



Progress of Taiwan PKI

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Outline

- **Establishment of Ministry of Digital Affairs (moda) in Taiwan**
- **Government's introduction and promotion of zero-trust network architecture**
- **Update of PKI & FIDO**

Establishment of Ministry of Digital Affairs (moda) in Taiwan (1/4)

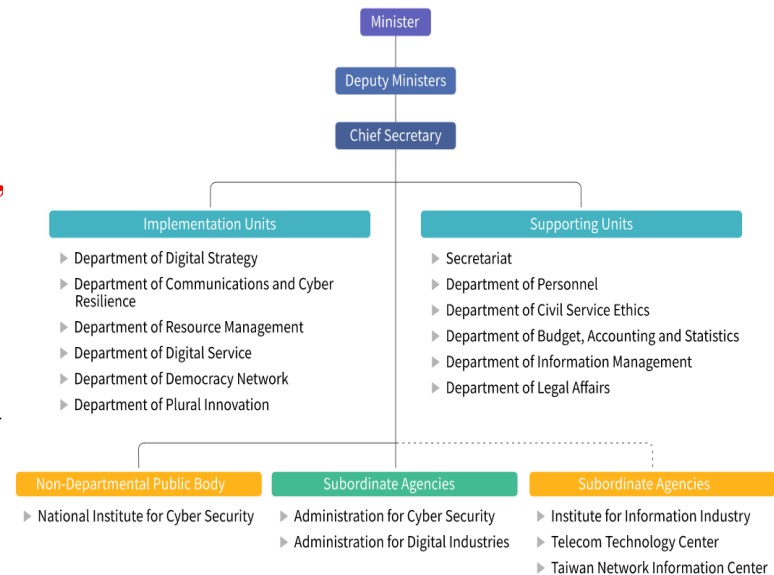


Background

- In the era of 5G and IoT (Internet-of-Things), digital technology is changing our ways of life and reshaping the ecosystem of industries.
- The Ministry of Digital Affairs (moda) was established **to keep up with the mega trend in technology**, pointed out by President Tsai Ing-wen indicated in 2019.
- The recently established moda seeks to integrate the government agencies in information, networking and communication in a groundbreaking manner and assist the Taiwanese society in **digital transformation**.

Establishment of Ministry of Digital Affairs (moda) in Taiwan (2/4)

- The establishment of the Ministry of Digital Affairs (moda) on August 27, 2022, after a long period of preparation marks an important milestone in **digital development** of Taiwan
- The abbreviation “**moda**” indicates the Ministry of Digital Affairs’ aspiration to serve as a “**motor**” in digital development of Taiwan
- The “moda” endeavor to create **digital resilience** of the public by connecting people with technology, promoting industries and **safety** and accelerating the digital development of the society to realize the vision of a smart state
- The “moda” has become the competent authority of the “**Electronic Signature Law**”, and
 - is planning the revision of the law
 - **continue to support the CTPKIC and APKIC**



Source: moda

Establishment of Ministry of Digital Affairs (moda) in Taiwan (3/4)

Major Policies

- Drive the national digital development strategy and coordinate the planning of project resources
- Deploy the **key infrastructure in communication** and enhance the resilience of communication networks
- Allocate and manage digital communication resources in a forward-looking manner to ensure resource utilization meets public interest
- **Strengthen digital applications** and boost government efficacy
- Participate in the international digital network of democracy and contribute more to the international society
- Develop data use cases and create the digital ecosystem of public interest

Establishment of Ministry of Digital Affairs (moda) in Taiwan (4/4)

Major Policies

- Accelerate **digital industrial** innovation and transformation and promote the development of digital related industries
- **Strengthen cybersecurity** and defence-in-depth and enhance the resilience of the national digital development environment



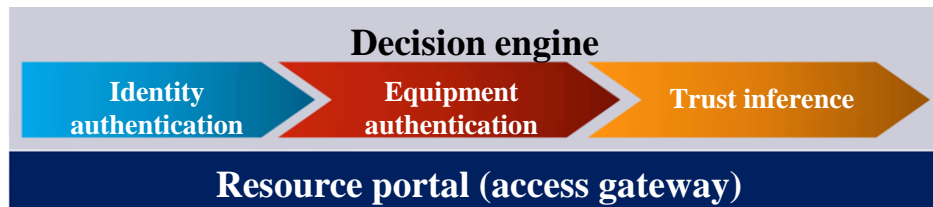
Opening ceremony and minister appointment



Minister Audrey Tang presents online at Asia Pacific Regional Internet Governance Forum (APRIIGF) to share about how Taiwan's digital transformation helps in carbon reduction

Government's introduction and promotion of zero-trust network architecture (1/2)

- Taiwan government introduces and promotes the **zero-trust network architecture** according to the national information and communication security development program (2021-2024).
- Taiwan's zero-trust network architecture is established in reference to Special Publication 800-207: Zero Trust Architecture (ZTA) released by the National Institute of Standards and Technology (NIST) of the U.S.
- The resource portal-based deployment allows only access via **access gateways** for both internal and external users
- Network connections between users and information and communication systems of organizations are established, monitored and terminated based on decisions by the decision engine, which consists of three core mechanisms: **identity identification, equipment identification and trust inference.**



Source:
National Center for Cyber
Security Technology (NCCST)

Government's introduction and promotion of zero-trust network architecture (2/2)

- **Identity identification** is the mechanism prioritized for introduction of the zero-trust network. This includes the following:

- **Multi-factor identity identification**

Such as FIDO (Fast Identity Online) and use USB tokens or mobile apps to login without passwords



- **Identity identification declarations with e-signatures and encryptions**

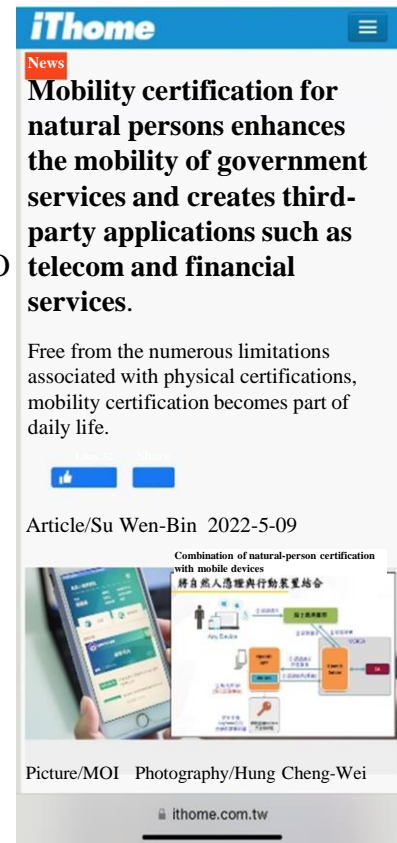
After users have obtained access tokens, the identity declaration server issues users the certificate of authorized access (e.g., JWT and SAML). Identification validation declaration can be obtained by connecting to the identification declaration API of the information and communication systems of organizations.



Source: NCCST

Update of PKI & FIDO(1/2)

- Integration of **TW FidO App** and **Citizen Certificate** for more **convenient and efficient identification and digital signing** (Ministry of Interior, MOI)
 - The current Citizen Certificate is a physical card. It is necessary to use a computer and a card reader and unlock the card with passwords/PIN code
 - The new “**Mobile Citizen Certificate**” integrated the Citizen Certificate and TW FidO App. Biometric authentication is used instead of passwords/PIN code.
 - **Easy access** to government services (e.g., tax filing, COVID-19 health certificate application, online voting of shareholders, signing of official document, etc.)
 - Expansion of use cases by allowing telecom operators and financial institutions to leverage the “Mobile Citizen Certificate”

iThome

News

Mobility certification for natural persons enhances the mobility of government services and creates third-party applications such as telecom and financial services.

Free from the numerous limitations associated with physical certifications, mobility certification becomes part of daily life.

Article/Su Wen-Bin 2022-5-09

Combination of natural-person certification with mobile devices
將自然人憑證與行動裝置結合

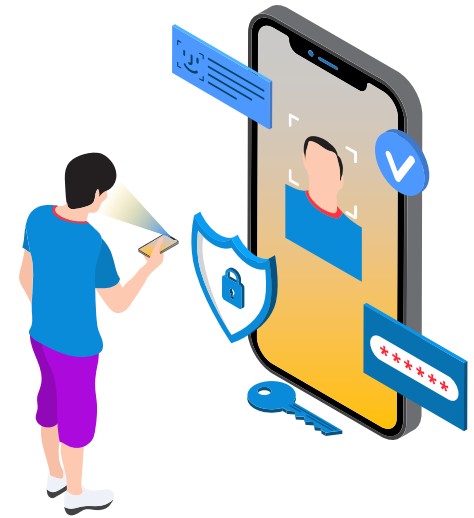
Picture/MOI Photography/Hung Cheng-Wei

ithome.com.tw

Source: Ministry of the Interior, Ministry of Digital Affairs

Update of PKI & FIDO(2/2)

- The Financial Supervisory Commission (FSC) has launched the sandbox for trials of **Digital Identity Certification and Authorization**
 - Groundwork for Taiwan's Financial FIDO Alliance (F FIDO)
 - **To explore broader financial applications** using digital identification and certificate, such as identity proofing, KYC (Know Your Customers), authentication and authorization
 - A total of 22 applications as of June 30, 2022
 - Scenario: **use ATM cards for identity proofing and authenticate the user cross organizations or businesses using FIDO and Identify** ;
 - Applications: online account opening, applications and mobile banking logins; **securities trading account opening by linking with electronic payment service providers; account opening and contract signing with electronic signatures; identity checks for online loan applications; and digitalization of paper-based insurance consent forms**



THANK YOU