

PUBLIC KEY INFRASTRUCTURE IN MALAYSIA

SINGAPORE - JUNE 2024



**Population
34.7 million**

Source : https://www.worldometers.info/world-population/malaysia-population/#google_vignette

**Median age is
30.8 years (26.8 %)**

Source : https://www.worldometers.info/world-population/malaysia-population/#google_vignette

**Mobile Broadband Penetration
Rate 132.1% (2024)**

Source : https://www.mcmc.gov.my/skmmgovmy/media/General/Resources/C-M-1Q-2024_BI.pdf

**Internet Penetration Rate 97.4%
(2024)**

Source : <https://datareportal.com/reports/digital-2024-malaysia>

**Malaysia Digital
Signature Act 1997
(DSA)**

**Certificate Authority
Pos Digidert Sdn Bhd
MSC Trustgate Sdn Bhd
Telekom Applied Business Sdn Bhd
Raffcomm Technologies Sdn Bhd**

**Digital Certificate issued
1.7 million (2022) and
accumulated to 18.6 million**

Source : https://www.mcmc.gov.my/skmmgovmy/media/General/pdf/MCMC-IPR-2022_ENG_Page.pdf

**Usage of Digital Certificate in
Government Services at 96.2% in
2022**

Source : https://www.mcmc.gov.my/skmmgovmy/media/General/pdf/MCMC-IPR-2022_ENG_Page.pdf

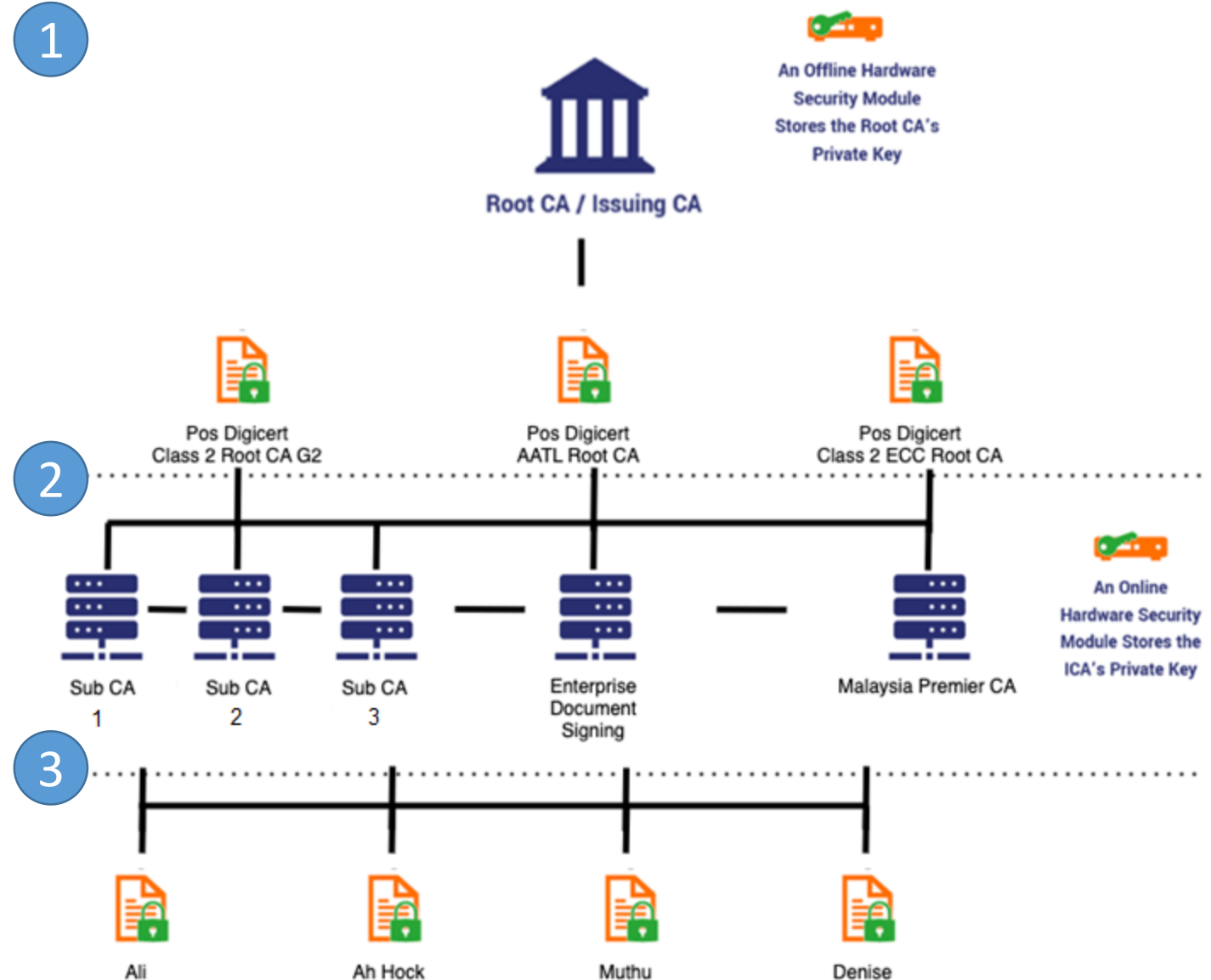
POS DIGICERT'S CURRENT CHAIN OF TRUST

Certificate has to be traceable back to the trust root it was signed off. There are 3 parts to the chain of trust:

1- Root Certificate (Issuing) – A root certificate is a digital certificate that belongs to the issuing Certificate Authority. The root certificates are closely guarded by the Certificate Authorities

2- Intermediate Certificate (Issuing) – Intermediate certificates act as middle-men between the protected root certificates and the server certificates issued out to the public. There will always be at least one intermediate certificate in a chain, but there can be more than one.

3- Digital Certificate (Leaf) – It is the digital certificate will be given to the end entity eg: Client Digital Certificate, SSL certificate and others



DIGITAL TRUST STACK



POTENTIAL
USE-CASES

SERVICES

INTERFACES

TECHNOLOGY
&
SOLUTIONS

COMPLIANCES

G2G

e.g : MAMPU GPKI,
E-Perolehan,
E-Payment

G2B

e.g : e-Filing (Tax)
eInvoice
E-Licensing,
eContract,
E-Stamping

G2C

e.g : e-Filing
E-Certification
E-Scroll,
Study Loan Agreement

Private

e.g : Fintech,
Credit Rating
services, etc
E-Agreement

DIGITAL SIGNING SERVICE

Online and secured signing service

AUTHENTICATION SERVICE

Validated Identity service

INTERFACES / INTEGRATIONS

Web Services

API Management

SDK (mobile)

TECHNOLOGY / SERVICES

Cryptography
Certificate
Engine
OCSP/CRL
DTS Module

HSM
Key Mgmt
Center
(KMC)
Roaming
Cert
2FA
Cert in Mobile

Biometric
Face Recognition
OCR
AI

SSO
Payment Gateway
SMS Notification
Cloud Comp.
Data Analytics

SOLUTIONS

DIGITAL CERTIFICATE
MANAGEMENT

Digital Certificate LifeCycle
AATL Certificate
Registration Authority
SSL Certificate

IDENTITY MANAGEMENT

Active Directory
Identity Engine
Identity Verification System
Federated Identity
Smart Card/Mobile
Security Devices
CRM System
Know Your Customer System

ACTS

- Digital Signature Act 97
- Digital Signature Regulation 98
- Electronic Commerce Act 2006
- Date Time Stamping 2020
- National Digital ID Framework

GUIDELINES

- Risk Management in Technology Central Bank
- eKYC Policy
- Malaysia Digital Economy Blueprint, EPU, PMO



STANDARDS

ISMS 27001 Certification Authorities



National Institute of
Standards and Technology
U.S Department of Commerce



eSERVICES WITH PKI FOR PUBLIC SECTORS

There are 28 Ministries in Malaysia and more than 20 of them have embarked into PKI-based eServices ranging from G2G, G2B and G2C



Over 100,000

Authorised Government Staffs are using digital certificates

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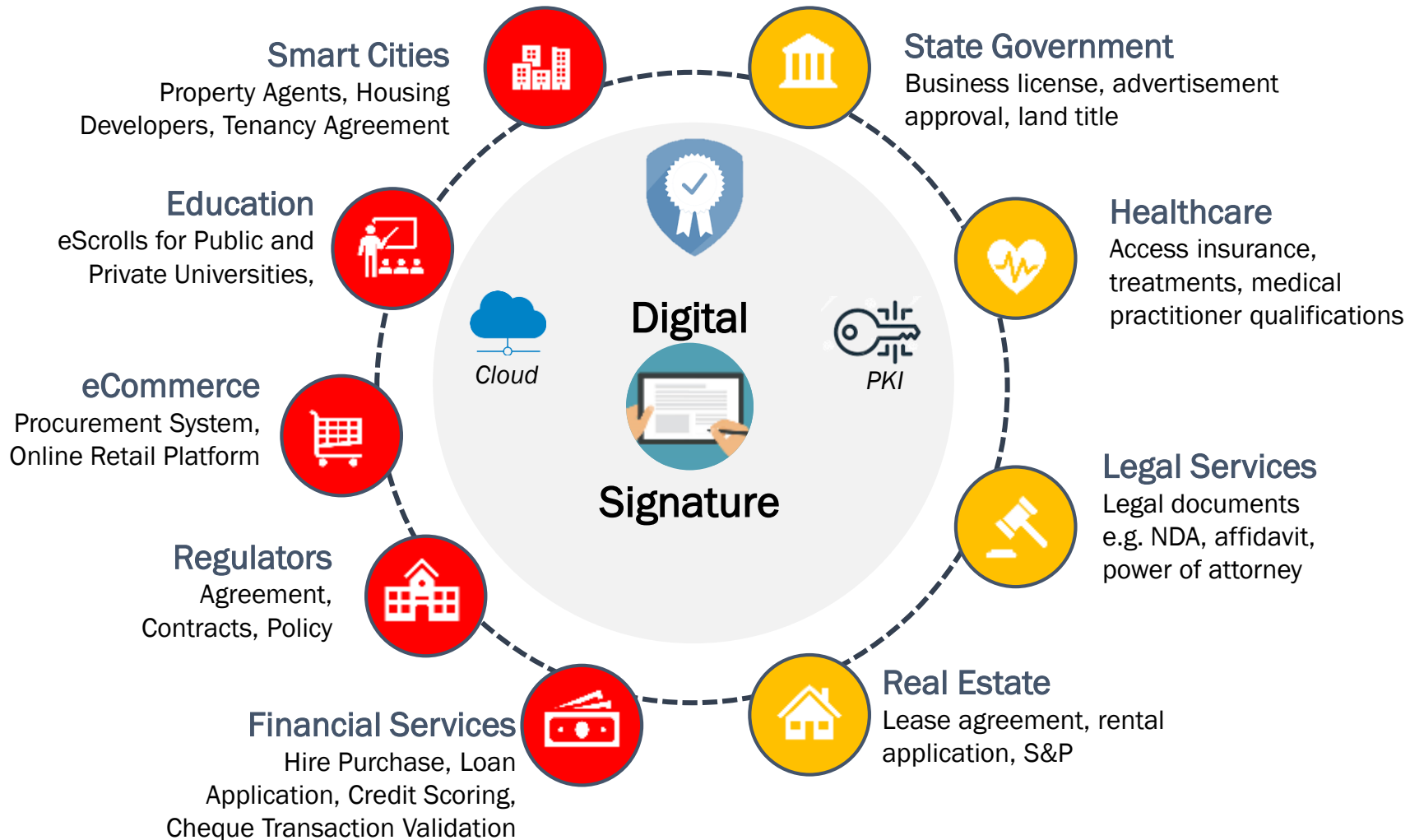
projects / ICT systems are integrated with MyGPKI



Over 6 million

unit digital certificates issued to under e-Filing project from Inland Revenue Board of Malaysia

eSERVICES WITH PKI FOR PRIVATE SECTORS



Key Success Factor



eKYC Platform



Trusted Digital ID
(Digital Certificate)



Compliance with eIDAS



Tech & commercial
partners



RMIT Guidelines

NEW PKI PROJECT INITIATIVES

1. National Digital Identity Initiative – MyDigitalID

- [MyDigital ID](#) is a national digital identity initiative with its main objectives are to ensure secure and valid identity verification for online services.
- MyDigital ID will be rolled out in four phases, starting with the members of the Malaysian Cabinet and followed by civil servants, government benefits recipients and finally the general public.

Parties	Benefits
PEOPLE /USERS	•Experience smooth, safe and data privacy-guaranteed online experience •Time and cost savings compared to counter transactions
GOVERNMENT	•Stimulate and drive the nation towards digital transformation to elevate trust and user's safety for online interactions. •Improve online services quality more efficiently and cost savings service delivery.
ONLINE SERVICE PROVIDER	•Improving efficiency and cost savings in terms of user registration, develop and maintaining their digital identity verification systems •Encourage offers of new online services such as finetech, platform economy, apps economy and others

mydigitalID



NEW PKI PROJECT INITIATIVES

2. e-Invoice

- To support the growth of the digital economy, the Government intends to implement e-Invoice in stages in an effort to enhance the efficiency of Malaysia's tax administration management. This is in line with the Twelfth Malaysia Plan, where one of the key focus is on strengthening the digital services infrastructure and digitalising the tax administration.
- The e-Invoice will enable near real-time validation and storage of transactions, catering to Business-to-Business (B2B), Business-to-Consumer (B2C) and Business-to-Government (B2G) transactions.
- Below is the e-Invoice implementation timeline:



Sample of Digital Signed e-Invoice

Targeted Taxpayers	Implementation Date
Taxpayers with an annual turnover or revenue of more than RM100 million	1 August 2024
Taxpayers with an annual turnover or revenue of more than RM25 million and up to RM100 million	1 January 2025
All taxpayers	1 July 2025

Hibiscus Mart Sdn Bhd
Lot 66, Bangunan Merdeka, Persiaran Jaya, 50480, Kuala Lumpur
60312346789
hibiscus@mart.com

Supplier TIN: C321456789120
Supplier Registration Number: 660901111122
Supplier SST ID: M10-123-45678901
Supplier MSIC code: 47112
Supplier business activity description: Supermarket

Buyer TIN: E100000000010
Buyer Name: General Public
Buyer Registration Number: NA
Buyer Address: NA

Buyer Contact Number: NA
Buyer SST Registration ID: NA

E-INVOICE
e-Invoice Type: 01 - Invoice
e-Invoice version: 1.0
e-Invoice code: INV00006
Unique Identifier No: 123456789-2023-7654321
Original Invoice Ref. No.: Not Applicable
Invoice Date and Time: 2024-10-01 20:17:16

FOR ILLUSTRATION PURPOSES ONLY

Classification	Description	Quantity	Unit Price	Amount	Disc	Tax Rate	Tax Amount	Total Product / Service Price (incl. tax)
004	1110 - 1112	1	RM 3,000.00	RM 3,000.00	-	-	-	RM 3,000.00
004	1114	1	RM 100.00	RM 100.00	-	-	-	RM 100.00
004	1116 - 2450	1	RM 34,900.00	RM 34,900.00	-	-	-	RM 34,900.00
004	2452 - 2459	1	RM 4,500.00	RM 4,500.00	-	-	-	RM 4,500.00
004	2461 - 3107	1	RM 22,250.00	RM 22,250.00	-	-	-	RM 22,250.00
004	3109 - 3114	1	RM 250.00	RM 250.00	-	-	-	RM 250.00
Subtotal								RM 65,000.00
Total excluding tax								RM 65,000.00
Tax amount								-
Total including tax								RM 65,000.00
Total payable amount								RM 65,000.00

Digital Signature:
8e63e05b5b5b17ac0deec3b7ce6cba983f6dc50531c7a919f28d5b3696c3
Date and Time of Validation: 2024-10-01 20:17:18
This document is a visual presentation of the e-Invoice

THANK YOU



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