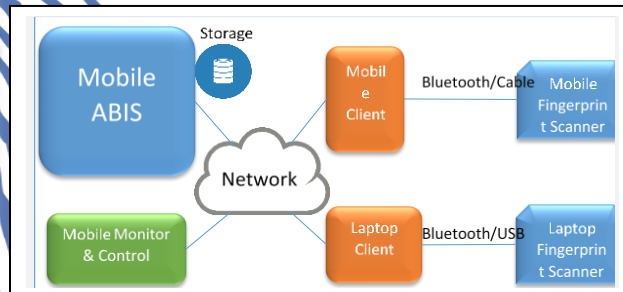# The Road-Runner SMUFS-BIOMETRIC SERVER



The SMUFS Mobile Biometric System Mobile Automated Biometric Identification Server (ABIS)

- Biometric Fingerprint & Face modalities
- Use of existing mobile phones and SMUFS fingerprint scanners (Android/iPhone/Windows)
- Separate/Integral storage for demographic data according to regulation requirements
- Server Monitoring & Control Tablet
- Simple, easy and fast setup
- Closed Wi-Fi network (Internet connectivity is optional, not mandatory)
- High performance (speed, accuracy)
- Usages:
  - Biometric Data Collection Population enrollment
  - De-duplication
  - Biometric functions: Enrollment/Registration, 1:1 Verification, 1:M Identification
- Applications:
  - Voting
  - Goods, money and medicine distribution
  - Time & Attendance
  - Research
- High capacity – up to 4 million users
- Data Security (in transit and in storage)

The Mobile ABIS manages biometric identities using face and/or fingerprints. In some cases, such as regulatory requirement, demographic information is stored in an external storage. The Mobile ABIS is monitored and controlled using a Mobile Monitor & Control Tablet.

The mobile clients communicate through the network with the ABIS to perform registration, identification and verification of users. Each user record contains up to 10 fingerprints, face image and demographic information (e.g. Name, Gender, Age, Address etc.).

The following sections describe in more detail each component.

Mobility is achieved by using small-factor yet powerful hardware platform that weights 3Kg and can be carried easily. The ABIS provides full-scale biometric functionality with high performance of both accuracy and speed.

The Linux platform running the ABIS provides secure, stable and maximum utilization of resources.

Main Biometric Capabilities:

- Unique Token Identifier per Individual's entity
- Each Individual's entity holds 1 to 10 fingerprints
- WSQ Fingerprint image format
- JPG/BMP Face image format
- Supports the finger position
- Stores raw WSQ images with a history for Insert/Enroll
- Self-improving by updating the template after every successful match.

The Interface for Biometric services uses standard Web-Service (SOAP 1.1), which is interoperable over all OS (Windows, Linux, Android, iOS) for performing all required actions, specifically, the retrieval of administrative information and the provision for the functionality exposed through the following Web-Services:

- Quality Check – based on the configured threshold, this functionality determines if the fingerprint image and/or face image (i) is extractible and (ii) the quality is sufficient.
- Biometric Actions – provide a full set of Biometric actions, specifically – Insert, Verify, Identify, Update and Delete. The Interface supports, where applicable, 1 to 10 fingerprints (WSQ format).
- Administration – provides the system performance information and logs.