Status and Development of Online Authentication Applications for Public Services in Taiwan

Wei-Chung Hwang, Deputy General Director, Deputy General Director, Institute for Information Industry
Karen Chang, Vice President, Egis Technology
Shally Lu, Institute for Information Industry

Jun 2019
Overall PKI Infrastructure & Applications

Government Sector

- GRCA 2002/10
- XCA 2004/3
- GCA 2003/3
- MOICA 2003/5
- MOEACA 2003/8
- HCA 2008/8
- DOH

Financial Applications

- FRCA 2002/4
- FPCA
- CA Companies
- Bankers Association
- Other CAs
- CA Companies

Government Applications

- GECSC
- RDEC
- GTestCA 2003/3
- RDEC
- XCA 2004/3
- RDEC
- GCA 2003/3
- RDEC
- MOICA 2003/5
- MOI
- MOEACA 2003/8
- MOEA
- HCA 2008/8
- DOH

Financial Applications

- PMA
- FUCA #1
- FUCA #2
- CA Companies
- Government Applications

Private Sector

- RDEC
- Government
- Financial
- B2B
- B2C
- CA Companies

Enterprise Applications

- CA Companies
- Other CAs
- Bankers Association

RDEC MOI MOEA

Bankers

Association

CA Companies

Government

Financial

Enterprise

Applications

© 2019 Egis Technology Inc.
Online Authentication & Identification Services in Taiwan

☞ Citizen Service
☞ Health Bank
☞ Labor Services
☞ Tax Filing, e-Invoice
☞ ...

☞ TBD: Decentralized Identification & Applications (e.g. Blockchain, Distributed Ledger, …)

☞ Needs:
  ✓ User Experience
  ✓ Mobile friendly
  ✓ Strong & Secure
Deployment Architecture

PC

INTERNET

Web server

RP server

MOBILE

users

INTERNET (Ministry of Interior)

RP server

Web server

ESB server

AP server

DB server

FIDO server (FIDO2+UAF)

Firewall
PKI-based ID Proofing for FIDO (2019)

**Registration**

1. On PC’s browser, use MOICA Card or eID Card to request for a code (OTP)
2. Download App on smartphone

Online Authentication Platform by MOI

- Start registration

![MOICA Card]

3. Input code on App

![Welcome to Taiwan FIDO Services]

- Input Code

4. Enroll on smartphone with Biometrics

- Done!

![Last Step... Input Code 456524]
Online ID Proofing (2020~)

1. Fill in basic information
   - Name
   - Telephone
   - ID Number
   - Address
   - Birthday
   - Email
   - Household Number

2. Upload both sides of ID Card
   - Have New eID Card?
     - NO
     - YES

3. Selfie of Face & ID Card

4. Review & Check

5. Approval – Issue OTP
   - Input Code
     - Last Step...
     - 456524

Have Card Reader?
   - NO
     - Insert eID Card
   - YES

Kiosk
Desktop
Mobile App
Over-the-Counter ID Proofing (2020~)

Registration

1. Present and check dual-identification document and issue OTP Code
2. Download the client authenticator (App)

3. Input OTP Code
4. Enroll the biometrics

Welcome to Taiwan FIDO Services
Input Code
4 5 6 5 2 4
Use Case #1: Access to Citizen Service Portal

Citizen Cloud Services
- Identification Services
- Human Resource
- Household Administration

Government Cloud Services
- Online Application
- Resource Monitoring
- Auditing Logs
- Application Logs, …
Use Case #2: Access Citizen’s My Data

**AS-IS**

- **Login with Password**: Need to register with Health ID Card
- **Login with Cards**: Need Health ID Card (with passcode) or MOICA Card

**TO-BE**

- **Request for Authentication**
- **Authentication on App**
- **Authenticated**
- **Access Granted**

* Welcome to My Health Bank
  ID Number: A123456789

* Fast Login

**Mobile APP**

- Health Bank request your approval
  - [X]: Authorized
  - [X]: Denied

* www.healthbank.com

* Need to register with Health ID Card
* Need Health ID Card (with passcode) or MOICA Card

* Login with Password
  - * Need to register with Health ID Card
* Login with Cards
  - * Need Health ID Card (with passcode) or MOICA Card
Milestones

1. Deployment & Pilot
   - PKI-based ID proofing
   - MOI’s citizen services
   - Pilots on inter-ministerial services

2. Promotion & Expansion
   - Online ID proofing (Selfie & New eID)
   - Central & Local Government Applications
   - Support/work with various PKIs

3. Open & Popularization
   - Over-the-Counter ID Proofing
   - Support/work with non-government services (Telecomm, Finance, etc.)

Online application rate:
- 2019: 27.6%
- 2020-2021: 50%
- 2022: 50%

- 0.5M users 2019-2020
- 1M users 2020-2021
- 3M users 2022
Related Issues & Challenges

01 FIDO & PKI
- “Class 2” in the APKIC-FIDO white paper
- TBD: FIDO & Cloud-based PKI

02 Account Recovery & ID Proofing

03 FIDO & Federation

04 FIDO & “Mobile Connect”

06 FIDO is complementary to PKI/eID/Mobile but also compete to each others
## Pros and Cons

<table>
<thead>
<tr>
<th></th>
<th>PKI</th>
<th>eID</th>
<th>FIDO</th>
<th>Mobile ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>User Experience</td>
<td>★</td>
<td>★</td>
<td>★★★★</td>
<td>★★★</td>
</tr>
<tr>
<td>Mobility &amp; Device Coverage</td>
<td>★★</td>
<td>★</td>
<td>★★★★</td>
<td>★★★</td>
</tr>
<tr>
<td>Ecosystem &amp; Openness</td>
<td>★★★</td>
<td>★★</td>
<td>★★★★</td>
<td>★</td>
</tr>
<tr>
<td>Online / Offline Usage</td>
<td>★★</td>
<td>★★★</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Policy &amp; Regulation</td>
<td>★★★</td>
<td>★★★</td>
<td>★</td>
<td>★★</td>
</tr>
<tr>
<td>Cost Effectiveness</td>
<td>★★</td>
<td>★</td>
<td>★★★★</td>
<td>★★★</td>
</tr>
</tbody>
</table>
QUESTIONS & EXCHANGE

✓ wchwang@iii.org.tw
✓ karen.chang@egistec.com
✓ shally@iii.org.tw