

CamDigiKey - Integration

CamDX Team

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Digital Identity

Information that system can use to identify external agents such as users, organizations.

Way to identify:

1. Knowledge base: email, username, etc..
2. Key token base: USB key token, smart card
3. Biometric base: face, iris, palm



Problems

**Many accounts with
the same person can
be created**

**Hard to remember each
account credential**



**Use third party to store
those credential**

**Lack of integrity,
unable to identify real
person in digital world**

Solution

CamDigiKey is a E-KYC service provider focusing on convenience and security for users:

- ❖ Integrate with biometric data to user's identity
- ❖ Ensure only one account per person
- ❖ Don't need to remember credential



Features



Liveness Detection

AI Face
Processing



Machine Readable Zone

ID Card or Passport
Scan



Deeplink

App to App
integration

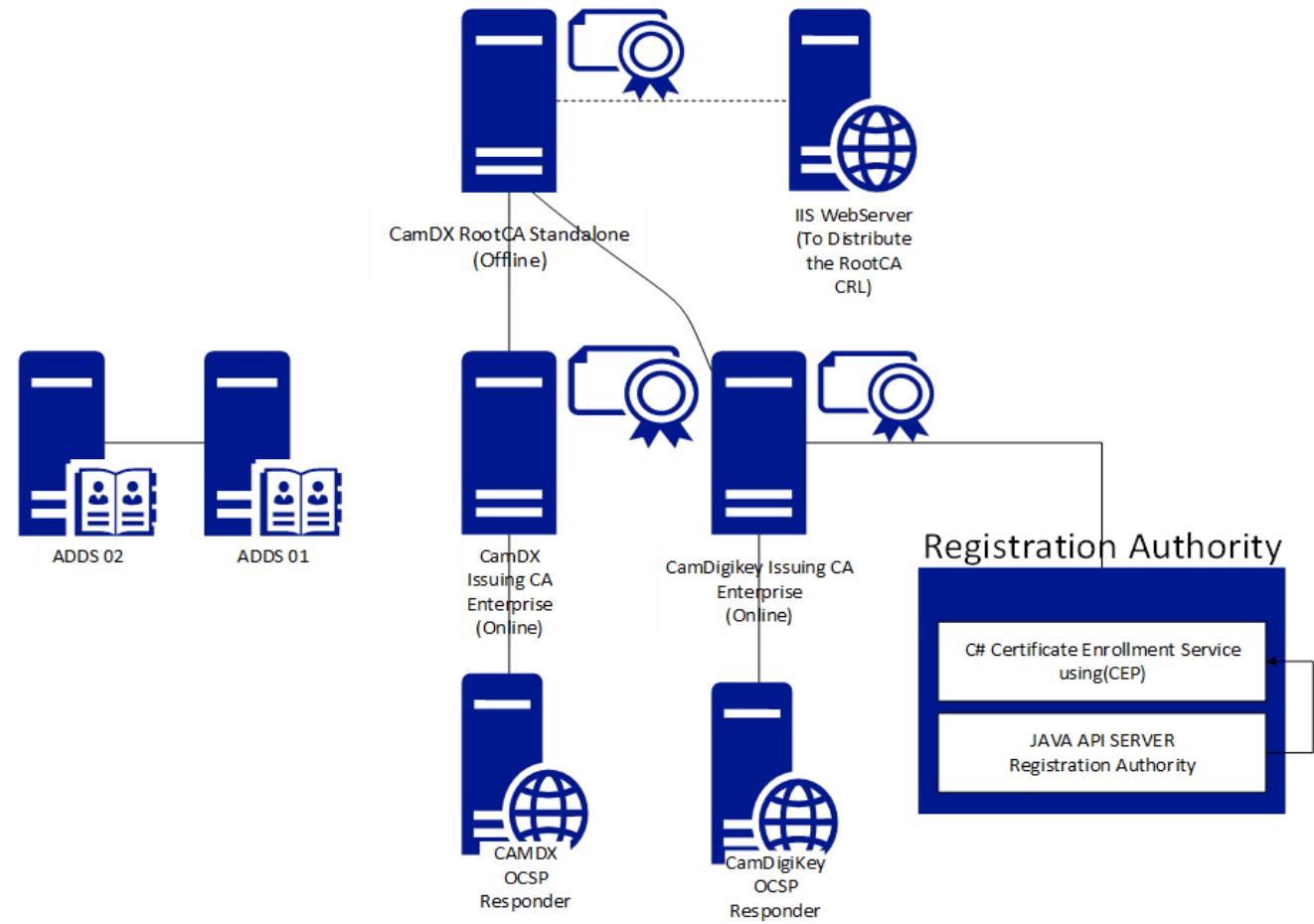


OAuth 2.0

Web to Web
integration

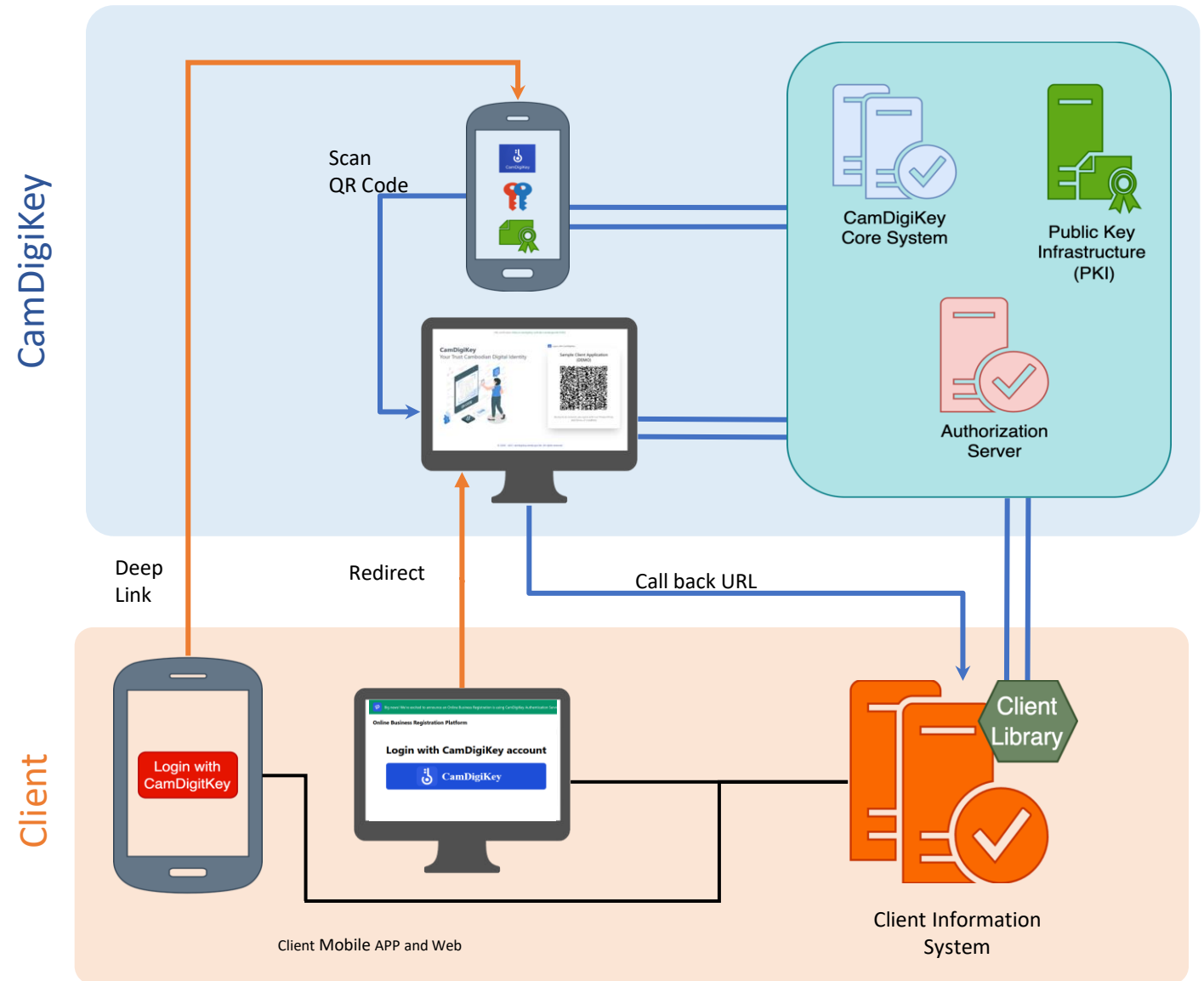
Public Key Infrastructure (PKI)

- ❖ CamDX CA generates certificate for CamDX participants.
- ❖ CamDigiKey CA generates digital certificate for CamDigiKey users.



Overall Structure

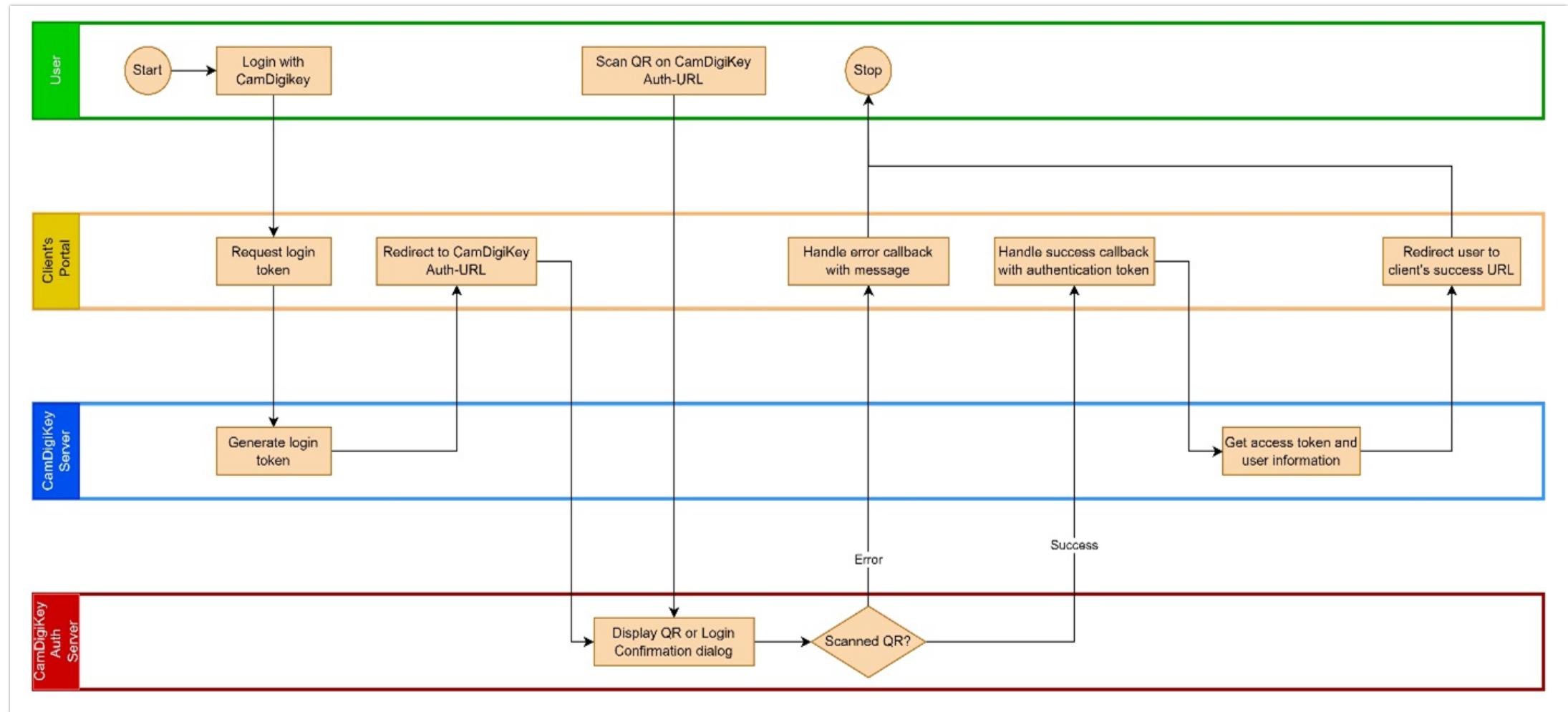
- ❖ CamDigiKey provides:
 - ❖ CamDigiKey mobile app for user authentication
 - ❖ Authentication service
- ❖ Client:
 - ❖ Connects to CamDigiKey mobile app via deeplink
 - ❖ Client web connects to authentication service via Oauth 2.0
 - ❖ Integrate with CamDigiKey client library



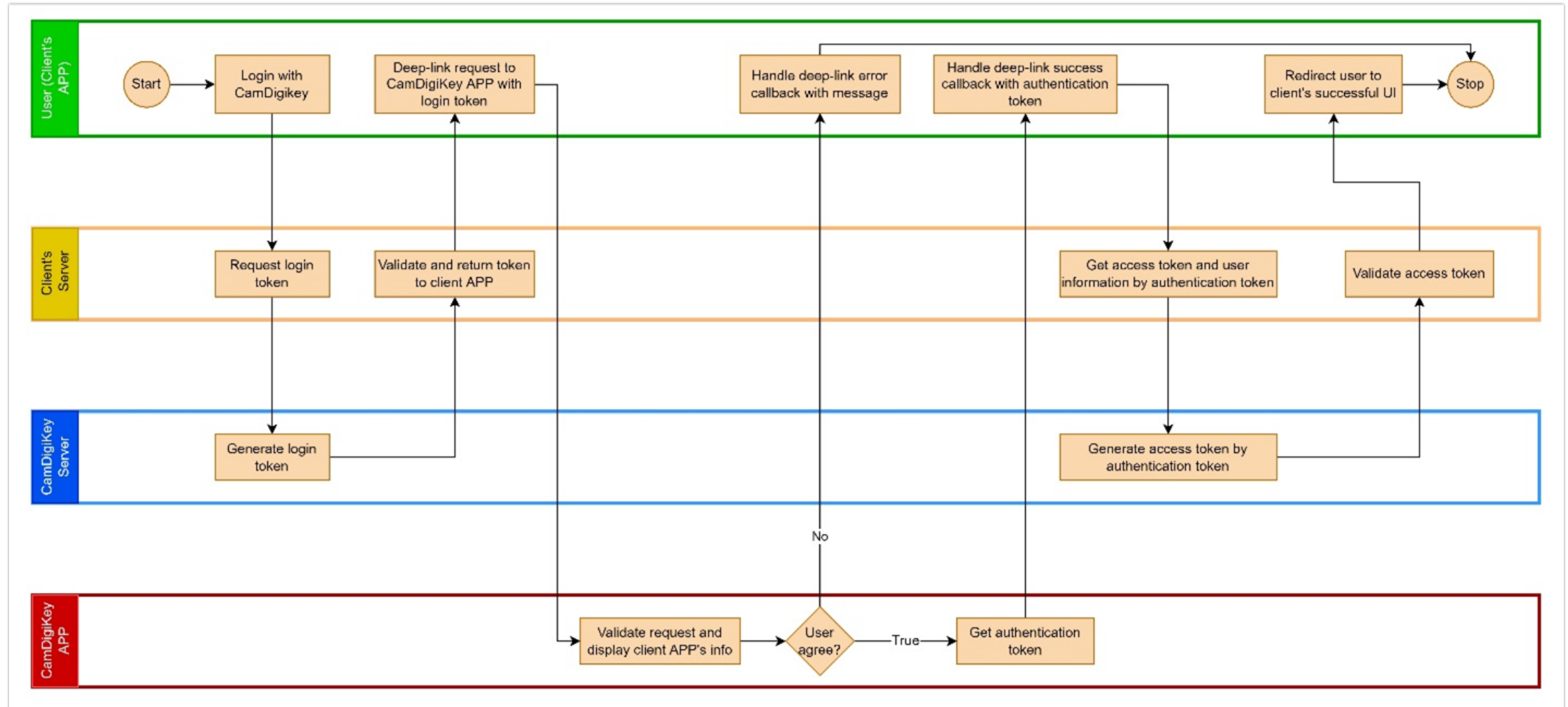
Integration - Requirement

- ❖ To register with CamDigiKey, client needs to provide information to create an account:
 - ❖ Organization info
 - ❖ Web info
 - ❖ Android app info
 - ❖ IOS app info
- ❖ When account is approved, client will get credential information for integration with client library:
 - ❖ Domain
 - ❖ Client ID
 - ❖ Keys

Integration - Web

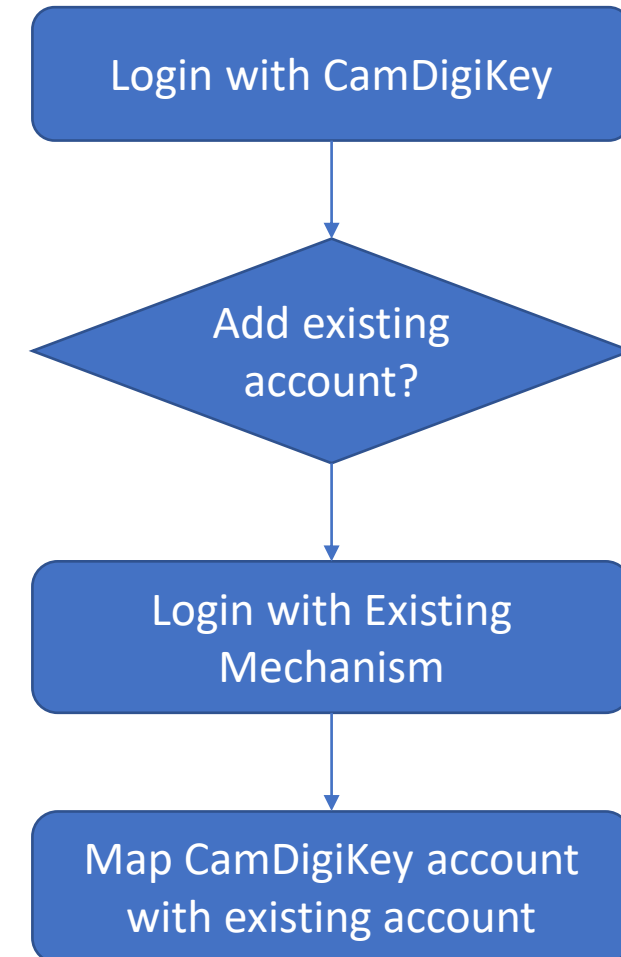


Integration - Mobile



Integration - Step by Step Data Mapping

1. Apply to existing system only.
2. Integrate with CamDigiKey authentication.
3. Provides user account mapping tool to map current account logged in with CamDigiKey and account logged in with existing mechanism.



Integration – KYC Verification APIs

Verify user info with data from MOI	
End Point	/api/2.0/kyc/info
Method	POST
Format	JSON
Request	<pre>{ "idNumber" : "id_number", "firstNameKh" : "first_name_kh", "lastNameKh" : "last_name_kh", "firstNameEn" : "first_name_en", "lastNameEn" : "last_name_en", "gender" : "M_or_F", "dob" : "yyyy-MM-dd", "issuedDate" : "yyyy-MM-dd", "expiredDate" : "yyyy-MM-dd" }</pre>
Response	<pre>{ "error": 0, "message": "Successfully", "data": { "idNumber": "id_number", "score": 1, #Range [0,1] "incorrectFields": [requested_fields_or_empty] } }</pre>

Integration – KYC Verification APIs



Verify user info and user's face with data from MOI	
End Point	/api/2.0/kyc/info-face
Method	POST
Format	JSON
Request	<pre>{ "userInfo" : { "idNumber" : "id_number", "firstNameKh" : "first_name_kh", "lastNameKh" : "last_name_kh", "firstNameEn" : "first_name_en", "lastNameEn" : "last_name_en", "gender" : "M_or_F", "dob" : "yyyy-MM-dd", "issuedDate" : "yyyy-MM-dd", "expiredDate" : "yyyy-MM-dd" }, "faceImg" : "base_64_content" }</pre>
Response	<pre>{ "error": 0, "message": "Successfully", "data": { "userInfo": { "idNumber": "id-card-number", "score": 1, #Range [0,1] "incorrectFields": [] }, "faceMoiScore": 0.9792682 # Range [0,1] } }</pre>

Integration – KYC Verification APIs

Verify user info, face on ID card, and MOI data	
End Point	/api/2.0/kyc/info-face-idcard
Method	POST
Format	JSON
Request	<pre>{ "userInfo" : { "idNumber" : "id_number", "firstNameKh" : "first_name_kh", "lastNameKh" : "last_name_kh", "firstNameEn" : "first_name_en", "lastNameEn" : "last_name_en", "gender" : "M_or_F", "dob" : "yyyy-MM-dd", "issuedDate" : "yyyy-MM-dd", "expiredDate" : "yyyy-MM-dd" }, "faceImg" : "base_64_content", "idImage" : "base_64_content" }</pre>
Response	<pre>{ "error": 0, "message": "Successfully", "data": { "userInfo": { "idNumber": "id_number", "score": 1, #Range[0,1] "incorrectFields": [] }, "faceDocumentScore": 0.9457877, #Range[0,1] "faceMoiScore": 0.9792682 #Range[0,1] } }</pre>

Integration – KYC Verification APIs

Verify user info, ID card image, liveness video with MOI data

End Point /api/2.0/kyc/info-idcard-liveness

Method POST

Format JSON

Request

```
{
  "userInfo" : {
    "idNumber" : "id_number",
    "firstNameKh" : "first_name_kh",
    "lastNameKh" : "last_name_kh",
    "firstNameEn" : "first_name_en",
    "lastNameEn" : "last_name_en",
    "gender" : "M_or_F",
    "dob" : "yyyy-MM-dd",
    "issuedDate" : "yyyy-MM-dd",
    "expiredDate" : "yyyy-MM-dd"
  },
  "idImage" : "base_64_content",
  "liveness" : "base_64_content"
}
```

Response

```
{
  "error": 0,
  "message": "Successfully",
  "data": {
    "userInfo": {
      "idNumber": "010682723",
      "score": 1,
      "incorrectFields": []
    },
    "livenessScore": 0.9248705,
    "faceDocumentScore": 0.94440883,
    "faceMoiScore": 0.9769943
  }
}
```



Integration – KYC Verification APIs

Extract user information from ID card image	
End Point	/api/2.0/kyc/ocr-idcard
Method	POST
Format	JSON
Request	<pre>{ "idImage" : "base_64_content" }</pre>
Response	<pre>{ "error": 0, "message": "Successfully", "data": { "idNumber" : "id_number", "firstNameKh" : "first_name_kh", "lastNameKh" : "last_name_kh", "firstNameEn" : "first_name_en", "lastNameEn" : "last_name_en", "gender" : "M_or_F", "dob" : "yyyy-MM-dd", "issuedDate" : "yyyy-MM-dd", "expiredDate" : "yyyy-MM-dd", "MRZ1" : "String", "MRZ2" : "String", "MRZ3" : "String", } }</pre>

Integration - Documents

- ❖ Client library (Java)
- ❖ CamDigikey 2.0.0 app (DEV)
- ❖ Demo Open KYC API server: <http://165.22.104.17:8444>
- ❖ Documents:
 - ❖ CamDigiKey client library document
 - ❖ Mobile integration (deep-link) document

Visit us: <https://camdx.gov.kh/#camdigikey>

Email us: camdx-info@techostartup.center

THANKS

ANY QUESTIONS?

CamDX
camdx@mef.gov.kh