THE CONVERGENCE OF APPLICATIONS

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OVERVIEW

Reuse of ICAO 9303 MRTD Standards

Convergence of Applications

International Standardization Alignment
**GOVERNMENT ID?**

<table>
<thead>
<tr>
<th>Schemes</th>
<th>National ID</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>International travel documents</td>
</tr>
<tr>
<td></td>
<td>Healthcare/Social Security</td>
</tr>
<tr>
<td></td>
<td>Driving licences &amp; permits</td>
</tr>
<tr>
<td></td>
<td>Residence Permit Cards</td>
</tr>
<tr>
<td></td>
<td>e Government solutions</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Document Form</th>
<th><strong>ID 1</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- Smart Card Format</td>
</tr>
</tbody>
</table>

| **ID 2**                        | - Format: 74.0 mm x 105.0 mm                      |

| **ID 3**                        | - Format: Passport booklet                       |

<table>
<thead>
<tr>
<th>Data</th>
<th><strong>Standard:</strong> Nationality, surname, first name, date and place of birth, gender, serial number, national number, passport picture, address etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Trend:</strong> Digital signature, biometric reference data, multi-application capability.</td>
</tr>
</tbody>
</table>
PROCUREMENTS REFERENCING ICAO

Barbados – DL
Nigeria - vehicle registration
Guatemala
Brazil RIC
Afghanistan
Panama
Pakistan ID
Brazil – RIC IPC
Spain (eRP)
Sweden (eRP)

Armenia
Peru (eGov)
Nigeria - voting card
Estonia (eRP)
Germany (eRP)
Indonesia (FW)
Italy (eRP)
Luxemburg (eRP)
Japan (eARC)
Taiwan (eARC)
Portugal (eRP)
Switzerland
## SYNERGIES BETWEEN eID’s

<table>
<thead>
<tr>
<th></th>
<th>eMRTD</th>
<th>National ID</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Infrastructure</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PKI</td>
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<td>✓</td>
</tr>
<tr>
<td>Population Registration</td>
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<td>✓</td>
</tr>
<tr>
<td>Biometric data Capturing</td>
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<td>✓</td>
</tr>
<tr>
<td>Electronic Personalizing</td>
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<td>✓</td>
</tr>
<tr>
<td>Production Infrastructure</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Border Control Terminals</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>Specification</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Logical Data Structure</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Security Architecture</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Biometrics</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

Synergies reduce schedule, resources, and costs
FACTORS FOR CONVERGENCE

Multiple eGov products
- generic data structure & command set

Common code/data structure

- Flexibility = common development
- Faster time-to-market
- Reduces costs
Synergies between different eID’s

References: (e.g. travel & biometrics)

Sweden (since 2005)
The Netherland (since 2006)
Monaco (since 2009)
Lithuania (since 2009)
Germany (since 2010)
Czech Republic (since 01/2012)
Croatia (from 2012, t.b.c.)
Nigeria (from 2012, t.b.c.)
Turkey (from 2013, t.b.c.)
Brazil (from 2013, t.b.c.)
South Korea (from 2014, t.b.c.)
France (from 2014, t.b.c.)

Contactless = Travel Function (ICAO 9303)
Contact-based = eID/eGov Function (CEN TC 224)
RESIDENCE PERMIT

Synergies on Documents, for data capturing and on IT-infrastructure.

Could be useful for a national wide Entry-Program.

This approach is in discussion in UK since CY2010

ID1 Smart Card, family concept w/ RP is possible.
RESIDENCE PERMIT

Europe (Example) - 27 States
- 500 Million Citizens

Basics / Specification
- Format ID1 (ICAO 9303)
- Optical Uniform Design (front, back)
- Interface: contactless (ISO 14443)
- ICAO Biometrics and LDS
- Print: Photo, MRZ, Name, Given Name, Validity

Regulation
- EU Regulation 1030/2002, published 2002

Roll out
- 05/2011 (1G)
- 05/2012 (2G)

Lifetime
- 3 Months, up to 5 Years

User Group
- Worker, Students, Family, Displaced Person and others
REGISTERED TRAVELER PROGRAM

Reference:

<table>
<thead>
<tr>
<th>Country</th>
<th>_since</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Asia</td>
<td>1997</td>
<td>ABTC</td>
</tr>
<tr>
<td>Netherlands</td>
<td>2004</td>
<td>Previu</td>
</tr>
<tr>
<td>USA</td>
<td>2005</td>
<td>CLEAR</td>
</tr>
<tr>
<td>Japan</td>
<td>2006</td>
<td>iPass</td>
</tr>
<tr>
<td>Oman</td>
<td>2007</td>
<td>eGates</td>
</tr>
<tr>
<td>Israel</td>
<td>2008</td>
<td>Clear</td>
</tr>
<tr>
<td>UAE</td>
<td>2009</td>
<td>Iris Codes</td>
</tr>
</tbody>
</table>
RTP EXAMPLE CHINA

ID1 Smart Card, combined w/ RTP

- Replacement paper with Registered Traveler eID Card (green border)
- Program name: Frequent-Pass (start in H1/2012)
- Pre-Condition: Registration of all Participants
- Target user group: frequent traveler from HK to mainland China
- Benefits: User: fast lane process
  Border-Police: reduction of effort
CONVERGENCE

European Citizen Card standard
- Bahrain, Belgium, Finland, Oman, Portugal, Qatar, Saudi Arabia, Sweden and UAE. Lithuania, Germany

European Residence Permit card
- The former Yugoslav Republic of Macedonia
- Portugal
- Taiwan
### EU Regulations and Recommendations on EID

<table>
<thead>
<tr>
<th>Regulation</th>
<th>Running</th>
</tr>
</thead>
<tbody>
<tr>
<td>e-Tachograph: 2135/1998</td>
<td>running</td>
</tr>
<tr>
<td>e-Passport: 2252/2004</td>
<td>running</td>
</tr>
<tr>
<td>e-Residence Permit: 1030/2002 (eRP)</td>
<td>running</td>
</tr>
<tr>
<td>e-European Health Insurance Card (eEHIC)</td>
<td>running</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>In Tender</th>
</tr>
</thead>
<tbody>
<tr>
<td>e-Car-Registration-Card 127/2003</td>
<td>running</td>
</tr>
<tr>
<td><strong>National eID 14351/2005</strong></td>
<td>running</td>
</tr>
<tr>
<td>e-Emergency Card</td>
<td>new running</td>
</tr>
<tr>
<td>Registered Traveler Program (RTP)</td>
<td>running</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No Position</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>e-Driving License</td>
<td>running</td>
</tr>
<tr>
<td>e-Health</td>
<td>running</td>
</tr>
</tbody>
</table>
TURKISH ID SCHEME

TUBITAK (technical advisor of the project) started feasibility analysis in 2002/2003

Various groups in Tubitak defined and developed various elements of infrastructure from Card OS, readers and IT backbone

Hybrid polyC cards with 10 years lifetime

- 64kB CB for eGov/eServices
- 64kB CL for eTravel

Pilot project was completed in Oct 2010 in a small city with 300,000 citizens

Volume Roll-Out to start in 2012 with hybrid cards
GERMANY NAT ID

- Project start in **November 2010**
- Europe’s biggest national eID project
- Currently about 60m ID card holders in Germany
- About **6.5m e-ID cards** are issued **each year** in Germany
- The new German national eID (nPA) attracts significant attention worldwide as it is one of the **most advanced approaches** regarding security in e-ID projects

- ID (visible document)
- Travel (MRZ); ICAO with biometrics: face; optional 2 fingerprints (images)
- European Citizen Card (eID, eGov/eBiz, eSig) optional
EU DRIVING LICENCE : REGULATION 383/2012

The Commission did setup a expert working group that prepared the EU driving license requirements.

The requirements document is similar to Commission Decisions for EU Biometric Passport and Residence Permit, and contains sections for:

• Data to be stored
• Storage medium
• Logical data structure
• Data protection mechanisms
• Type Approval Member State representatives:

“Save costs and effort by reusing existing card/ reader technology, PKI, data protection mechanisms and inspection processes: stay as close as possible to eMRTD standards”.

UL World e-ID congress 2012
EU eMRTDs Logical Data Structure

- Mandatory Data DG (MRZ)
- Face Image DG
- Signature Image DG Data

Protection Mechanisms

- BAC
- Passive Authentication
- Active Authentication
- EAC (TR 03110 v1.11)

EU Driving License Logical Data Structure

- Mandatory Data DG
- Face Image DG
- Signature Image DG Data

Protection Mechanisms

- BAP-1 with MRZ input
- Passive Authentication
- Active Authentication
- EAC (TR 03110 v1.11)

*UL World e-ID congress 2012
STANDARDIZATION ALIGNMENT

ISO/IEC 7816-x

ISO/IEC 14443-x

ISO/IEC 10373-x

ISO/IEC 18013
- ISO JTC1/SC17/WG10 established in 1999
- ISO/IEC 18013-1:2005 – Physical characteristics and basic data set
- ISO/IEC 18013-3:2009 – Access control, authentication and integrity validation
- ISO/IEC 18013-4:2011 – Test methods Specific efforts for Europe
- 2008: start working on test methods (EC Type approval)
- 2009: development of a 1-line MRZ (interoperability with ePP readers)
CONCLUSION

Reuse of ICAO 9303 MRTD Standards

• Proven global interoperability
• Leveraging industry solutions

Convergence of Applications

• Reuse of MRTD issuance infrastructure

International Standardization Alignment

• Multiple ongoing working groups
• Liaisons between working groups
THANK YOU

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