Hi All,

Sharing notes from today’s discussion with GoM/PwC.

Please add/update as required.

**(I) Action items**:

*Mindtree*:

1. FP SDK - Mindtree to evaluate SDK (If it provides only image quality) and the finger print sample provided by CNIE System, post receipt of sample finger print format from GoM/PwC - Shravan
2. Share the WiKi page with CBEFF standards for biometric data exchange – Shravan/Shrikant (Sent to Mr. Nanawati by Shrikant)
3. Integration of SDK for *Registration Client, Registration Processor, Authentication* - Share OS wrapper specs/requirement as expected from BSP - Shravan
4. Mindtree to provide list of privileges and SI can add on as required - Resham
5. *MOSIP to support SI with*:
   1. Overall authentication workflow during SI onboarding in Feb’19
   2. Integration of SDK with Auth Server
   3. Implementing downloadable Registration Client Software
6. *Testing Environment* - MOSIP to provide environment to support testing by SI
7. *VDM Specifications* – MOSIP to provide the specification to GoM along with list of compatible devices (Post tech board review) – Shravan
8. *Go-live at 5 Pilot Locations*: - Romila
   1. Team to be identified along with checklist for roll-out in 5 pilot locations
9. *Testing Environment*:
   1. End to End testing to be carried out by SI
   2. MOSIP to support from platform perspective
   3. MOSIP to provide test scripts/cases for SI to test
   4. MOSIP to provide performance test benchmarks (Integrated with ABIS provided by GoM)
10. *De-scoped Requirements*:
    1. *Manual Adjudication*:
       1. MOSIP will provide the required demographic and biometric data to be consumed by BSP
       2. User Interface for manual adjudication will be provided by Biometrics Service Provider (BSP) and can be de-scoped to v2 of MOSIP
11. *New Requirements*:
    1. *Reporting*: MOSIP to run a periodical check on Update Packets received to update “Status” – To verify if transactions have been carried out post reporting of UIN for death/de-activation
       1. Report to be drawn on the same
    2. *Lost UIN*:
       1. Mindtree to evaluate if MOSIP design accommodates an elevated user within the MOSIP eco-system to view data of a UIN holder?
       2. This will help facilitate usage of this API by internal users to ease the process of retrieving Lost UIN online, without biometrics
       3. It is recommended not to expose the Lost UIN feature on a public portal
    3. *Virus Scan of Registration Client Software* – To be included, considering usage of Windows OS by GoM (Even though within Govt. Network)
    4. *Virus Scan of each Registration packet in Registration Client Software (prior to packet upload)* - To be included, considering usage of Windows OS by GoM (Even though within Govt. Network)
    5. Additional eKYC API for authentication by an authorized agency:
       1. GoM will require an additional API
       2. MOSIP to provide an additional API to fetch specific data of an individual based on UIN number (Evaluate security aspect, as linking of HoF and maintenance of family relationship will be required as a security imperative) and send to Social Protection Data System
       3. MOSIP to provide a mechanism to record the consent of HoF
       4. This is required to accommodate Household Program of GoM
12. *Change in Requirements*:
    1. *Approach of Authentication by AUA vide TSP (ASA*):
       1. User Agency (AUA) to sign and send request for authentication to TSP (ASA)
       2. TSP (ASA) to perform network authentication of source of data (Could be VPN/SSL checks)
       3. If ok, ASA to sign the packet > Transmit to MOSIP system
       4. MOSIP to perform check on authenticity of TSP signature and honor auth request accordingly
    2. *Use of ISILON Hadoop in RNP System*:
       1. MOSIP to incorporate usage of ISILON/HDFS
       2. Implication on testing to be evaluated

*GoM/PwC*:

1. Dependencies as listed below under “Points Concluded” (For Devices and SDK, ABIS and CNIE Integration), to be provided as per agreed concluded dates
2. Share sample Finger Print format extracted from CNIE System
   1. Check with SI if SDK supports Java
3. Guidelines of Registration Centre: For Face Capture, device to adhere to ISO standards
4. Share workflow for activation/de-activation of UIN and/or biometrics for authentication
5. Provide the Org structure (Users hierarchy)
6. Check with Biometrics Service Provider if wrapper requirements are met, based on specs provided by Mindtree (Check if SDK is available in JAVA/Linux)
7. *Go-live at 5 Pilot Locations*:
   1. 5 pilot locations to be identified
   2. SI to provide plan around the pilot deployments
8. *Tools and Technologies*:
   1. GoM/PwC to provide Bill of Materials
9. *Integration Requirements*:
   1. GoM/SI to provide specifics/document on CNIE, EC, Foreign Registry, print and postal integration
10. *Testing Environment*:
    1. End to End testing to be carried out by SI
    2. MOSIP to support from platform perspective
    3. MOSIP to provide test scripts/cases for SI to test above it
    4. GoM to engage with SI to evaluate which environment (SI vs. MOSIP) can be utilized for end to end lifecycle testing (MOSIP platform, SI applications and BSP application/interface)
    5. Decision to be based on data privacy (Data flowing outside Country for testing)

**(II) Points Concluded:**

1. *Dependencies*:
   1. Devices and SDK – Will be provided by GoM/PwC by Jan’19
   2. ABIS – Will be provided by GoM/PwC by Feb’19
   3. CNIE Integration requirements – Will be provided by GoM/PwC by Jan’19
      1. Request / Response format of CNIE API (API Specs)
      2. Data points on number of times MOSIP should call CNIE
      3. Format of data sent from CNIE to MOSIP – Photo, Finger Print
      4. Sample CNIE Correction Packet to be provided
      5. Flow chart of interaction between CNIE and MOSIP for *New Registration*
      6. Flow chart of interaction between CNIE and MOSIP for *Registration Update*
      7. Flow chart of interaction between EC and MOSIP for *New Registration of Child with EC vs. Manual Registration Number*
      8. Flow chart of interaction between Foreign Registry and MOSIP for *New Registration*
      9. Flow chart of interaction between Foreign Registry and MOSIP for *Registration Update*
2. *Walk-through of monthly deliverables (From Mindtree to GoM)*:
   1. MOSIP to consider onset of Knowledge Training a month earlier, Jun’19-Jul’19
   2. 4 months for customization by SI (vs. 3 months), post KT
   3. Expected SI onboarding – 10/12Feb’19
   4. Timelines would be revisited and optimized post onboarding of SI
3. *CNIE*:
   1. CNIE and EC integration requirements
   2. Recommend a staggered approach for Finger Prints (FP):
      1. FP quality can be evaluated in stage 1
      2. FP Integration can be looked into in stage 2
   3. Mindtree to verify what quality does SDK provide – Image quality?
4. *Biometrics Issues*:
   1. It is a Security imperative for MOSIP to carry out quality check of biometrics in IDMS as well as Registration Client
      1. The SDK used in *Registration Client* (For all relevant biometrics) will be utilized in *Registration Processor*
      2. SI to ensure the SDK should be capable of evaluating quality
   2. Finger Print format provided by SDK will be a raw image in ISO format
      1. Only two index fingers will be captured, one image per finger
   3. Biometric data exchange between *Registration Processor* and ABIS will be in ISO format within CBEFF packaging
   4. In case of registration for newborns, MOSIP should perform 1:1 match of Iris of associated adult – If match successful, then issue UIN for newborn
      1. The same should apply for Update workflow as well – Perform 1:1 match of Iris of associated adult
      2. In case of biometrics update of an independent individual (adult) – Perform 1:1 match of biometric with previous record
      3. Adopting Country can choose to allow demographic data updates with OTP and/or biometrics
5. *Authentication*:
   1. GoM will require an additional API to carry out individual eKYC by an authorized agency:
      1. MOSIP to provide an additional API to fetch specific data of an individual based on UIN number (Evaluate security aspect, as linking of HoF and maintenance of family relationship will be required as a security imperative) and send to Social Protection Data System
      2. MOSIP to provide a mechanism to record the consent of HoF
      3. This is required to accommodate Household Program of GoM
   2. Expected Structure of Resident Store (ID-Repository):
      1. Finger Print – Raw compressed images (As provided by CNIE)
      2. Iris/Face – Images
   3. Quality check of biometrics captured should be performed by Registration Client, at the time of capture
   4. MOSIP to guide SI with overall authentication workflow during SI onboarding in Feb’19
   5. MOSIP to support SI with integration of SDK with Auth Server
6. *Registration Process*:
   1. *USB bootable dongle vs downloadable software:* *(RNP preference for downloadable facility)*
      1. It is a Security imperative for MOSIP to support dongle vs downloadable software
      2. Download of software onto the dongle will take place in a secure trusted environment. If GoM prefers to download software, the SI can implement the same and MOSIP can provide required support
      3. In case of loss, the dongle ID can be reported for loss
   2. *Registration Officer login without biometrics*:
      1. This can be achieved through configurability
      2. MOSIP as a platform provides the following options: OTP (Online dependency), UN/PW, Finger Print, Iris, Face, multi-factor
      3. SDK for face/Iris will require an additional SDK to extract biometric along with performing 1:1 match for authentication
      4. MOSIP recommends biometrics and/or OTP as a mode of login to ensure traceability
   3. *Registration packet signing and encryption*:
      1. Closure of each registration will require signing by the Registration Officer – Finger Print/Iris/Face/Password
      2. This is configurable and the preferred option can be chosen by the adopting Country
   4. *Device Management*:
      1. *Registration Devices*: Devices with serial numbers (Within limited device make and models) can be registered by an authorized user (Admin) to whitelist/blacklist registration devices, in the centralized admin portal provided by MOSIP
         1. Devices can further be mapped to the CSC (Registration Center), by an authorized user
      2. *Authentication Devices*: Devices with serial numbers (Within limited device make and models) can be registered by an authorized user (Admin) to whitelist/blacklist devices, in the centralized admin portal provided by MOSIP
         1. This includes Iris and Finger Print capture devices, which bear device IDs
         2. Authentication by resident is not provided/recommended by MOSIP
   5. *Partner and User Management*:
      1. TSP Registration (Govt. Departments > Ministry of Interiors and Govt. User Agencies) – Can be done on admin portal
      2. User and role management can be achieved using LDAP
      3. SI will create TSP onboarding documentation/manual
      4. TSP rights for eKYC should be driven by the privileges defined (License based)
7. *Record deactivation on registration of death of resident, the resident’s record should be marked as deactivated:*
   1. External system should send an Update packet (With supporting data as required) indicating an update to the *Status* of UIN, with an authorized signature
   2. MOSIP will receive the Update packet > Authenticate the associated signature > Update the “Status” attribute as required
   3. This can be done through the data enrichment integration to be carried out by the SI
8. *UIN De-activation for authentication*:
   1. MOSIP will provide APIs which can be consumed to lock biometrics/KYC data sharing for authentication
   2. API to lock UIN for authentication is not considered
   3. Development of Resident Services Portal to be carried out by the SI
9. *UIN Re-activation for authentication*:
   1. This has not been considered as part of MOSIP v1.0
10. *Lost RID*:
    1. This feature has not been considered considering Security.
    2. In case of Lost RID, the individual should contact the CSC > Report loss > Re-register > Retrieve UIN (Instead of RID)
11. *Other Processes as below*: Refer meeting notes of conference call on 12-Dec-18 (As attached)
    1. Number Generator, CINE validation Process, EC validation process, HSM usage, Registration of  authentication devices, etc.
    2. Number Generator:
       1. UIN generator will comprise of generation logic based on specific business rules
       2. This generator will not be part of IDMS, but technically placed outside IDMS
       3. MOSIP will expose an interface to be consumed by external systems for generation of UIN numbers
       4. The UIN already in use will not be reused
       5. SI should port the existing numbers in use, to MOSIP generator
       6. Integration of EC with UIN Generator to be carried out by SI
12. *SDK supply and integration approach*:
    1. SDK for *Registration Client, Registration Processor, Authentication* - Refer action items
    2. *Integration Aspects*:
       1. MOSIP to facilitate integration with CNIE System, EC System, Foreign Registry System, Print System and Postal System
       2. *ABIS*:
          1. If demographic dedupe fails, 1:1 match can be performed by ABIS or SDK, as required
          2. GoM prefers to call ABIS in this case
       3. *Manual Adjudication*:
          1. This will be staged after biometric deduplication failure
          2. This will be provided by ABIS provider and can be de-scoped to v2 of MOSIP
       4. *Testing Environment*:
          1. Refer action items
       5. *VDM specifications and integration with Registration Client Software*:
          1. This is done and will be shared with GoM post internal review
13. *Use of ISILON Hadoop in RNP System*:
    1. MOSIP to incorporate usage of ISILON/HDFS
14. *Identification of 5 Pilot location in RABAT*:
    1. Team to be identified along with checklist for roll-out in 5 pilot locations
    2. Locations to be identified
    3. It is recommended to be carried out sequentially in first three locations > Parallely in location four and five to test concurrent registrations
    4. This is estimated to be in Nov’19 and should include the complete lifecycle including authentication
    5. SI to carry out impact assessment
    6. Ticketing system/JIRA can be used to capture issues reported on-field
15. *Tools and Technologies*:
    1. Refer action items
16. *Strategic Decisions*:
    1. MOSIP will attempt to provide monthly report on progress

Thanks & regards,

Resham Chugani

Business Analyst