wet) 	
<ul style="list-style-type: none"> - Should have power and acquisition status indicator on the device. 	
<ul style="list-style-type: none"> - Should have mounting bracket for fixing on table top (preferred) 	
20.Operating system	-
Windows and Linux Latest version	