PKI Progress in the year 2022 - 2023 in Japan

May 08, 2023

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1.Government related Updates

IAP framework for DFFT realization

Japanese government has expressed the proposal to establish " Institutional Arrangement for Partnership (IAP) on DFFT".

The proposal is to operationalize Data Free Flow with Trust (DFFT) by implementing the stepwise pragmatism-based strategy of
(1)bringing together multi-stakeholders who actually use data (e.g., companies, research institutions),
(2) focusing on real challenges to cross-border flows of data, and
(3) building high-level political consensus on the prioritized policy area to provide the effective solutions to the challenges.

- **OECD Digital Economy Ministerial Meeting : December 2022**
  https://www.meti.go.jp/english/press/2022/1216_001.html

- **World Economic Forum Annual Meeting 2023 (Davos) : January 2023**
  https://www.digital.go.jp/en/254f7da5-080a-4607-bc86-45ff0c8d0870-en/

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G7 related events

Several events were held prior to the G7 2023 Hiroshima Summit

- “Stakeholders’ Conference on Digital Technologies for Trust” : March 29th

★As the G20 Presidency, the Government of India and the Asia PKI Consortium Secretariat were invited as speakers.

https://g7digital-tech-2023.go.jp/en/topics/topics_20230405.html

- “G7 Digital and Tech Ministers’ Meeting” : April 29th

★Institutional Arrangement for Partnership (IAP) was endorsed.

https://g7digital-tech-2023.go.jp/en/topics/topics_20230430.html

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Individual Number Card related topics

Number of Individual Number Cards Issued

< As of August 31, 2022 >

Population as of January 1, 2022	Number of Cards issued	Percentage of the population served
125,927,902	59,660,827	47.4%

< As of March 31, 2023 >

Population as of January 1, 2022	Number of Cards issued	Percentage of the population served
125,927,902	84,399,025	67.0%

[Cited from] https://www.soumu.go.jp/kojinbango_card/kofujokyo.html

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Extended use of Individual Number Card

- The Individual Number Card is already also be usable as the health insurance card.

  - Supplementary explanation

    Two types of health insurance are available to those living in Japan. All persons living in the country - both citizens and non-Japanese residents with residence cards/visa - are required by law to enroll in either an Employee Health Insurance or the country's National Health Insurance.

- Besides the health insurance card, the government is also considering integrating the Individual Card with the driver's license.

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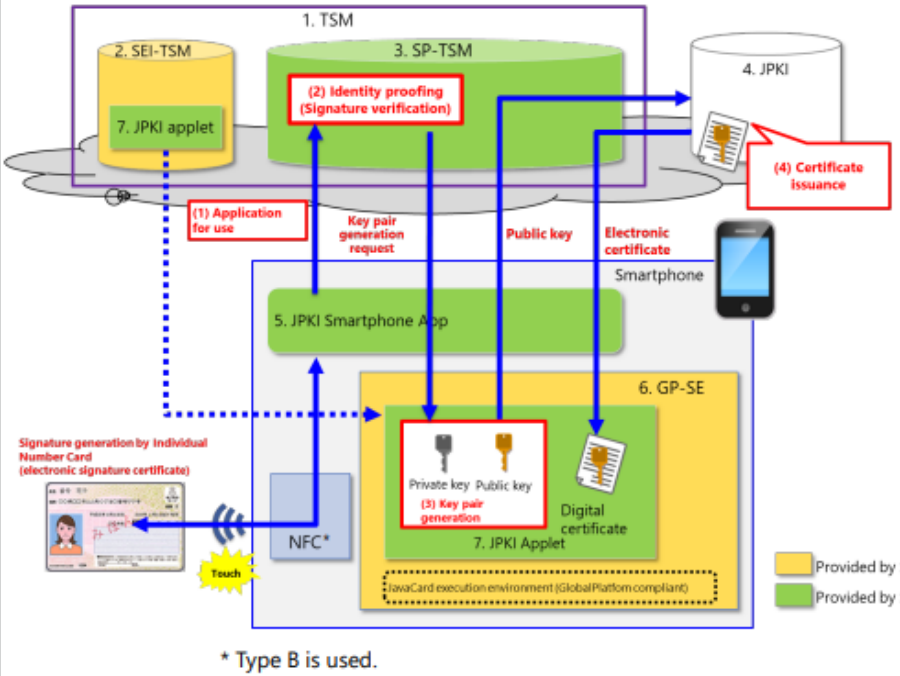
New Feature : JPKI for Smartphone

System configuration for installing electronic certificate on a smartphone 10

System configuration for mounting a electronic certificate on a smartphone and glossary



* Type B is used.

Remarks: In the above figure, it is assumed that users download the JPKI smartphone app is downloaded from Google Play.

Server

1. TSM: Trusted Service Manager
   - Consisting of the SEI-TSM and SP-TSM. Securely distributes data to the secure element (SE) on a smartphone.

2. SEI-TSM
   - A TSM operated by a secure element issuer (SEI).
   - Responsible for keeping applets of service providers (SPs) and storing applets in the SE.

3. SP-TSM
   - A TSM operated by an SP.
   - Responsible for accepting user usage applications and SE personalization.

4. JPKI (Public Certification Service for Individuals)
   - A certification service operated by J-LIS.

Smartphone

5. JPKI Smartphone App
   - An Android application used when applying to use or using services.
   - Downloadable from Google Play. Used when applying for or using a certification service.

6. GP-SE
   - An SE that is installed on Android smartphones.
   - The GP-SE conforms to the GlobalPlatform and makes it possible to download Java applets.

7. JPKI Applet
   - A Java applet that implements the JPKI function.

Cited from the website of Ministry of Internal Affairs and Communications :https://www.soumu.go.jp/main_sosiki/joho_tsusin/eng/presentation/pdf/First_Summary_Toward_the_Realization_of_Electronic_Certificates_for_Smartphones.pdf

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Trust services involving the government

■ Timestamp

The government certification system of the time-stamping service has started.

- Certification of Time-stamping Services

https://www.soumu.go.jp/main_sosiki/joho_tsusin/eng/pressrelease/2023/2/16_01.html

■ eSeal

Studies are underway to establish an certification system of eSeal involving the government.

- Supplementary explanation
eSeal is an electronic version of a company seal utilizing digital signature that is associated with legal entities. eSeal is used to ensure the origin and integrity of data.

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2. Updates in the Private Sector

[SIP project]

The “Mutual Recognition Pilot Project between EU and Japan”

[Features of the Project]

- SIP is a national program led by the Council for Science Technology and Innovation (CSTI) of the Japanese Government(the Cabinet Office).
- This 3 year project has started in 2020 as one of the projects under the SIP (Crossministerial Strategic Innovation Promotion Program).

[Main Purposes of the Project]

- Mapping Best Practice
  - TSPs (CAs, TSAs and RSSP) → Done
- Implementing Trust representation
  - J TSL (Japanese Trusted Status List) → Done
- Proof of Concept (Demonstration) → Done
  - Validation of digital signature with J TSL and EU LoTL
  - Remote signature creation with extended API

Cited from "https://www.enisa.europa.eu/events/trust-servicies-forum-ca-day-2021/ca-day-presentation/07_sip-1-_soshi-hamaguchi.pdf"

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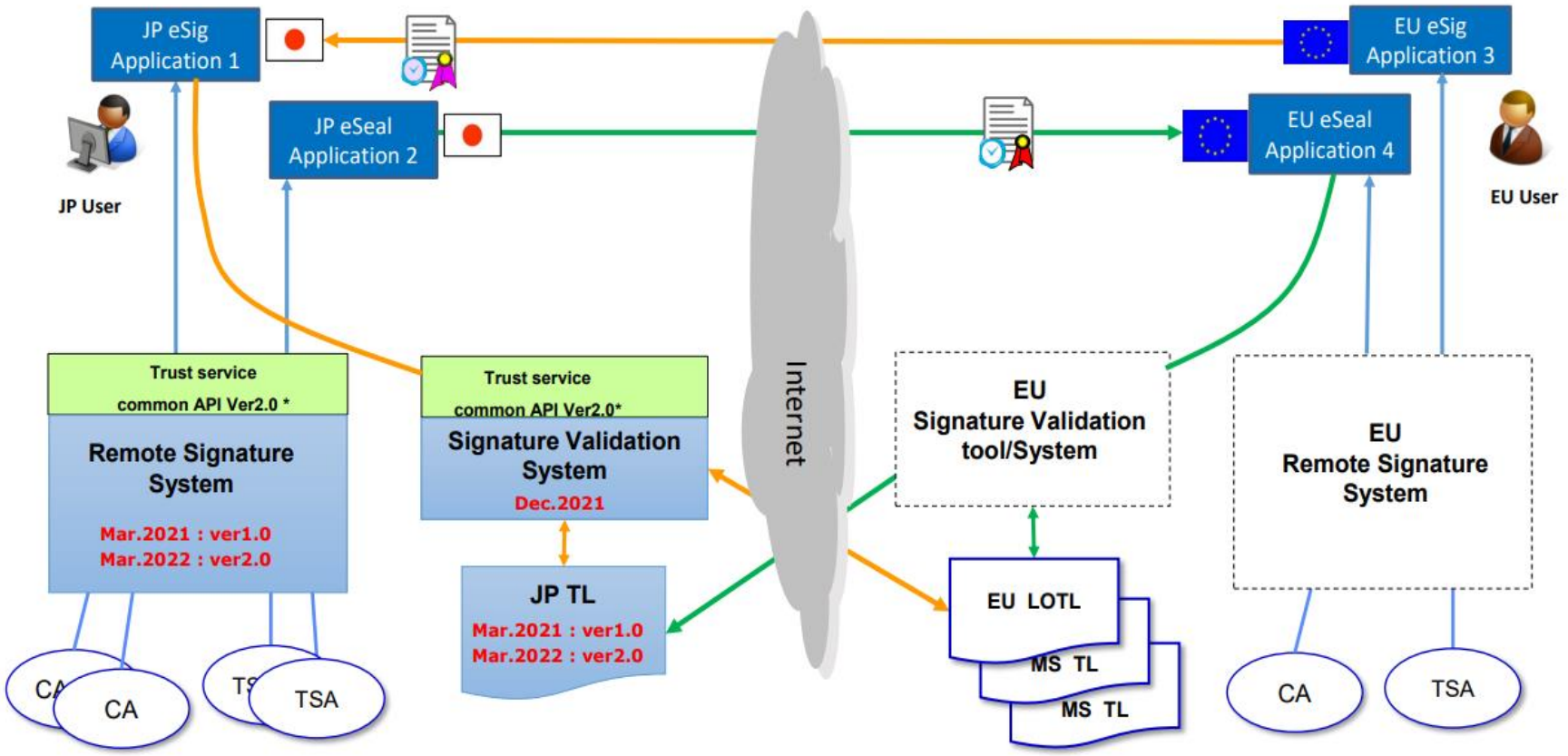
[SIP project]

a. Overview of SIP project



Cited from "https://www.enisa.europa.eu/events/trust-servicies-forum-ca-day-2021/ca-day-presentation/07_sip-1-_soshi-hamaguchi.pdf"

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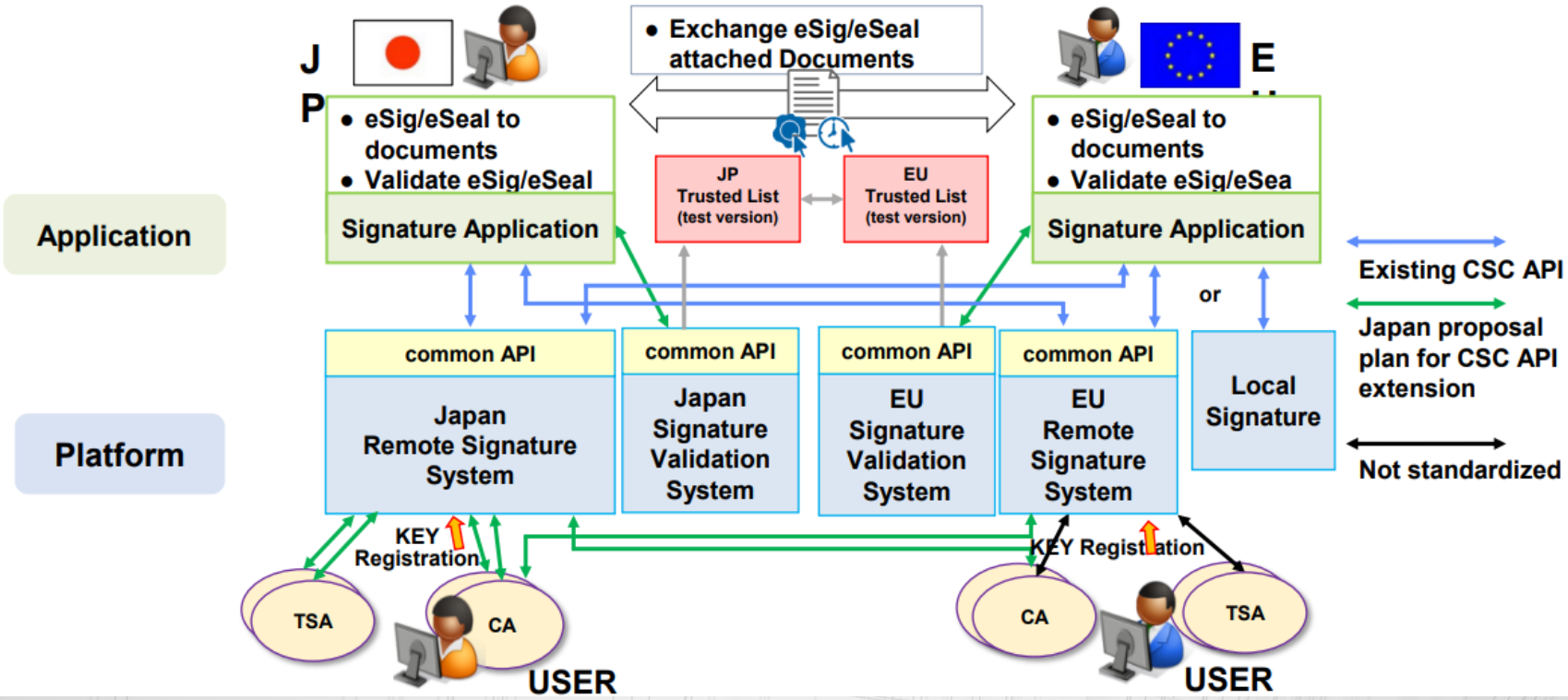
d. PoC

SIP project have plan to demonstrate interoperability of QeSig and QeSeal by using Remote signature system between Japan and EU in 2022.



Cited from "https://www.enisa.europa.eu/events/trust-servicies-forum-ca-day-2021/ca-day-presentation/07_sip-1-_soshi-hamaguchi.pdf"

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Methodology

Main points for comparison between PKI-based trust service schemes
(for each of the four pillars)

Legal context	Equivalent trust service requirements	**Legal context**
Supervision & auditing	Audit & supervision with equivalent oversight	**Supervision & auditing**
Best practice	Meeting common requirements for equivalent level of trust supporting interoperability	**Best practice**
Trust representation	Mappable to common Trust representation	**Trust representation**

The EU-Japan Pilot Project is focusing on these pillars.

© ETSI 2019

Cited from "Global acceptance of EU Trust Services" presented by Olivier Delos/ETSI at APKIC Symposium

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[JDTF : Japan Digital Trust Forum]

In the fall of 2020, the JDTF(Japan Digital Trust Forum), a council focused on trust services, was established. The JDTF is made up of companies and organizations from different sectors and industries, such as SIers, TSPs, lawyers, audit organizations, and user companies, with government organizations as supporting organizations.

The JDTF will work to spread the concept of digital trust, and also make efforts to promote and propose the development of legal systems and rules for social implementation of trust services.

The JDTF has proposed “TaaS (Trust as a Service)” as an architecture to realize DFFT’s trust and to realize a digital society in harmony with other countries, and summarized the concept of TaaS in a white paper. An English version of the white paper ***has been published***.

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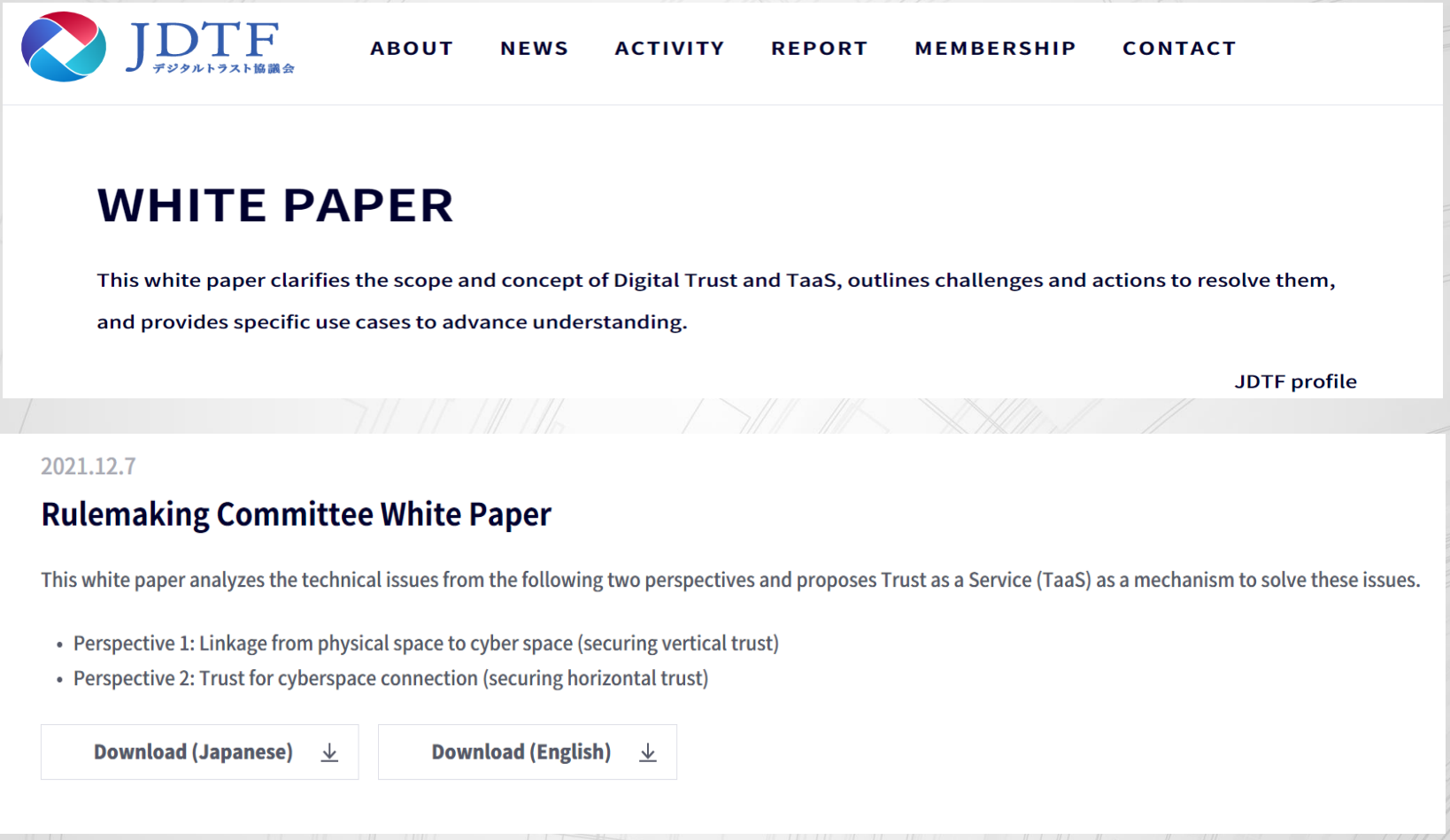
[JDTF : Japan Digital Trust Forum]



Cited from JDTF website : https://jdtf.or.jp/en/report/whitepaper/

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Thank you