The UAE current state and views on globalisation of trust services

ETSI / TRA Middle East and Africa Workshop on Globalisation of Trust Services
May 2, 2019
Agenda

01. The UAE National Trust Services Framework
02. Trust & Licensing model
03. Mutual recognition with EU
04. Trusted List based validation
05. TRA supervisory activities
06. Next steps
Current State

The current TSP regulation framework:

- Does not cover all types of trust services that can be offered
  Only electronic signatures and CSP issuing certificates are covered

- Supervision & auditing requirements of the entire set of practices/processes of the provision of trust services (e.g. ISO 27001 ISMS vs Trust Service provisioning)

Lack of service providers targeting different customers’ communities

Lack of custom solutions addressing specific requirements (e.g. confidentiality) of some entities

Lack of awareness on trust services and their business & legal advantages
Digital signing initiatives and other Trust Services have been implemented, however adoption is lagging behind due to the following reasons:

- PKI perceived as difficult to integrate with
- Questions on whether PKI has a regulatory framework aligned to the international and domestic regulations
- User experience is a key enabling dimension and PKI perceived as affecting the user experience while conducting e-Services
- PKI is presented as an enabling technology without addressing the policies and on-boarding processes
- PKI is perceived as a technology that may affect the operational KPIs (e.g. transaction speed) of e-Services
### Enhanced TSP regulation framework

- Covering various types of qualified trust services covering the emerging market demands
- Comprehensive requirements, incl. Supervision & auditing requirements
- Alignment with eIDAS Regulation (EU) being a leading international benchmark

### Future State

- International recognition, firstly addressing the EU, but extensible to other regions, as well as main Browsers/SW
- Resilient and innovative PKI solutions
- Effective awareness and promotion of the PKI services
- Mature PKI market providing alternatives and reach to the diversity of consumers across the UAE
Main objectives

Encourage **digital transformation**, investment and the provision of electronic services to the public

Enhancing the **trust** in the electronic transactions by setting appropriate **security levels** for the eID tools and electronic trust services

Setting a **clear legal framework** and **legal force** of the electronic trust services

Positioned amongst the **international scene** through:
- mutual recognition
- interoperability by setting standards
Key success factors

Clear, attractive but regulated framework

Setting **appropriate conditions** for the adoption of electronic identification tools, qualified & non-qualified trust services

**Prescriptive** to increase certainty of implementations meeting the legal requirement and securing investments while providing a welcoming environment for TSPs, not a burden

Keep up with **technological development & innovation**

**Encourage more investments** in this area & in supported electronic transactions
UAE Pyramid of trust

Visibility

UAE TL as constitutive register of
- Licensed TSP/TS
- Licensed QTSP/QTS

Recognition

Comprehensive scheme
- Covering (Q)TSP/(Q)TS lifecycle
  - Initiation / supervision / termination
- Supported by audits from accredited Conformity Assessment Bodies
  - Initial / 2-yearly / Ad-hoc
- Final decision @ TRA

Governance & Control

New draft Laws & TRA Regulations
- Aiming for international recognition
- Leveraging on international standards & best practices

Conformity Assessment

UAE TRUSTED LIST

Licensing & Supervision

Regulatory Framework

Supporting (Q)TSP/(Q)TS lifecycle

Technology Framework

Standards & Best Practices + Tools & Support
Licensed Trust Services

Levels of reliability

Non-qualified level (7 types of non-qualified trust services)
- Provision of certificates for
  - Electronic signatures
  - Electronic seals
  - Website authentication
- (Remote) creation of
  - Electronic signatures
  - Electronic seals
- Creation & management of eIdentification System
- Issuance of eIdentification Tools
- No non-qualified time stamps
- No non-qualified validation / preservation of QESig/QESeal
- No non-qualified ERDS
- Certificate enrolment services (RA) not as (Q)TS but as service component, auditable separately
- Provision of certificates may include “root-signing”

Qualified level (9 types of qualified trust services)
- Provision of qualified certificates for
  - Electronic signatures
  - Electronic seals
- Qualified preservation of qualified
  - Electronic signatures
  - Electronic seals
- Qualified validation of qualified
  - Electronic signatures
  - Electronic seals
- Qualified timestamp service
- Qualified electronic registered delivery service
- Remote-QSCD-as-a-service
- Licensed Trust Services
- Levels of reliability
- Non-qualified level (7 types of non-qualified trust services)
  - Provision of certificates for
    - Electronic signatures
    - Electronic seals
    - Website authentication
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- Qualified level (9 types of qualified trust services)
  - Provision of qualified certificates for
    - Electronic signatures
    - Electronic seals
  - Qualified preservation of qualified
    - Electronic signatures
    - Electronic seals
  - Qualified validation of qualified
    - Electronic signatures
    - Electronic seals
  - Qualified timestamp service
  - Qualified electronic registered delivery service
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- Qualified level (9 types of qualified trust services)
  - Provision of qualified certificates for
    - Electronic signatures
    - Electronic seals
  - Qualified preservation of qualified
    - Electronic signatures
    - Electronic seals
  - Qualified validation of qualified
    - Electronic signatures
    - Electronic seals
  - Qualified timestamp service
  - Qualified electronic registered delivery service
  - Remote-QSCD-as-a-service

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## Licensed Trust Services

Compared licensing models

<table>
<thead>
<tr>
<th></th>
<th>TSPs (all types)</th>
<th>QTSPs (all types)</th>
<th>Foreign CSPs issuing TLS, WSA &amp;/or Code Signing certificates</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Licensing</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes (simplified)</td>
</tr>
<tr>
<td><strong>Establishment in the UAE</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td><strong>Initial audit CAR at Licensing / Renewal of License</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>As part of prior requirement to be recognised by GAMMOA(*)</td>
</tr>
<tr>
<td><strong>Licensing (approval) criteria</strong></td>
<td>Limited</td>
<td>Extended (per QTS type)</td>
<td>Limited + Prior requirement to be recognised by GAMMOA(*)</td>
</tr>
<tr>
<td><strong>Subject to ad hoc &amp; 2-yearly regular audits</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>As part of prior requirement to be recognised by GAMMOA(*)</td>
</tr>
<tr>
<td><strong>Termination plan</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Grant/withdrawal of qualified status</strong></td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td><strong>Presence in UAE Trusted List</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

(*) GAMMOA: Google, Apple, Microsoft, Mozilla, Oracle (Java) & Adobe
Indicates to third parties that a trust service is a UAE qualified trust service, provided by a UAE qualified trust service provider.

- Used on a voluntary basis
- Only for qualified trust services
- Rely on regulated visual rules
- Awareness and marketing purposes
UAE Trusted List

Current and historical licensing status and, when applicable, qualified status of UAE (Q)TSP/(Q)TS + information on TRA as scheme operator & on each (Q)TSP.

- **UAE TL as constitutive register of**
  - Licensed TSP/TS
  - Licensed QTSP/QTS
- **Format** in XML (machine processable) and PDF
- **Human** readable browsing tool
- Rely on EU **standard based specifications** prescriptive by UAE Law
- **24/7** availability
UAE Licensing model for TSPs & QTSPs
Targeted mutual recognition with EU eIDAS model

UAE Licensing model for TSPs & QTSPs

Controller

TSP

Submits application

CAB

Accredits under
ISO 17065
EN 319 403

Approval
Criteria

(i.e. UAE Laws / TRA REG. On (Q)TSP/(Q)TS profiling ETSI standards)

Audits

(certification against)

Licenses, and when applicable, grants qualified status

UAE Trusted List

UAE NAB

EU & other regional NABs

UAE TRUSTED LIST

LICENSING & SUPERVISION

QTSP/QTS UAE LAWS & TRA REGULATIONS

STANDARDS & BEST PRACTICES + TOOLS & SUPPORT

CAB = Conformity Assessment Body
NAB = National Accreditation Body
(Q)TSP = (Qualified) Trust Service Provider
UAE Licensing model for TSPs & QTSPs
Targeted mutual recognition with EU eIDAS model
UAE Licensing status flow

UAE Licensing model for TSPs & QTSPs
Targeted mutual recognition with EU eIDAS model
Aiming to provide the above objectives
Draft Federal Law aiming to **repeal** (at least with regards to trust services)
  - Federal Law on Electronic Commerce and Transactions
  - Ministerial Resolution regarding the issuance of CSP Regulations
Meant to be equivalent to the eIDAS regulation (benchmarked as the most complete and mature model found)
Ensure the correct implementation of international **best practices and standards**
Achieve **mutual recognition** with:
  - Industry
  - 3rd countries & regions (including EU, GCC)
Tools and users

TL-Manager
Management of UAE TL

TRA website
Guidelines, support, documents, ...

TL-Browser
Browse UAE TL
• User-friendly
• Mobile-friendly

eSignature demo website
Creation, validation and extension of eSignatures/eSeals

TRA

UAE TSP

Trust services users

TRA Trust services users UAE TSP

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TRA

UAE TSP

Trust services users

TRA Trust services users UAE TSP

Tools and users
Inclusion of existing UAE services

Provided they are compliant and assessed, existing public and private services will be included in the UAE TL such as:

- Electronic signature functionalities in Emirates ID and UAE Pass
- Certificates for electronic signature for:
  - Residents, citizens, and government employees
  - Government entities (on behalf of the entity)
- Timestamping services offered
- Signature Verification Services
- ....

1-year(*) transition period has to be specified in the Regulation.
Making trust models **mutually recognized** (and so as close as possible)
Applicable to any 3rd Country / Region (e.g. GCC)

**Main pillars for comparing QTSP/QTS trust models**
(e.g. in a view of establishing recognition)
Electronic signatures

- Trusted Electronic Signatures (TES)
- Electronic Signatures (ES)
- UAE Qualified Electronic Signatures (QES)
- AdES Advanced Electronic Signatures

- Targeting comparison with comparable/equivalent
- comparable
- eIDAS Electronic Signatures (ES)
- eIDAS Qualified Electronic Signatures (QES)

- TSP
- QTSP

- Mutual recognition with EU
Type of QTS

- **UAE**
  - Provision of QC for electronic signatures
  - Provision of QC for electronic seals
  - Qualified time stamping services
  - Qualified Electronic (Registered) Delivery Services
  - Qualified validation of QESig/QESeal
  - Qualified preservation of QESig/QESeal
  - Remote-QSCD-as-a-service

- **eIDAS (EU)**
  - Provision of QC for eSignatures
  - Provision of QC for eSeals
  - Provision of QC for website auth
  - Qualified validation of QESig
  - Qualified validation of QESeal
  - Qualified preservation of QESig
  - Qualified preservation of QESeal
  - Provision of qualified time stamps
  - Qualified electronic registered delivery services
TRA letter to European Commission on the feasibility of a mutual recognition under Art.14 of eIDAS Regulation

First ever such clear request received by the EC!

1st informal meeting at technical level

Formal response from EC expected

Long journey ahead …

In parallel ETSI-TRA workshop on Globalisation of trust services to be hosted at TRA premises on May 2nd, 2019
Qualified signature/seal validation

Relying parties need to verify that a (qualified) certificate:
- At the time of issuance: has been issued by a QTSP
- At the time of signing: is still managed by a QTSP

Relying parties need to access the TL and trust its content.
A federated model

Similarly to EU, a **flexible** federated model that can be designed for operations at various **levels**.

- Centralised List of pointers to MS/EEA TLs (LOTL- signed/sealed XML)
- National Trusted Lists (TLs - signed/sealed XML)

The diagram illustrates the mutual recognition between various trusted lists, including GCC Trusted List, UAE Trusted List, Abu Dhabi Trusted List, Dubai Trusted List, and Saudi Arabia Trusted List.
TRA Processes

Management Processes

Core processes as Supervisory Body

Core processes as Trusted List Scheme Operator

Support processes

Licensing framework
- Resolutions
- TSP Requirements / Templates / Forms / …
- CAB Requirements

Relations with authorities
- International recognition
- Cooperation with NAB
- Data protection, Security

Licensing the TSPs
- Reviewing CAR
- Grant of the licenses
- Correct application of termination plan

Monitoring the TSPs
- Monitoring TSPs / deadlines
- Ad-hoc audits
- Handling and sharing notifications

Publishing the Trusted List
- Signing the XML and PDF
- Publishing in XML and PDF

Anchoring the Trusted List
- Managing the signing keys
- Publishing location and keys
- Ensuring transition periods

Ensuring awareness
Fostering the take-up
Monitoring the market
Stakeholders eco-system
Next Steps

- Finalizing the new draft law
- Finalizing the technical regulations
- Migrating to the new framework
- Setting up the trusted list management platform
- Awareness on the new framework
- Pursue International recognition
- Drive the PKI promotion and adoption
Thank You