



Agenda

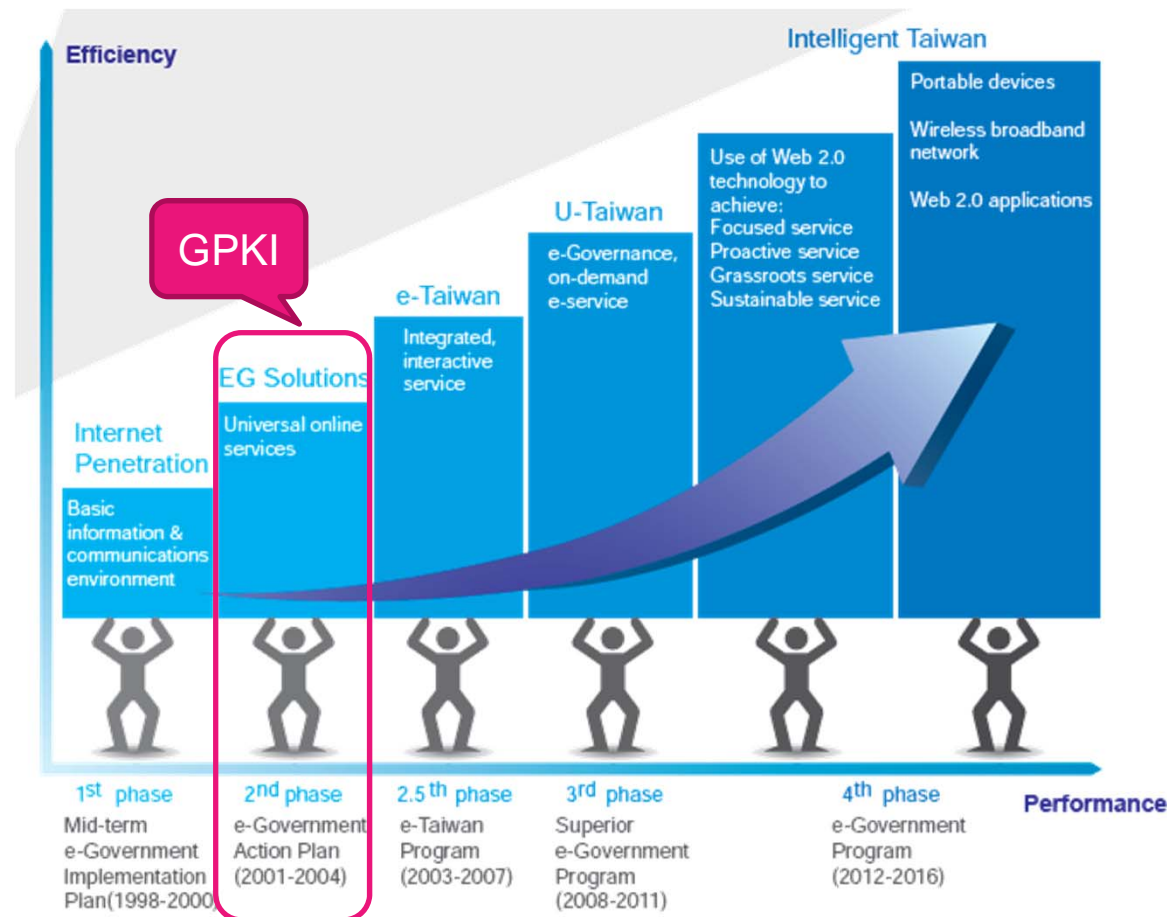
1. GPKI Enabled Application Overview
2. E-Government PKI Enabled Application in Taiwan
 - G2G Application (GCA) : Official Document Exchange
 - G2C Application (MOICA) : Income Tax Declaration and Payment
 - G2B Application (MOEACA) : Government Procurement
 - Other Applications
3. Q&A





GPKI in EGov Roadmap

- ❖ Government Public Key Infrastructure, GPKI) is based on the Electronic Government Action Plan (2001 ~2004).





The Development of GPKI

❖ First Phase: 1998~2001

- In the development of government electronic certification system, the goal of the first phase is to establish a common CA for each governmental sector to test. This single CA performs the functions of Root CA's and other related CAs'.

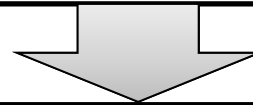
❖ Second Phase: 2002~

- The goal of the **second phase** is to construct a **Root CA**, according to the application status and technology maturity.
- **Also each government sector can establish necessary CA based on the GPKI Hierarchy.**



Taiwan GPKI Overview

E-Government PKI
phase 1 (1998~2001)



E-Government PKI
phase 2 (2002~)

2002.10.30



Government Electronic
Certification Steering Committee

GECSC



2003.3.3



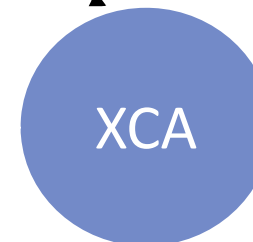
2003.3.3



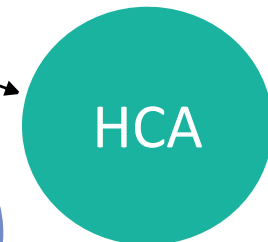
2003.5.1



2003.8.7



2004.3.17



2008.8.18



The Assignment of Each Certification Authority Responsibility

- ❖ According to the E-Gov Action Plan (2001 to 2004), the following stakeholders are responsible for the CAs.
 - National Development Council (Research and Development Council):
 - establish the GRCA, Government Certification Authority (**GCA**),
 - miXed Organizations Certification Authority (**XCA**),
 - Government Test Certification Authority (**GTestCA**)
 - Ministry of Economics
 - establish the CA of Ministry of Economic Affairs (**MOEACA**).
 - Ministry of Interior
 - establish the CA of Ministry of Interior for civilian. (**MOICA**)
- ❖ Healthcare Certification Authority (**HCA**) joined GPKI in 2008.



Government Electronic Certification Steering Committee

- ❖ To establish e-government digital certification system, to promote e-government PKI building, and to facilitate the development of government online information and services application, National Development Council (NDC) has instituted **Government Electronic Certification Steering Committee (GECSC)**.
- ❖ The (concurrent post) Convener of this Committee is designated by the Chair of NDC among the Vice Chairs, while the post of Executive Secretary is taken on by the head of Department of Information Management of NDC.
- ❖ **15 to 17 Committee members** are composed of experts and representatives from industry, academia, and public offices.





The Responsibility for the Steering Committee

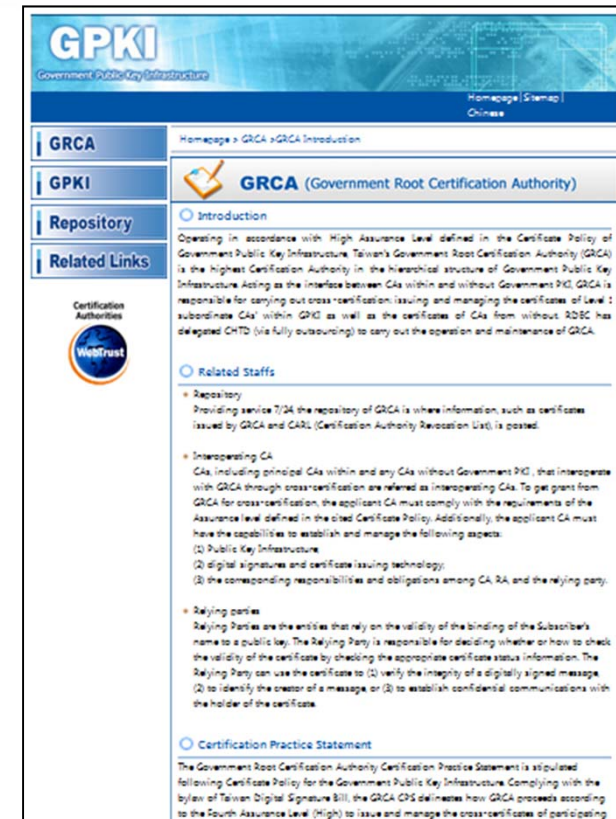
- ❖ To survey and review the Certificate Policies and Certification Practice Statements of CAs'.
- ❖ To survey and review technical standards of digital certificates.
- ❖ To survey and review framework of digital certificates.
- ❖ To survey and review related administrative issues of digital certificates.





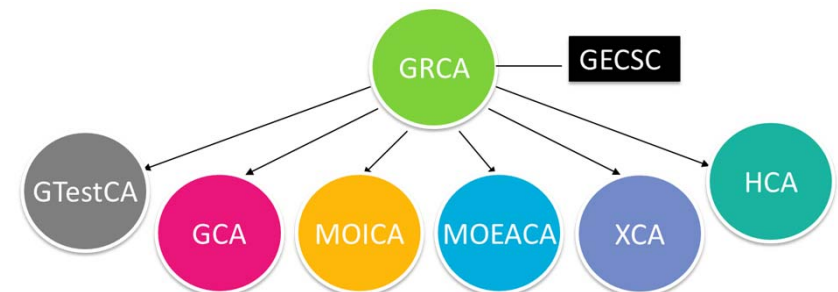
GRCA

- ❖ Taiwan's Government **Root Certification Authority** is the highest Certification Authority in the hierarchical structure of GPKI.
- ❖ Acting as the **trust anchor** of the Government PKI
- ❖ Owner : National Development Council (Research, Development and Evaluation Commission, Executive Yuan)
- ❖ Launch Date: 2002/10/30
- ❖ <http://grca.nat.gov.tw/>



Certificate Statistics

Total Number of Certificates Issued : 7





GCA

❖ Issues certificates to all Government Agencies, including

- Government Organizations / Agencies
- Government Organizational Units
- Sever Applications

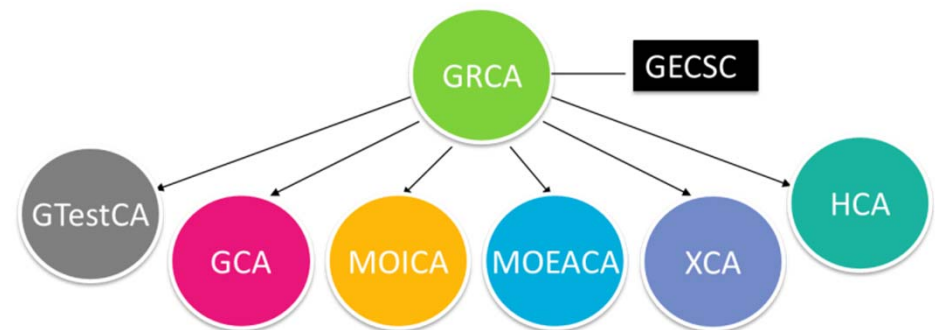
❖ Owner : National Development Council

❖ Launch Date: 2003/03/03

❖ <http://gca.nat.gov.tw/>



Certificate Statistics (Up to 2015/4/17)
Total Number of IC Cards Issued : 87,488





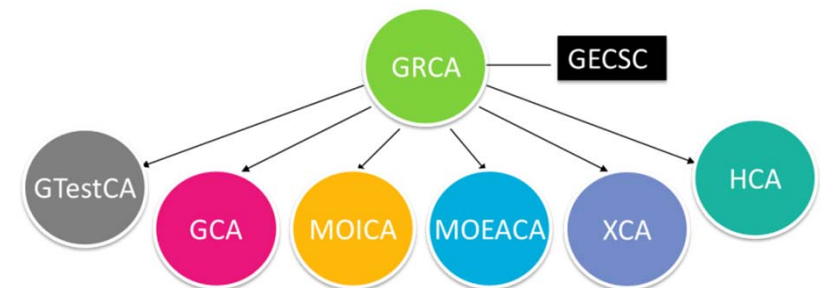
MOICA

- ◆ Issues certificates to the **citizens**
- ◆ Owner : Ministry of the Interior
- ◆ Launch Date: 2003/04/28
- ◆ <http://moica.nat.gov.tw/>
- ◆ Only for Taiwan citizen 18+ years old
- ◆ Non-mandatory
- ◆ Price : NT.250 (≐ USD 8)



Certificate Statistics (Up to 2015/4/17)
Total Number of IC Cards Issued : 4,524,962

2,404 Cards
issued yesterday





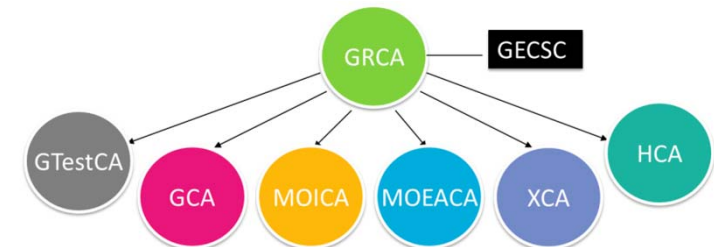
MOEACA

- ◆ Issues certificates to all industry and business groups, including
 - ◆ Companies / Branches
 - ◆ Proprietors
 - ◆ Factories
- ◆ Owner: Ministry of Economic Affairs
- ◆ Launch Date: 2003/08/07
- ◆ <http://moeaca.nat.gov.tw/>

Certificate Statistics (Up to 2015/4/17)
Total Number of IC Cards Issued : 1,183,321



RSA 2048

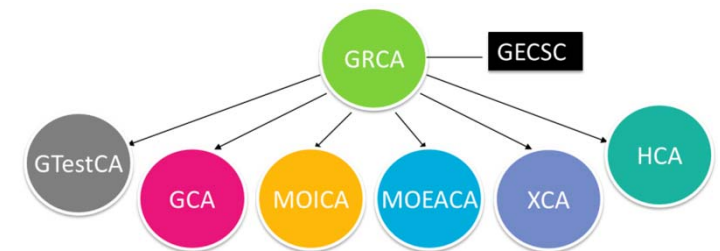
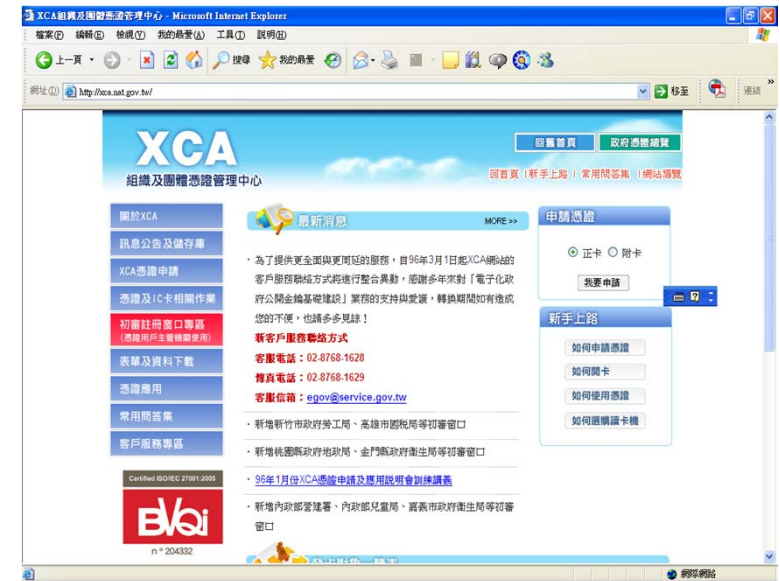




XCA

- ◆ Issues certificates to
 - School
 - Juridical associations, and
 - Consortiums
- ◆ Owner : National Development Council
- ◆ Launch Date: 2004/03/17
- ◆ <http://xca.nat.gov.tw/>
- ◆ Price : Free (borne by NDC)

Certificate Statistics (Up to 2015/4)
Total Number of IC Cards Issued : 84,461



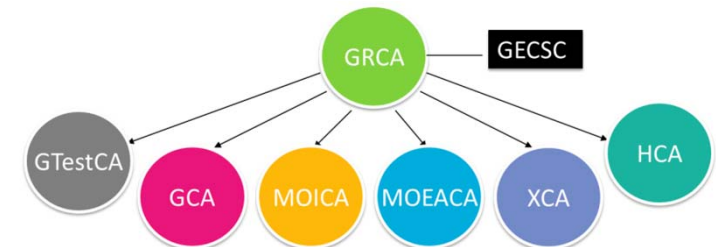


HCA 2.0

- ◆ Issues certificates to
 - Hospital (institute)
 - Doctors & Nurses (person)
- ◆ Owner : Ministry of Health and Welfare
- ◆ Launch Date: 2008/8/18
- ◆ <http://hca.nat.gov.tw>



Certificate Statistics (Up to 2012/10/23)
Total Number of IC Cards Issued : 196,567



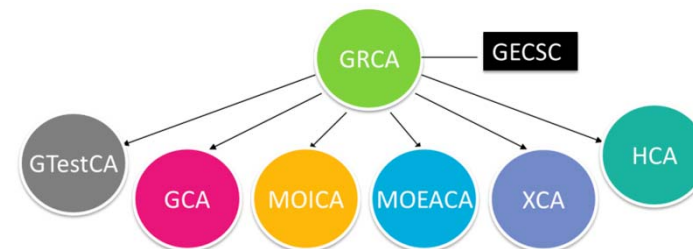


GTestCA

- ◆ Issue testing certificates for GPKI Applications
- ◆ Owner : National Development Council
(Research, Development, and Evaluation Commission)
- ◆ Launch Date: 2003/03/03
- ◆ <http://gtestca.nat.gov.tw/>



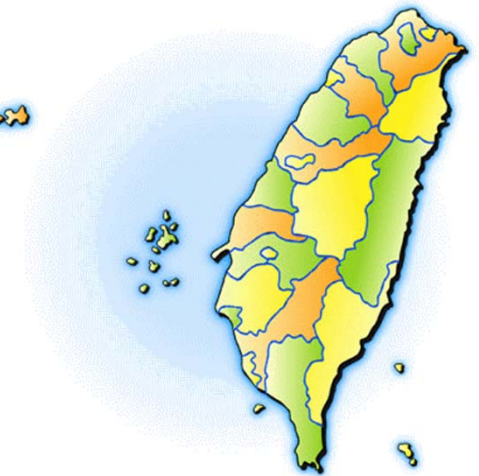
2003/1/1~2008/3/31, Total number 19,242
2008~now approximate 23,663





2. E-Government PKI Enabled Application in Taiwan

2.1 G2G Application (GCA) Official Document Exchange



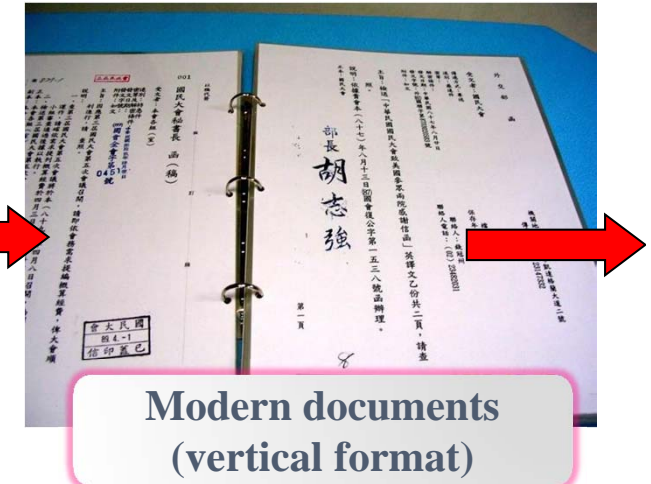
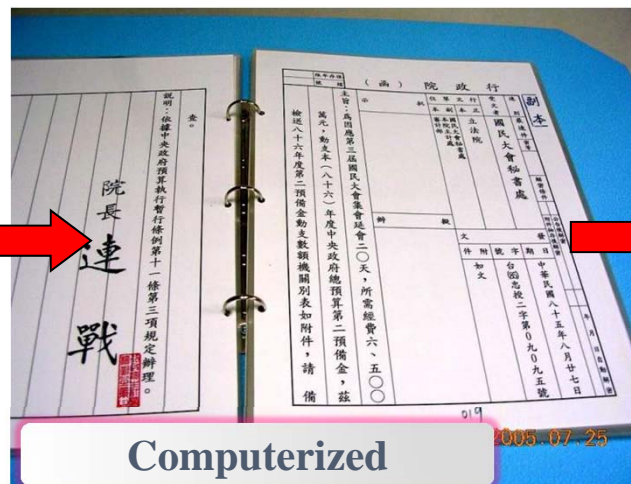
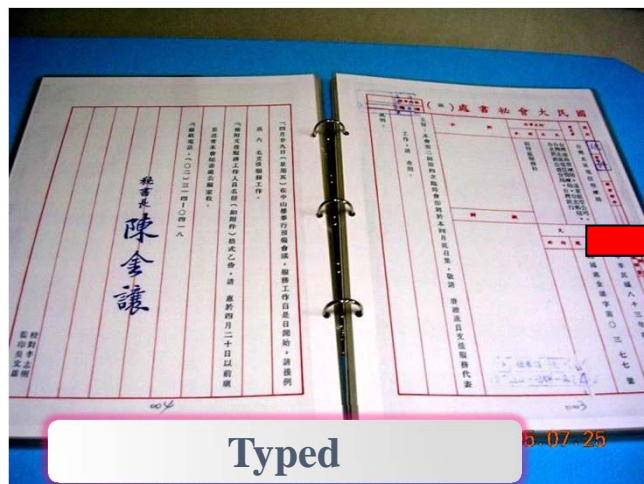
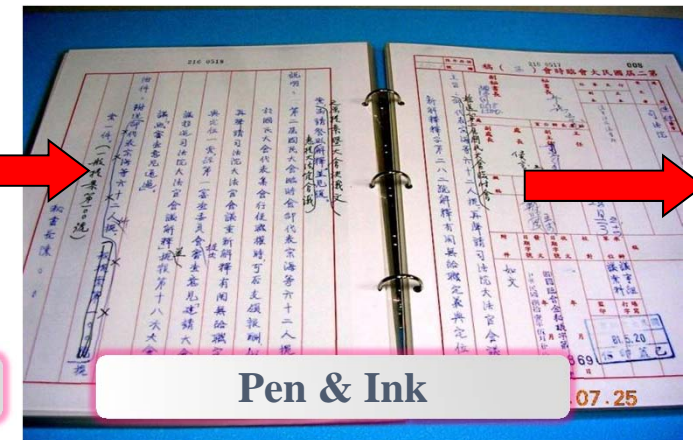
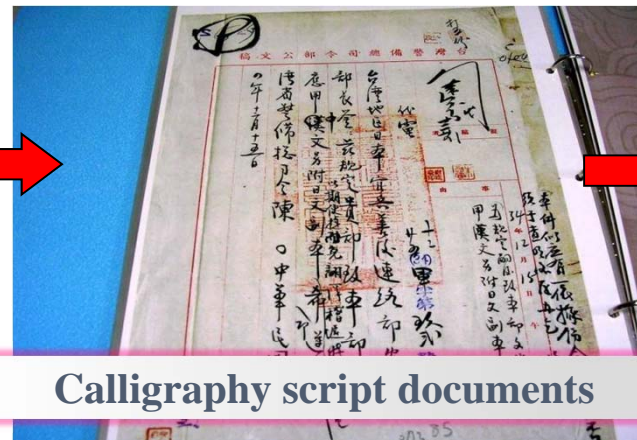
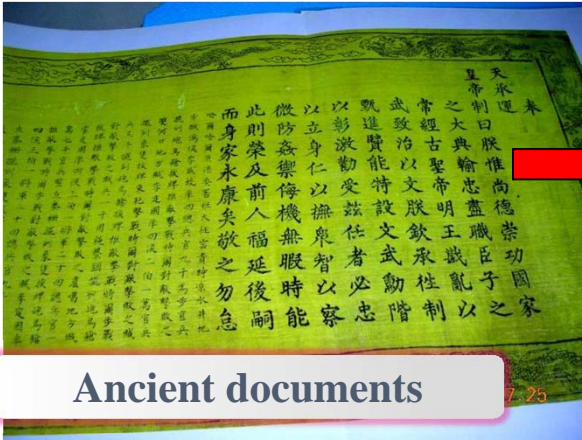
e-Government Application

Official Document Exchange System





Evolution of Chinese Official Documents





Why e-Document Exchange System?

- Each agency/branch has its own document editing and exchange application software.
- Each **exchange centers** built by local agencies can not intercommunicate.

We need a **neural network** among government agencies with standardized and reliable exchange mechanism!

OBJECTIVE:

- ❖ Enhance **efficiency** of document exchange
- ❖ **Strengthen** official document administration procedures
- ❖ Improve the **cost-effectiveness**
- ❖ Provide **better services** to enterprises & public
- ❖ Create a **business friendly environment** for foreign and domestic investment



Requirements of EDRMS

Electronic Document and Record Management System



As-IS

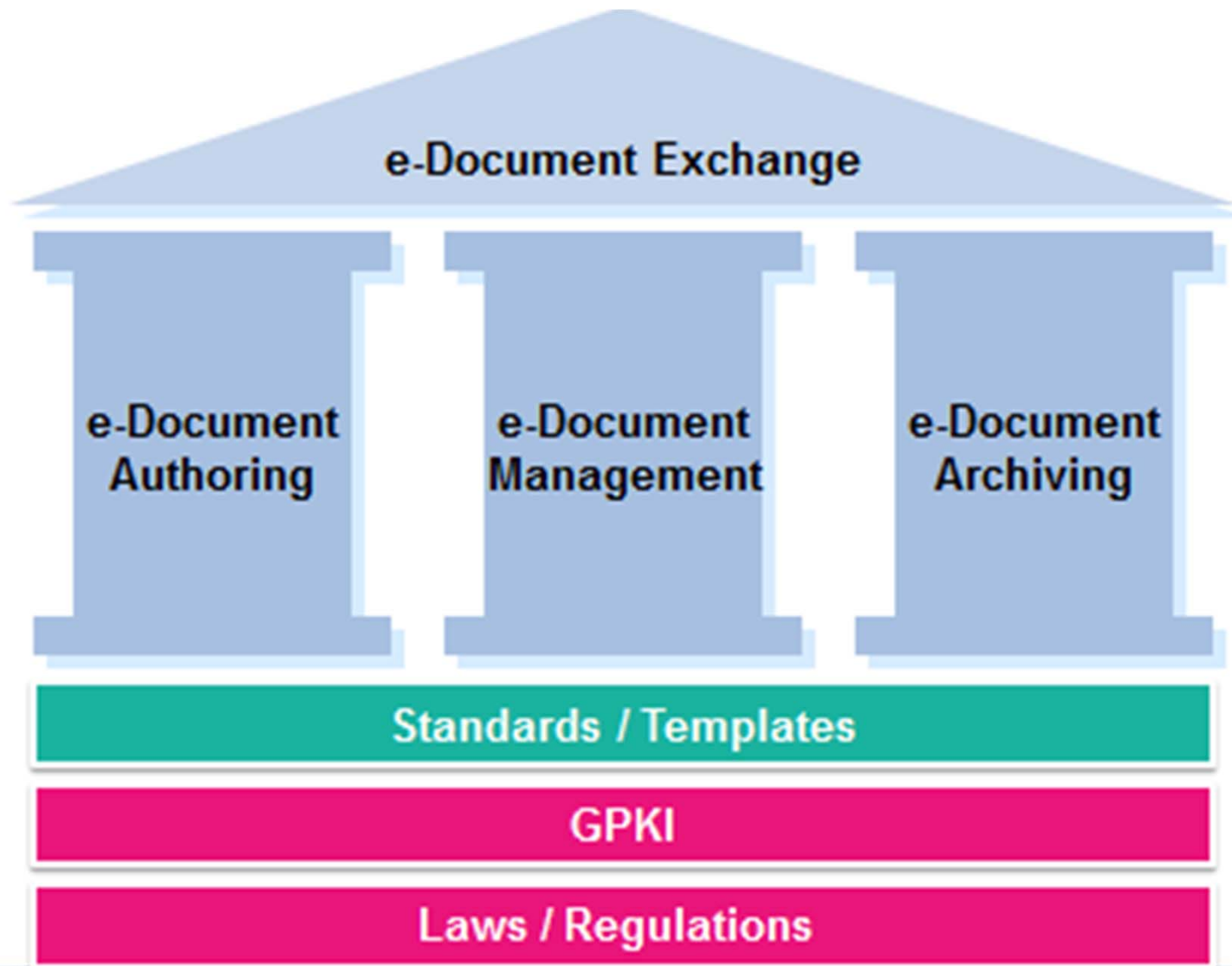


To-Be



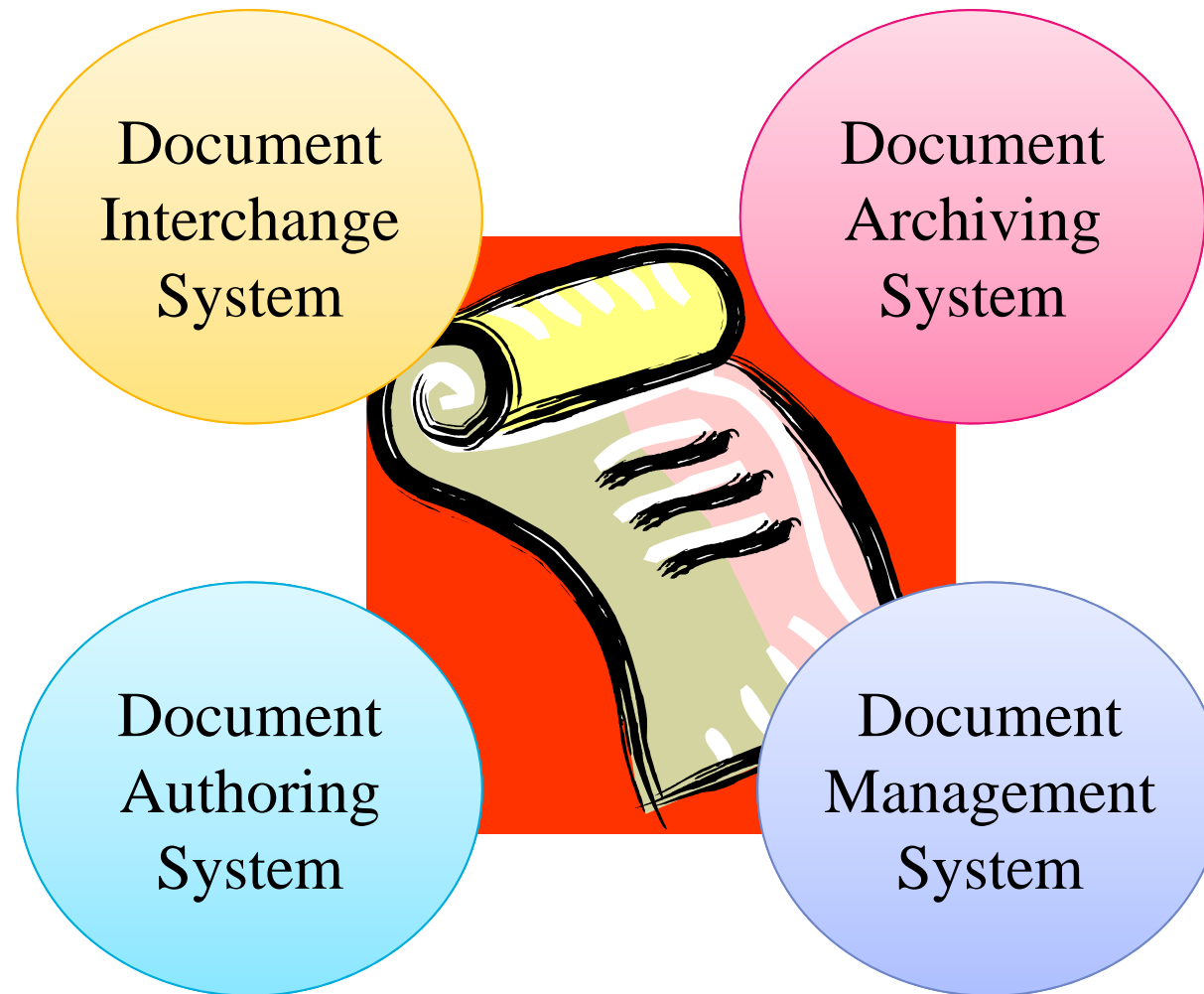


Scope of EDRMS



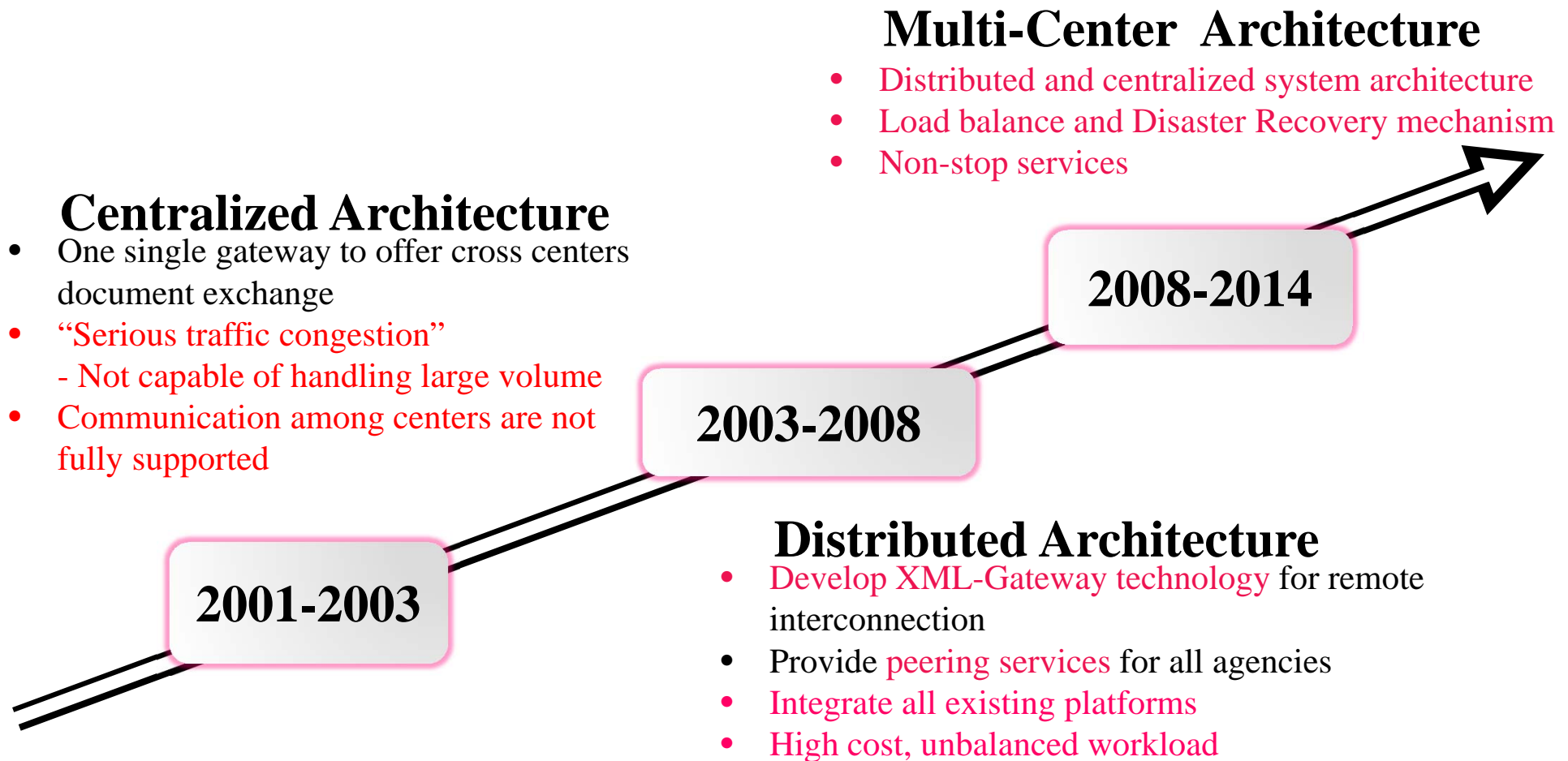


Four Dimensions of Official Document System



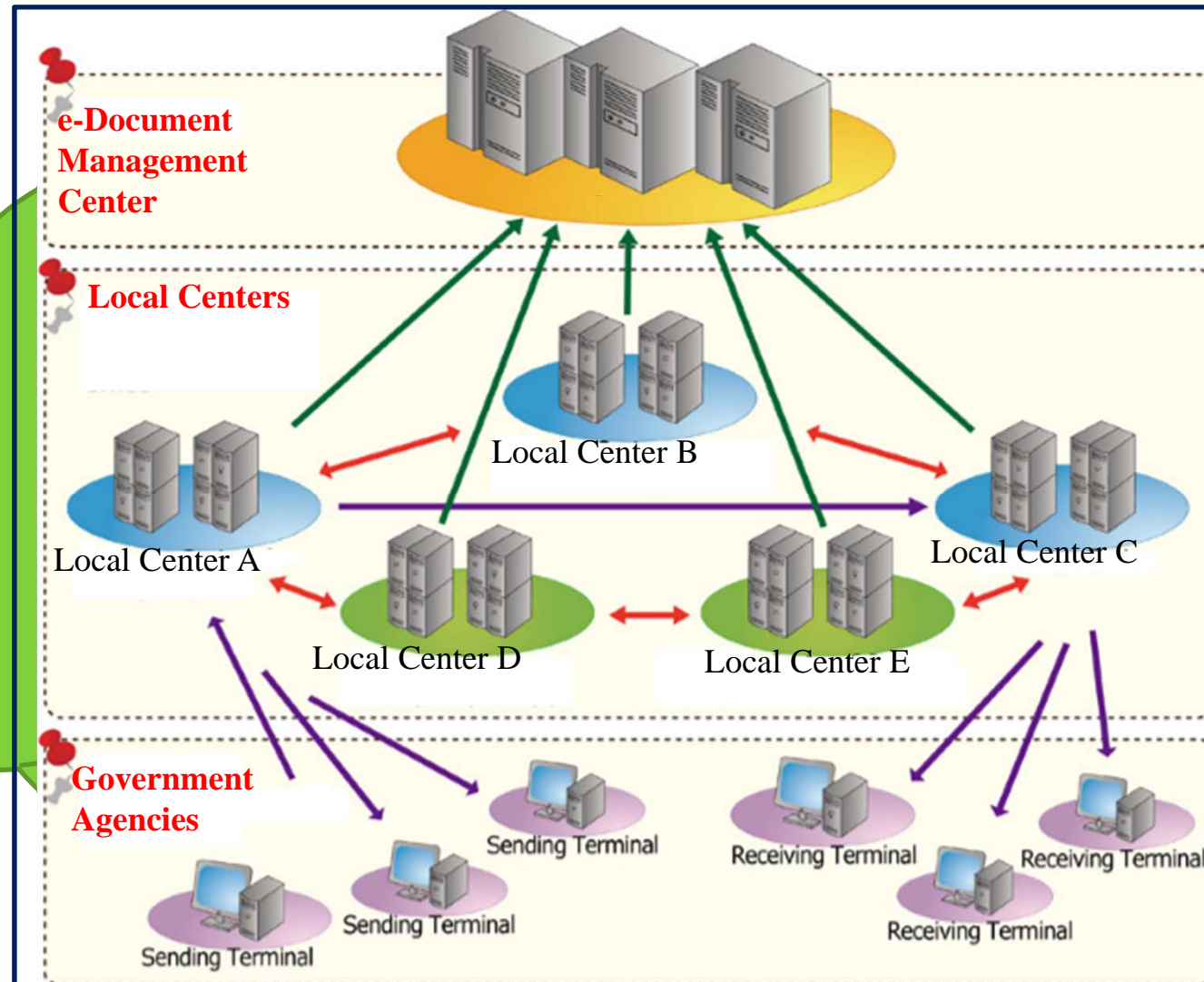


Evolution of e-Document Service





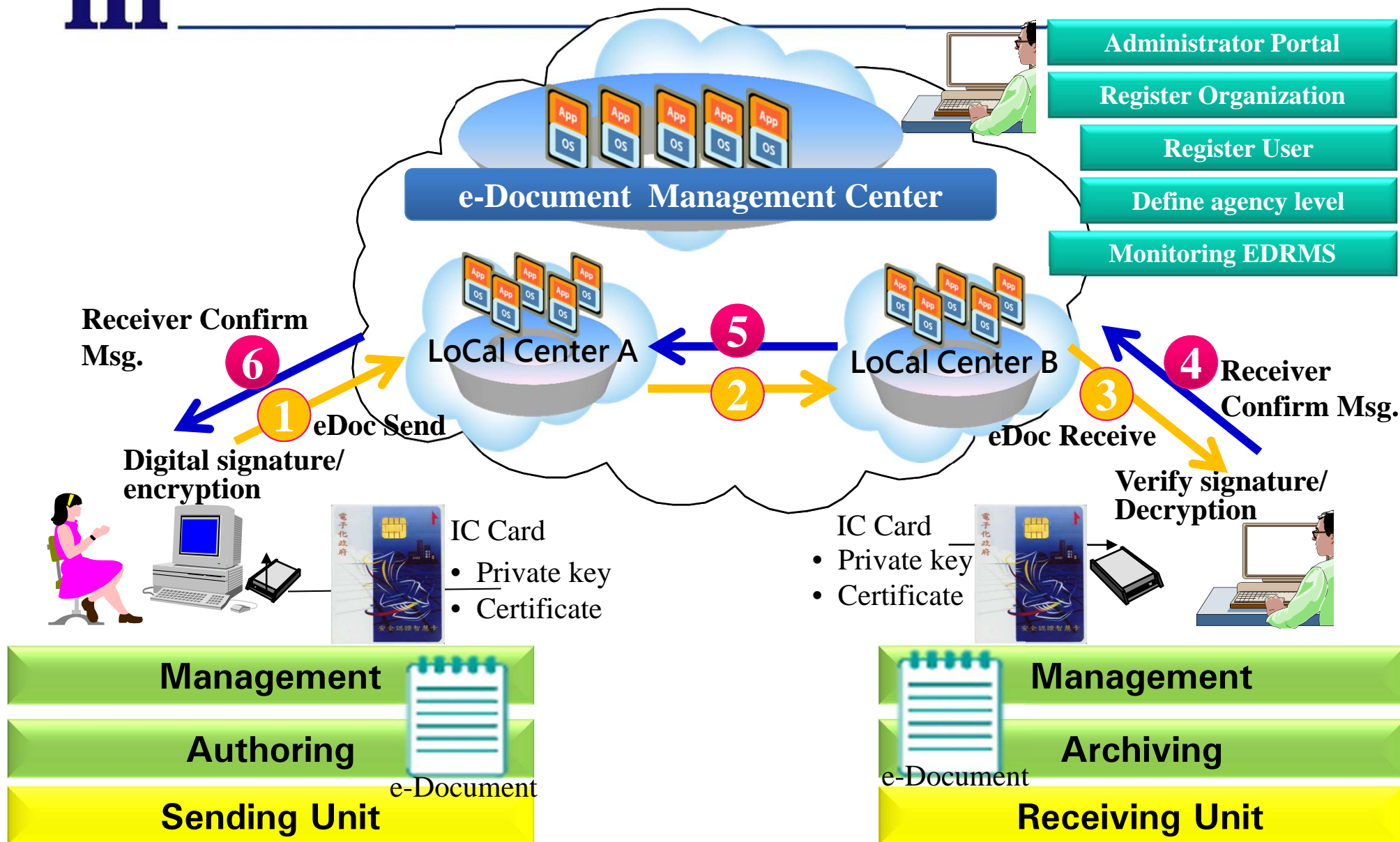
e-Document Exchange Architecture (1)



- Green: exchange Center reporting Exchange history to Center
- Orange: Documents and forms delivered between exchange Centers
- Purple: Documents and forms delivered between Exchange Terminals and the Departments

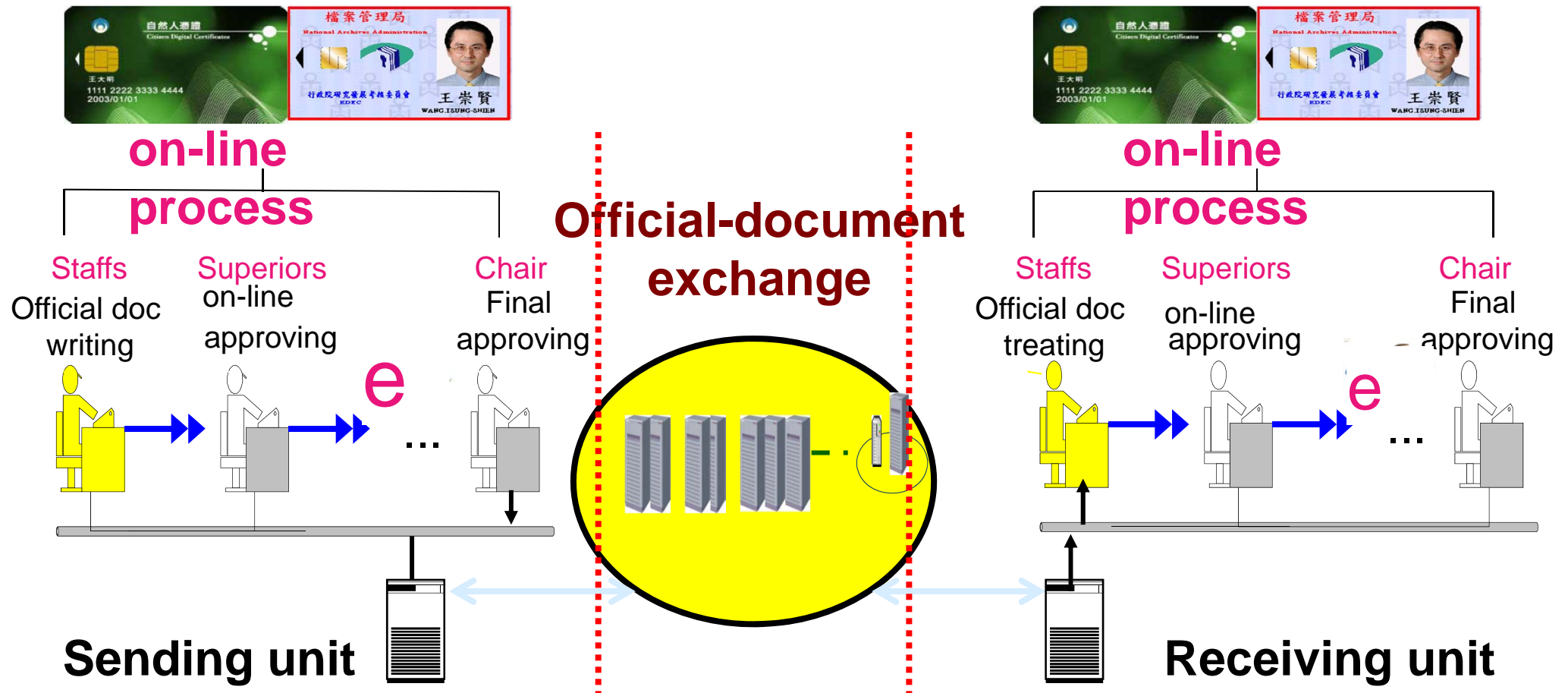


e-Official Document Delivery Scenario (2)





Official Document Online Approval





e-Document Exchange Systems Operations



Specification
Revision



e-Document
SIG

e-Document
Management
Center

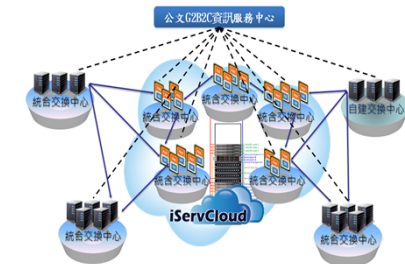
Promotion
(Government/
business)



Operation,
Administration
& Call Center



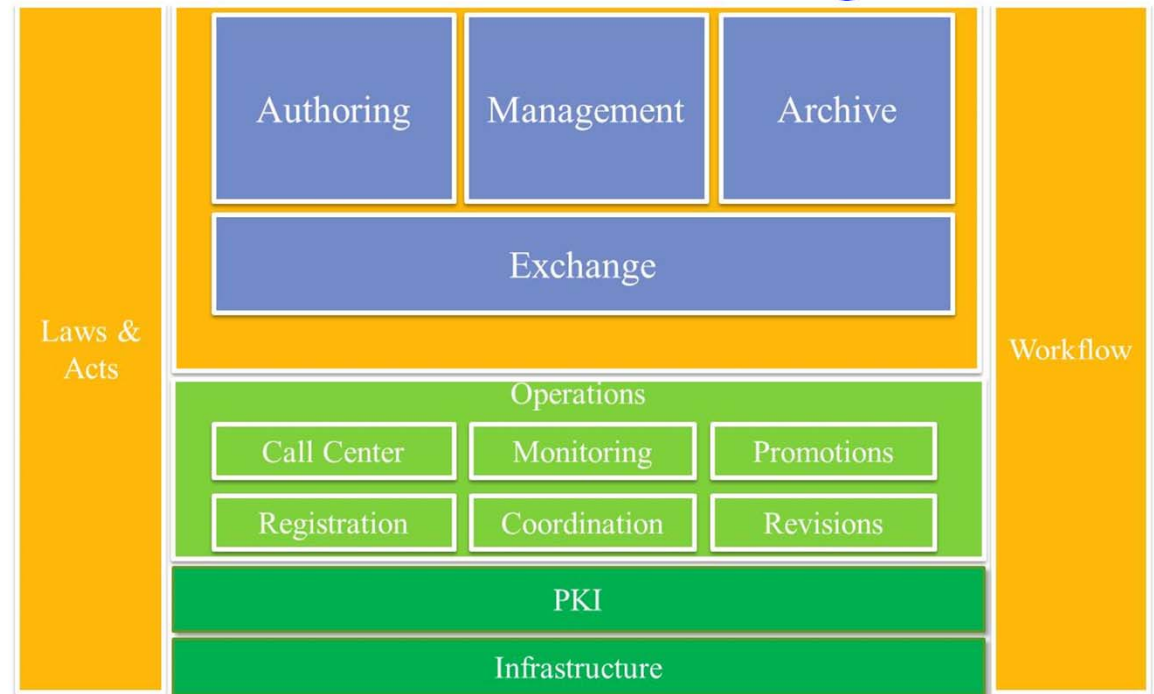
G2B2C
e-Document
exchange
system





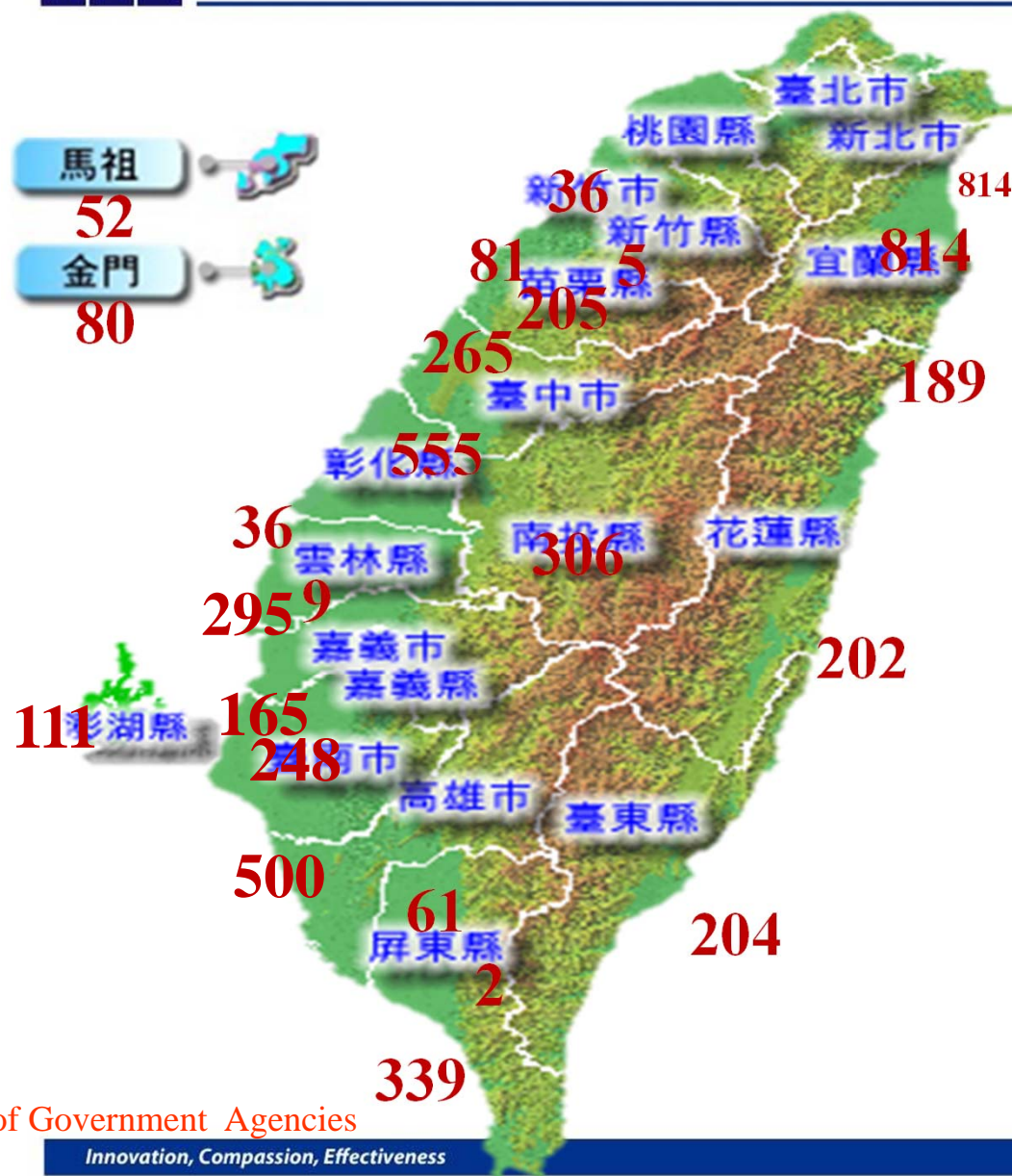
How to make it all work?

- ❖ E-Document Building blocks
- ❖ Organization Architecture
- ❖ Laws, regulations, and guidelines
- ❖ The other aspects of a Document Exchange System
 - Workflow
 - Metadata (data fields)
- ❖ Security





Distributions of Local Centers in Taiwan



Central Government Enterprises

➤ **38** Local Centers **2** Local Centers

➤ **18358** Agencies **7833** Agencies

總統府	22	中選會	26
研考會	55	行政院共構	124
客委會	5	調查局	55
省諮議會	3	勞委會	89
通傳會	17	內政部	415
文化部	80	法務部	1491
國科會	74	行政執行署	13
中央銀行	21	審計部	42
臺灣省政府	12	國防部	141
故宮	4	財政部	333
飛安會	1	考試院	71
公平會	14	海巡署	105
原民會	3	農委會	326
國科會	74	農業機構	372
監察院	23	外交部	154
立法院	26	經濟部	938
立法委員	113	司法院	371
環保署	33	新北市議會	1
檔管局	9	資策會	73

of Government Agencies

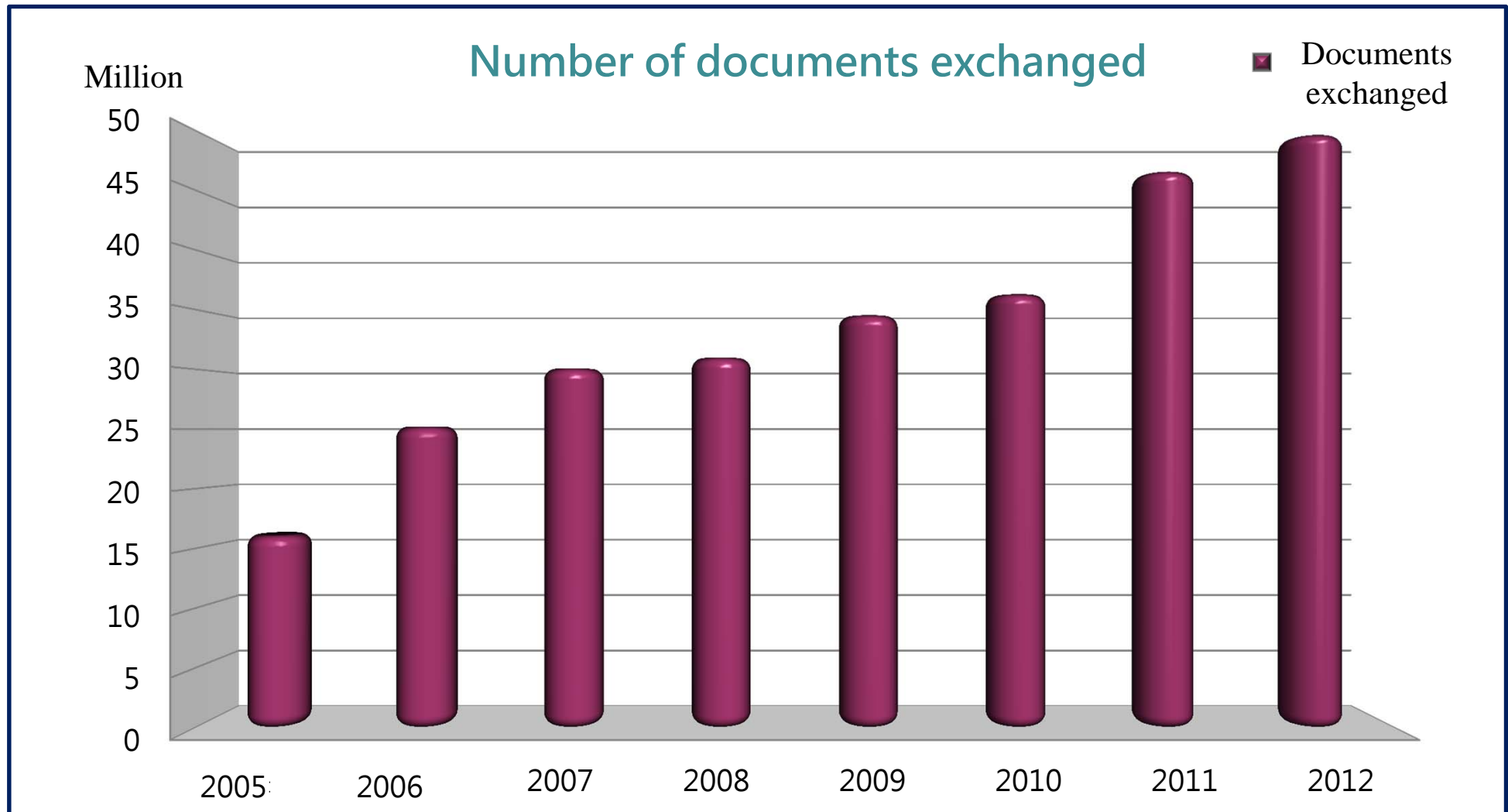
Innovation, Compassion, Effectiveness

© 2014 Institute for Information Industry

28



Growth in e-Document Exchange





Key Achievements 2014

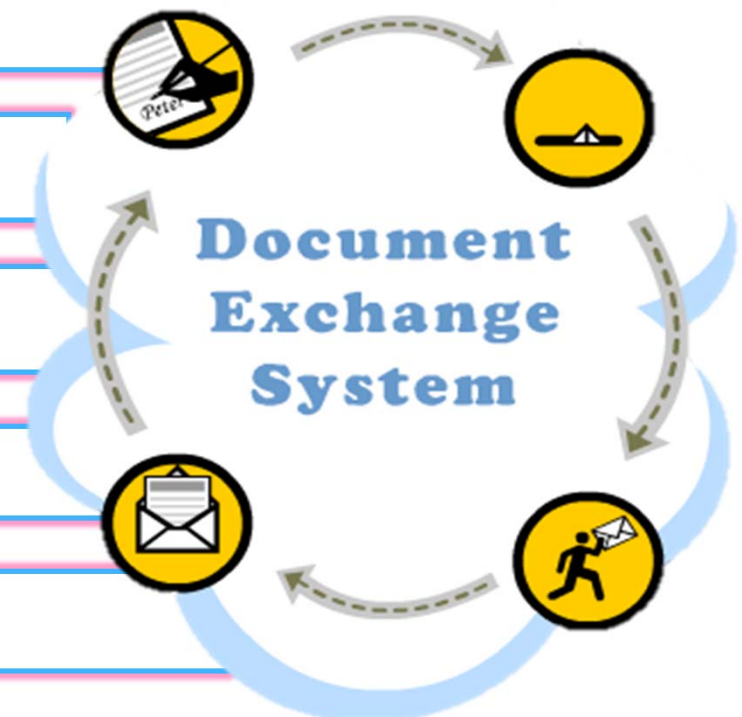
250,000 copies per day

> **600 million** copies exchanged

18,358 government & 7,833 private units

\$32.3M USD saved per year

Efficiency, Accountability, Reusability





Awards



**Best
Project
Award**



**National
Standardization
Award**



**AFACT
eASIA
Award**

e-Business in
Public Sector
The winner on the
best creativity and



Select Top 50





Performance Improvements

Item	Before	Now
Interchange Efficiency	2~3 Days	< 1 Hour
Delivery Cost	>1US\$ /copy	<0.1US\$ / copy
Management	Difficult	Easy
Archive format	Paper	Electronic media
Reusability	NA	Yes
Security Control	Difficult	PKI



Other Benefits

- ❖ **Speed**, the four aspects of e-document system.
- ❖ Government **Accountability** – non-repudiation
- ❖ **Standardization**
- ❖ **Cost Effective**
- ❖ **Green**
- ❖ **Security** – encryption, digital signature, identification
- ❖ **Reusability**
- ❖ **Traceability**
- ❖ **Archiving** – digital archiving, fast

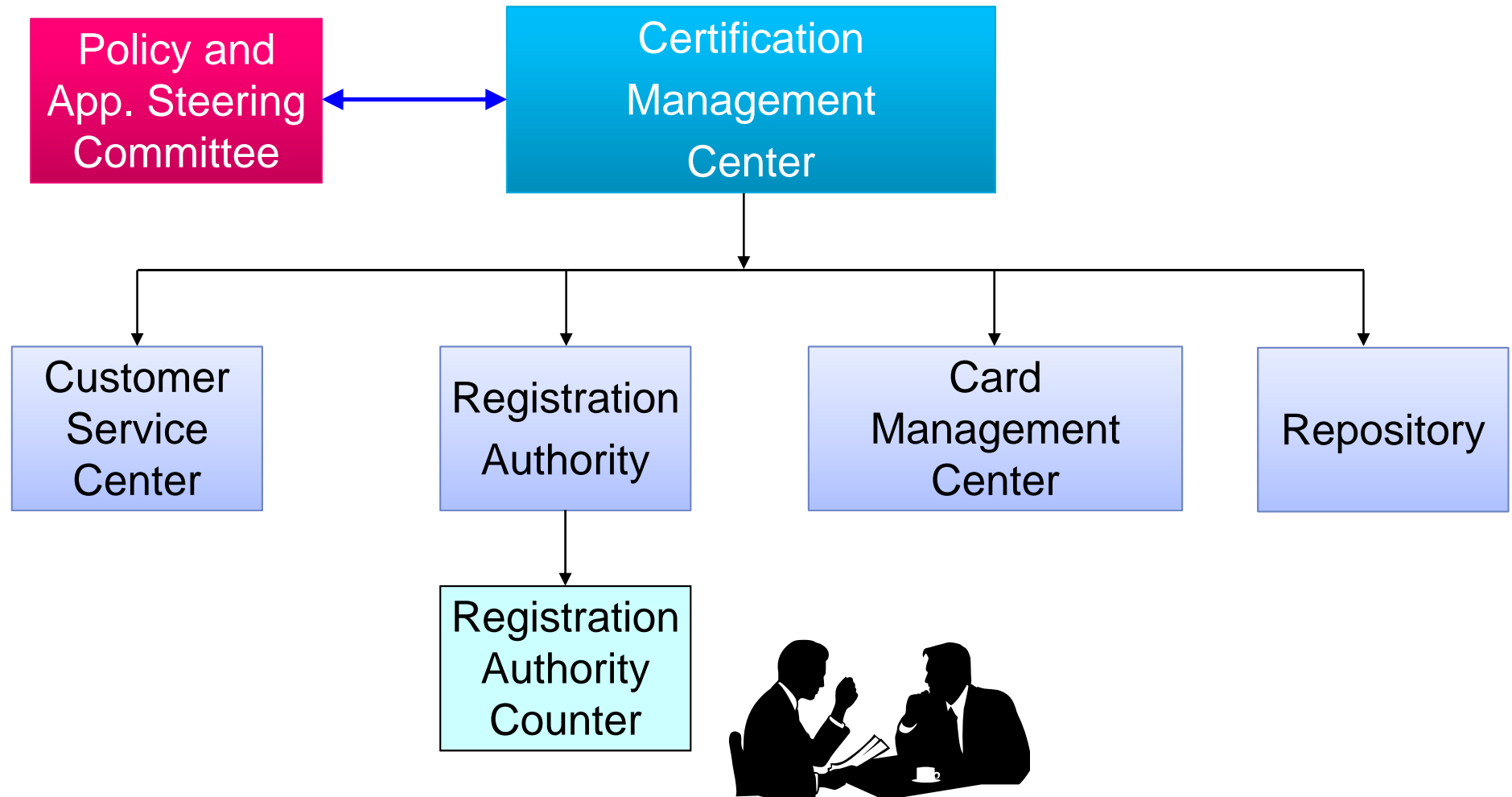


2. E-Government PKI Enabled Application in Taiwan

2.2 G2C Application (MOICA) Income Tax Declaration and Payment



The Structure of MOICA





The Structure of MOICA

□ Individual Income Tax E-filing Services

2012 : Mobile Tax-Filing by Using Citizen Digital Certificates

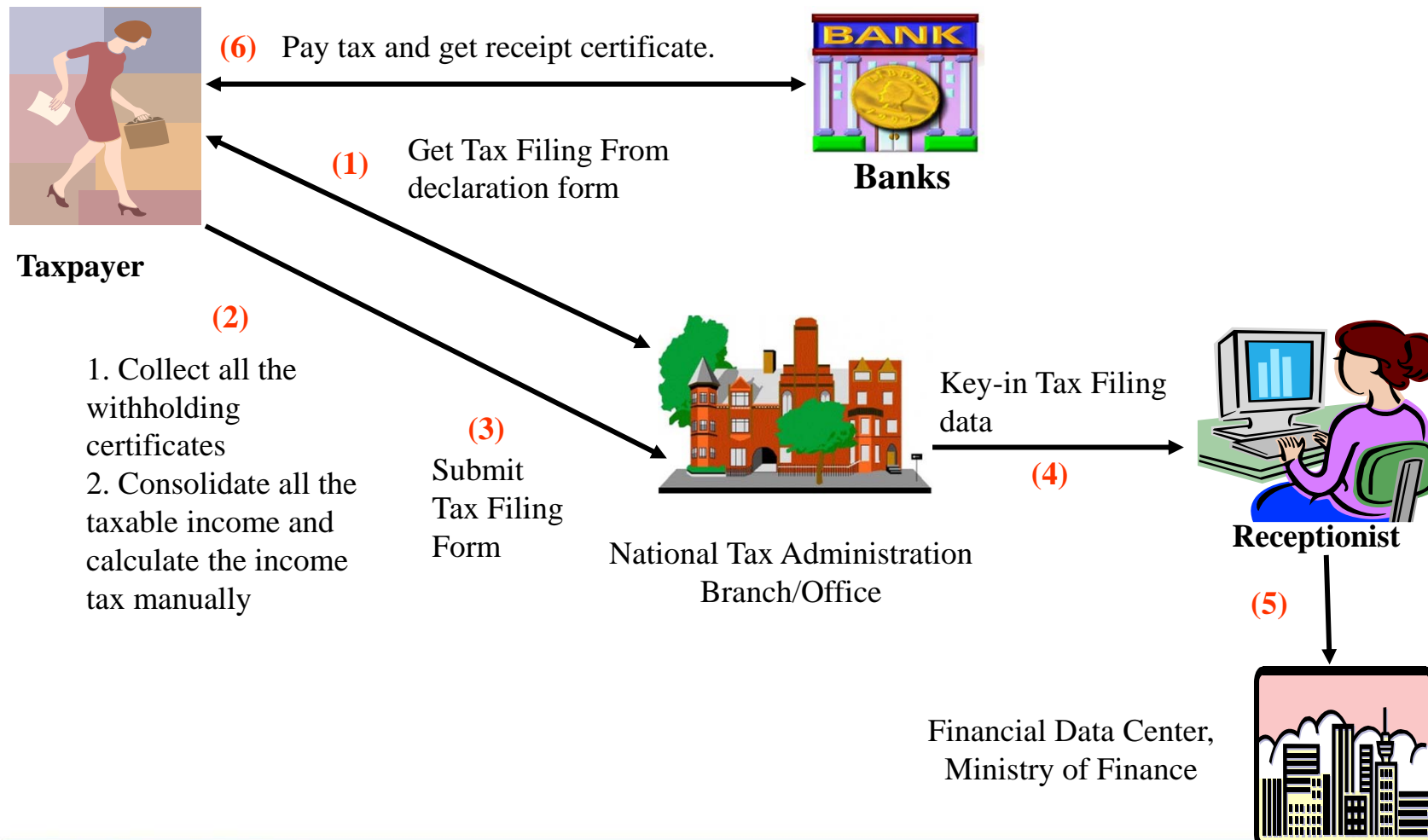
- The **Ministry of Finance** has set up “Online Inquiry” at its” Taxation Portal”.
- Citizens can inquire online taxation information such as
- comprehensive income tax, finance data
- unpaid tax

1-2-3 finish tax declaration in 3 mins



Business Flow (Before)

Manual Tax Filing Process

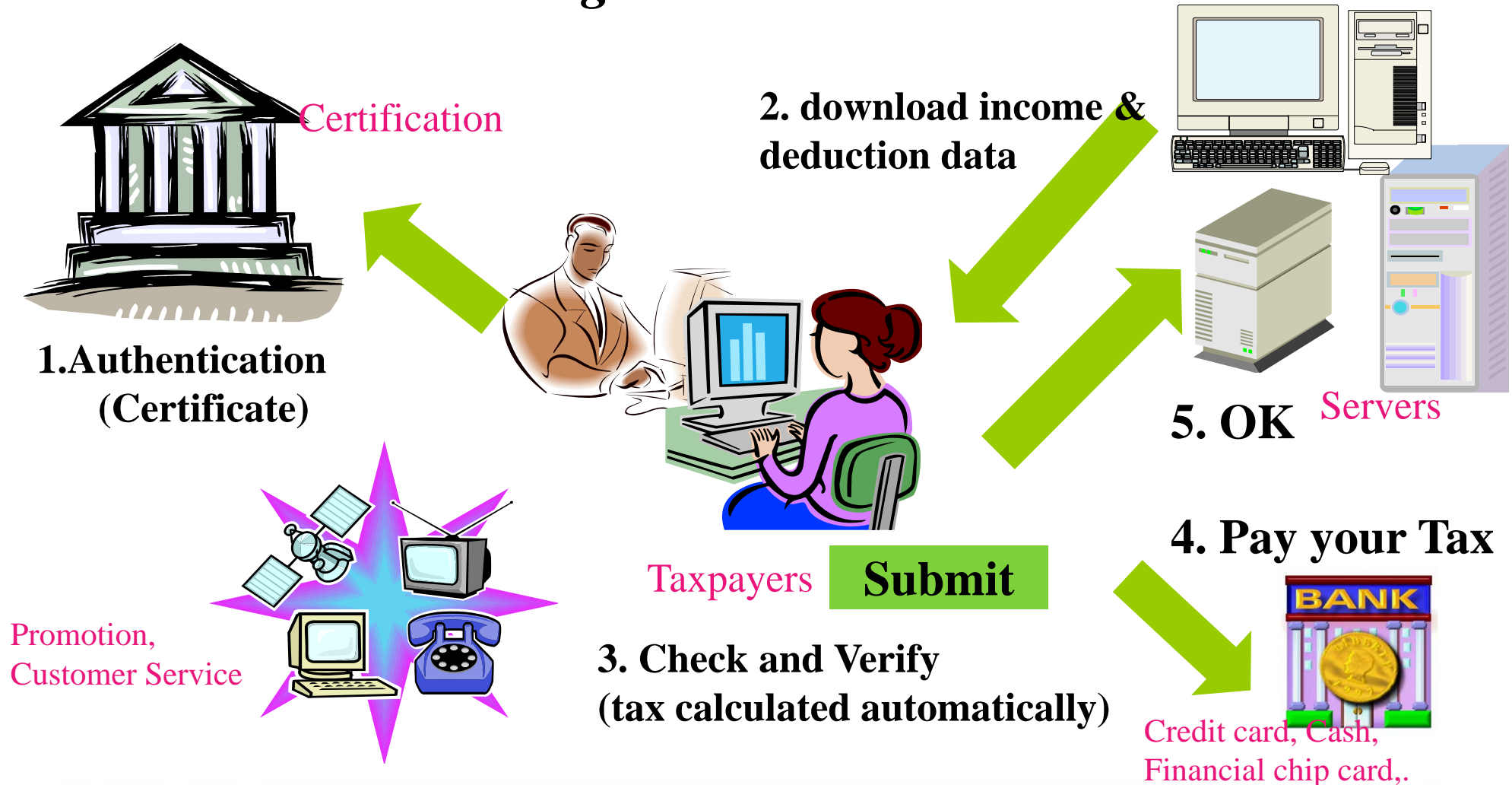


[illegible]



Business Flow (After)

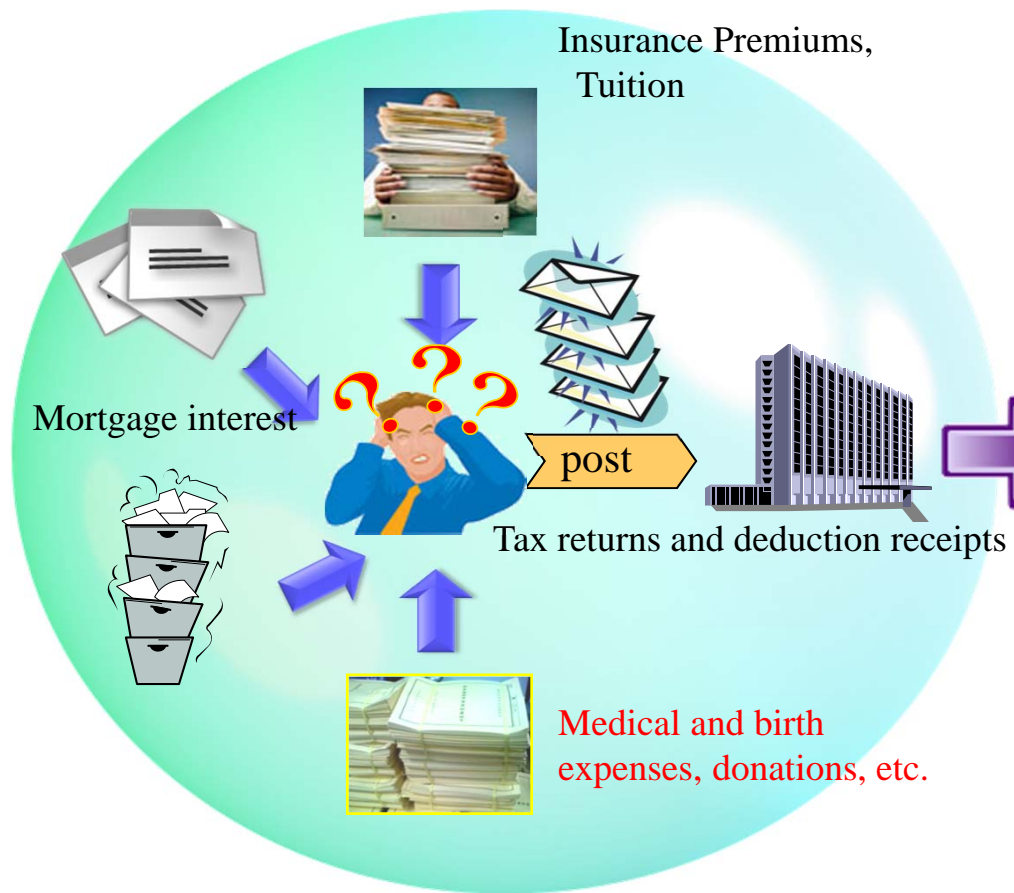
Innovated e-Tax Filing Service Business Flow



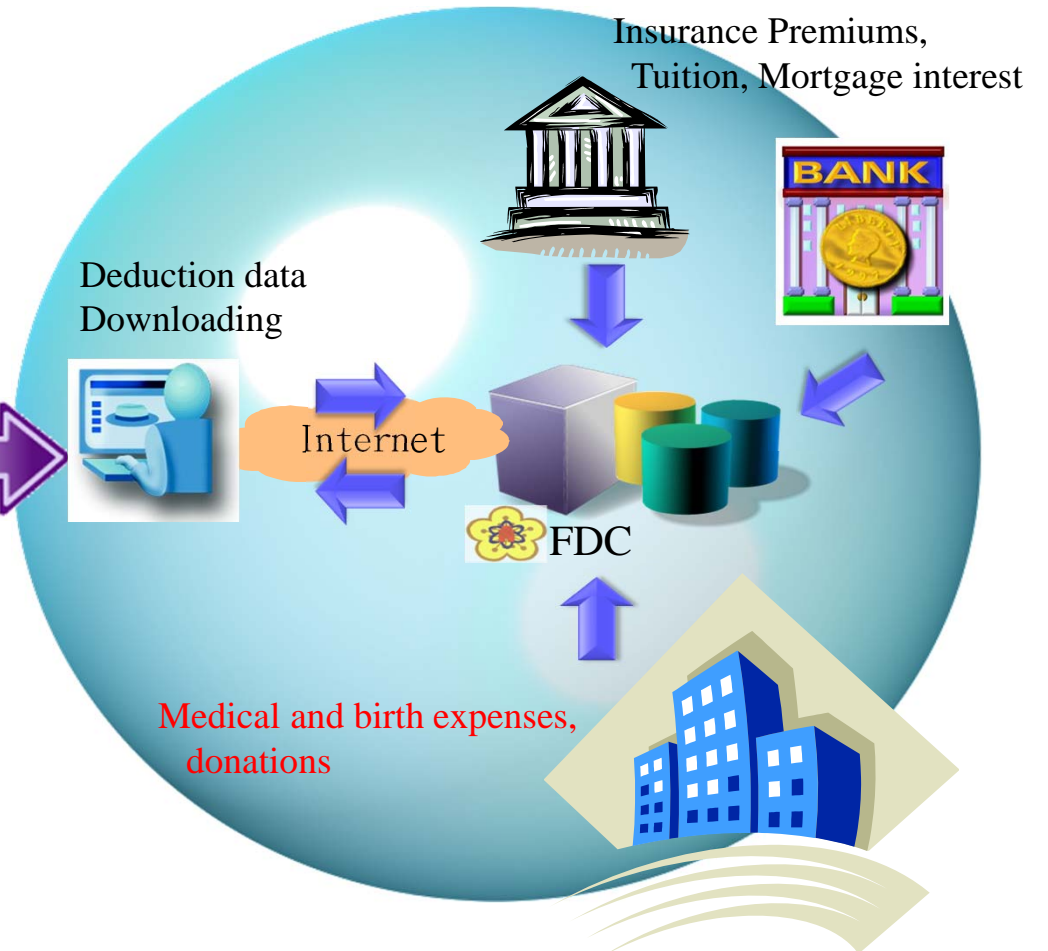


The Innovation

The Past

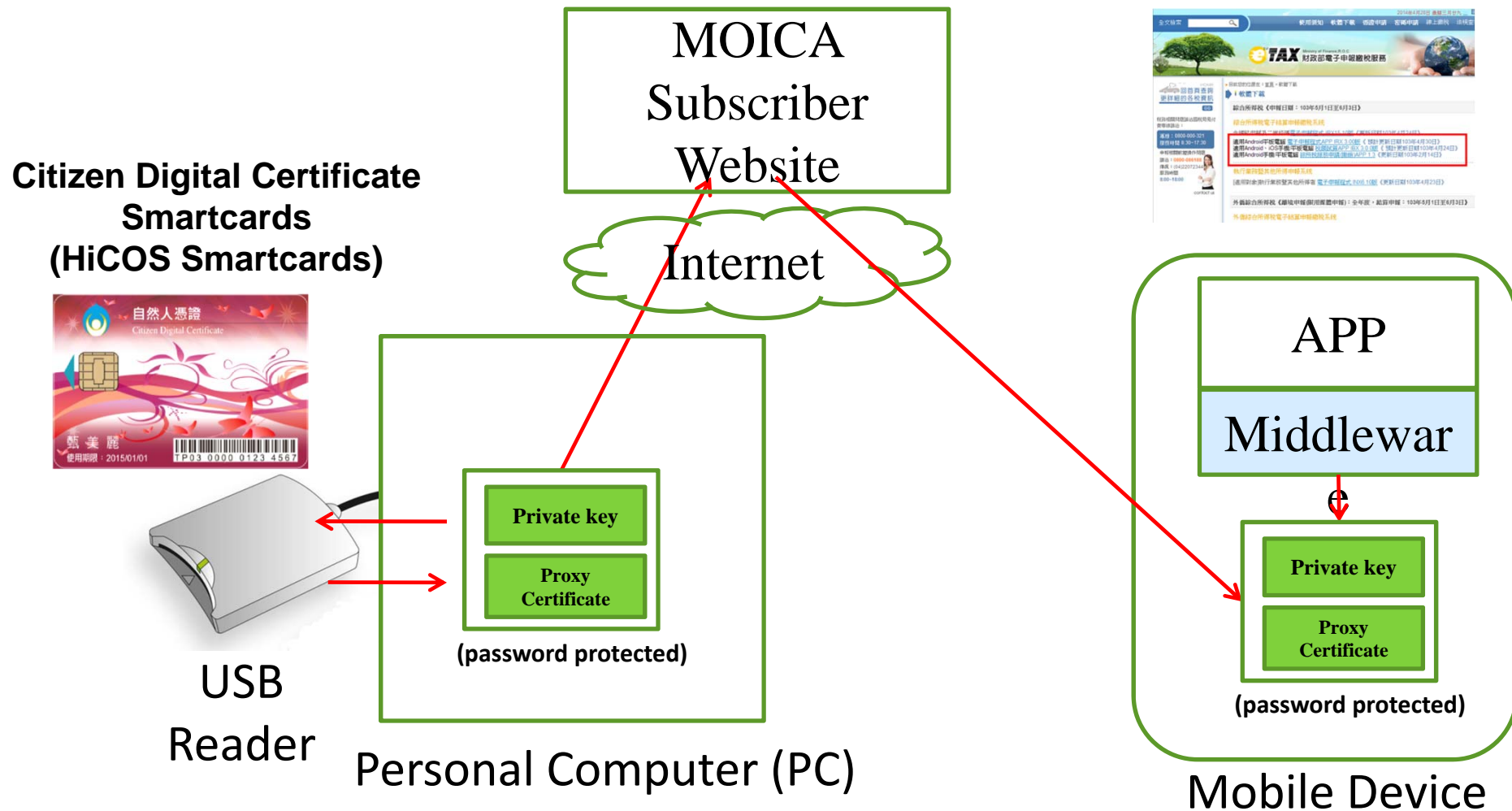


The Future (Paperless)





New Service of Mobile Tax-Filing by Using Citizen Digital Certificates





Mobile Tax-Filing

- ❖ Use **Citizen Digital Certificate** to Sign a Temporary / Proxy Certificate for Mobile Taxation Service use.
(a software certificate, used for Android devices)
- ❖ Download the Temporary/ Proxy Certificate in **24 hours**.
- ❖ Download the **Taxation Service APP** from MOF Website or Google Play.
- ❖ Use the Temporary / Proxy Certificate and Taxation Service APP to complete the tax filing (and payment)
- ❖ The Temporary Certificate will be expired on **1st June** (the deadline of tax filing is 31st May)

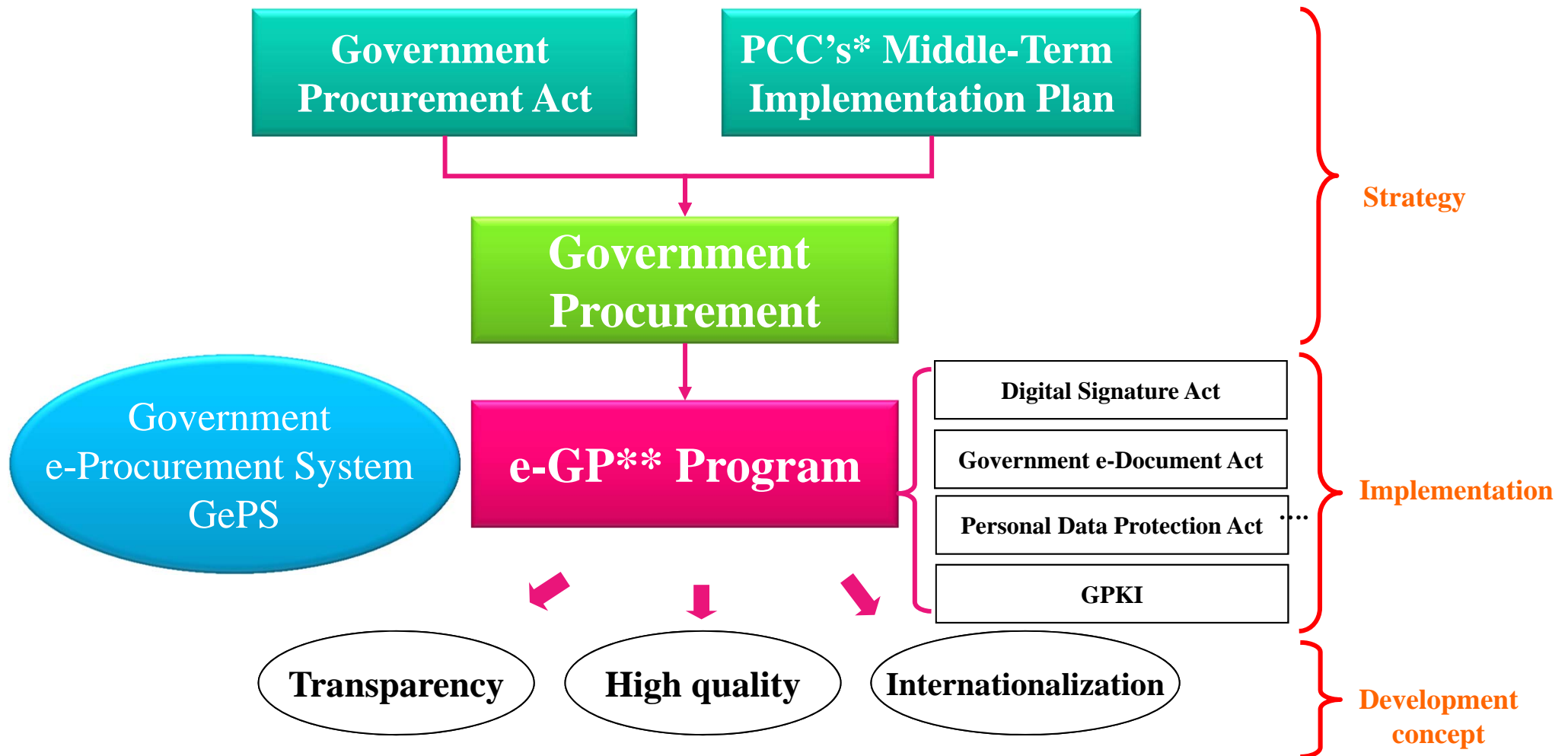


2. E-Government PKI Enabled Application in Taiwan

2.3 G2B Application (MOEACA) : Government Procurement Other Applications



The Background of e-GP Program

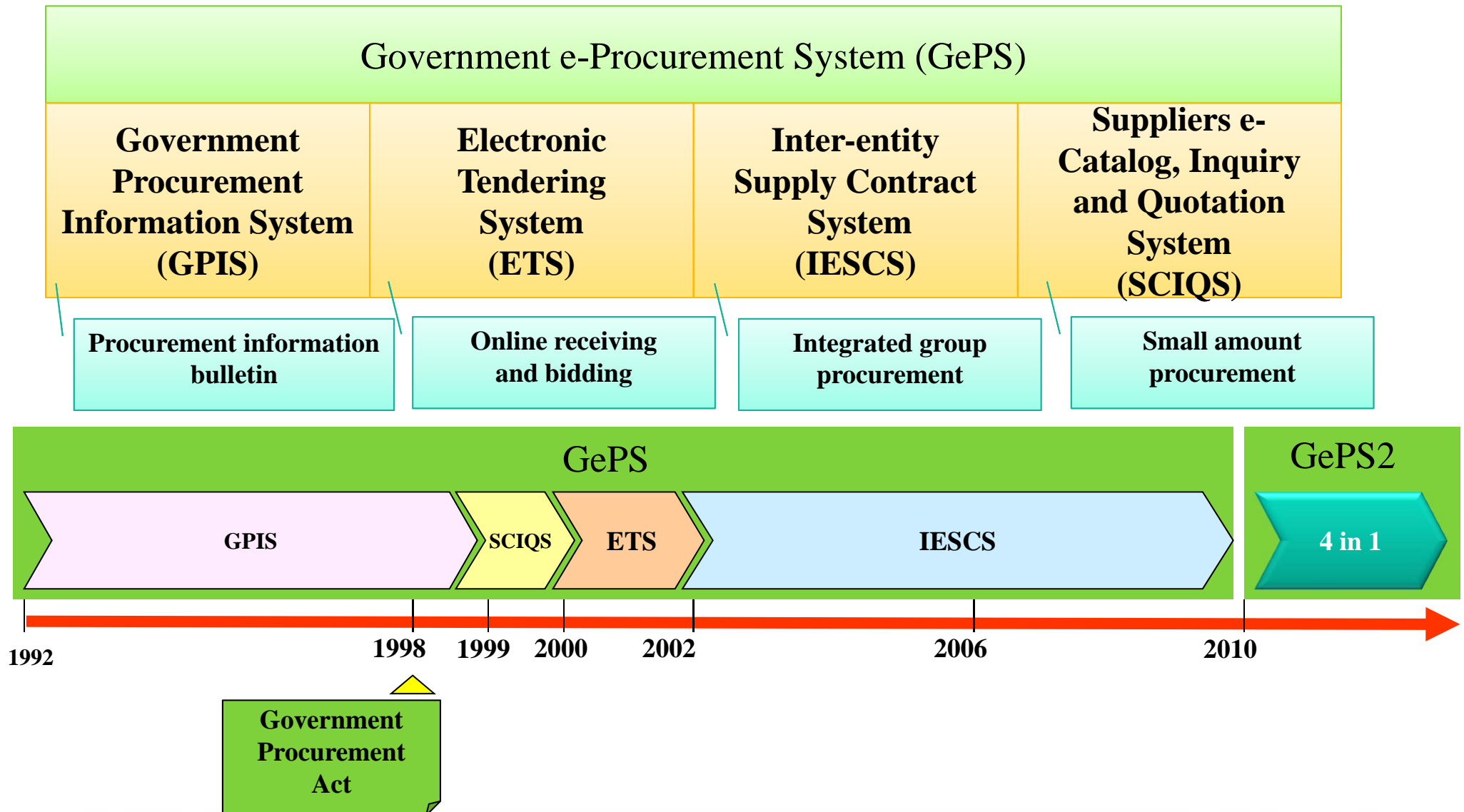


Notes: *PCC : Public Construction Commission, Executive Yuan

**e-GP : electronic government procurement

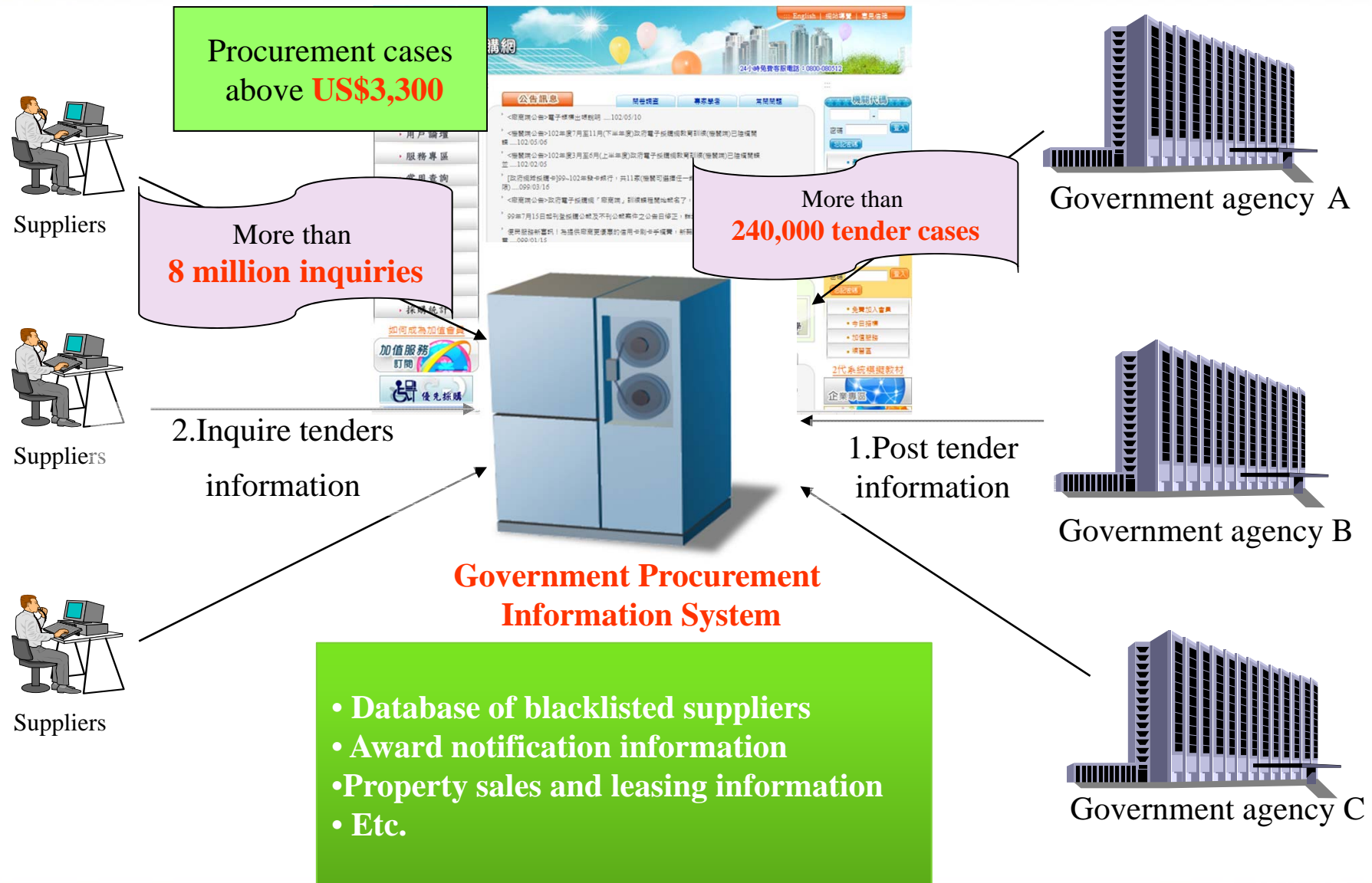


History of e-GP Program



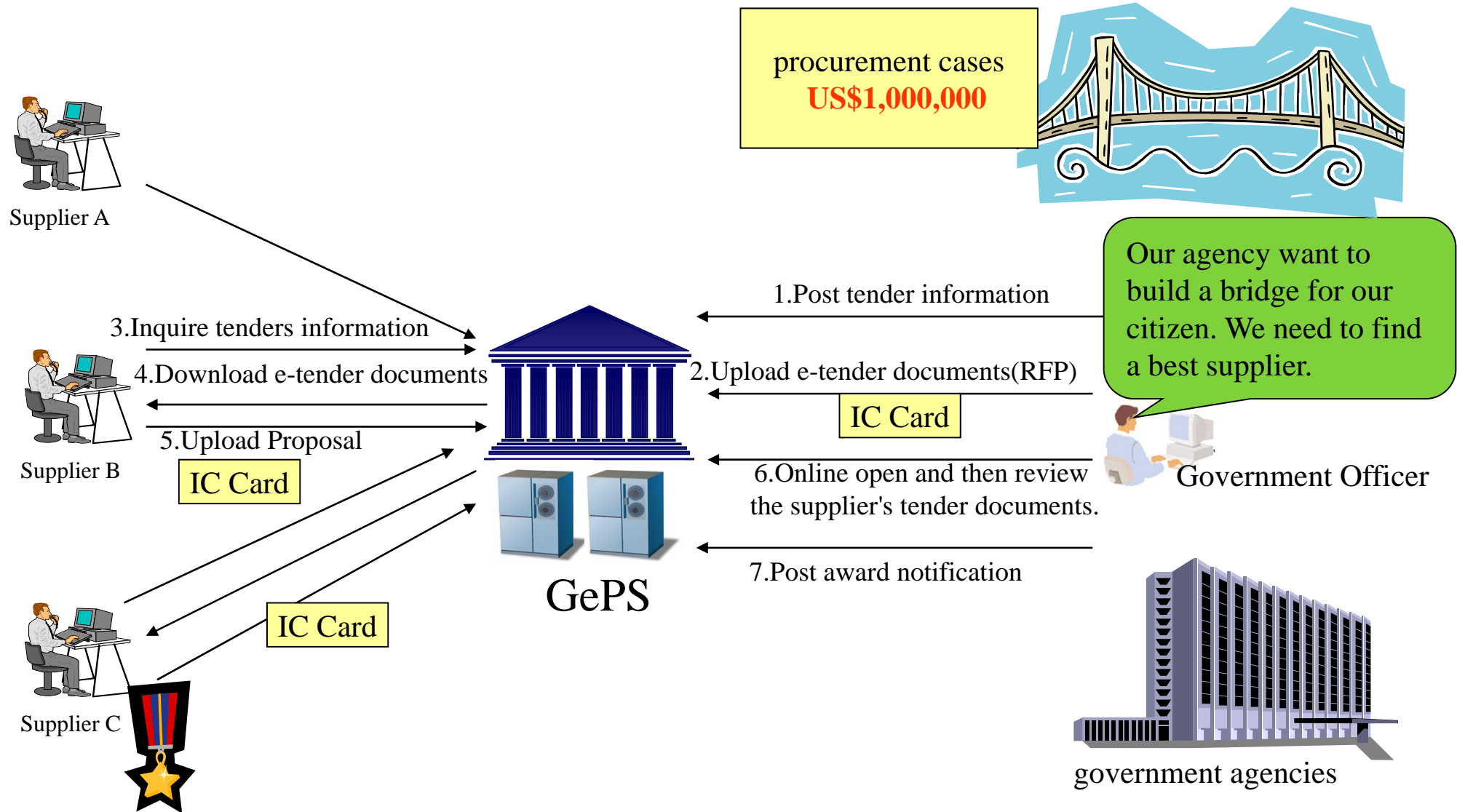


Government Procurement Information System



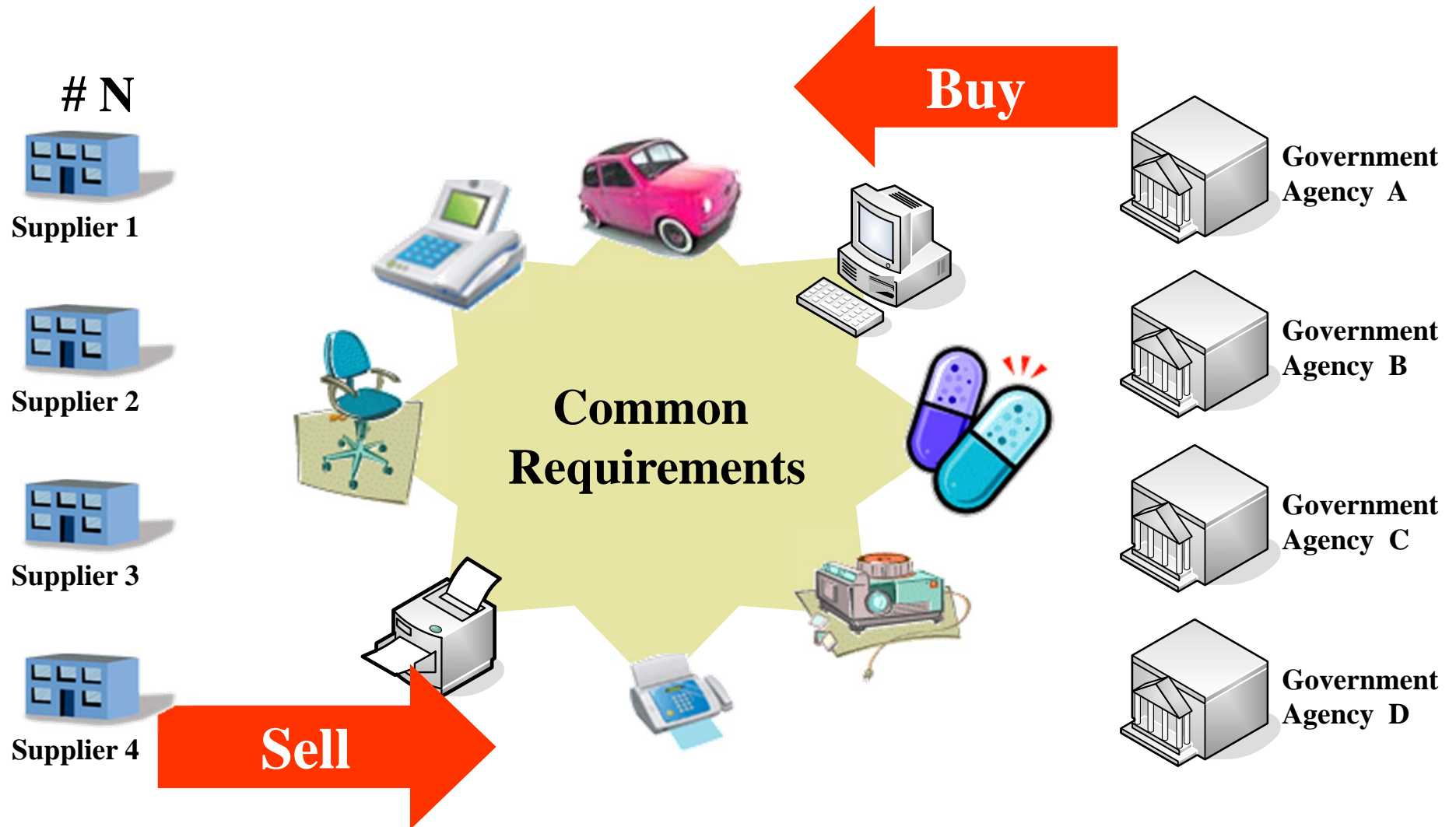


Scenario of Procurement Bidding Case



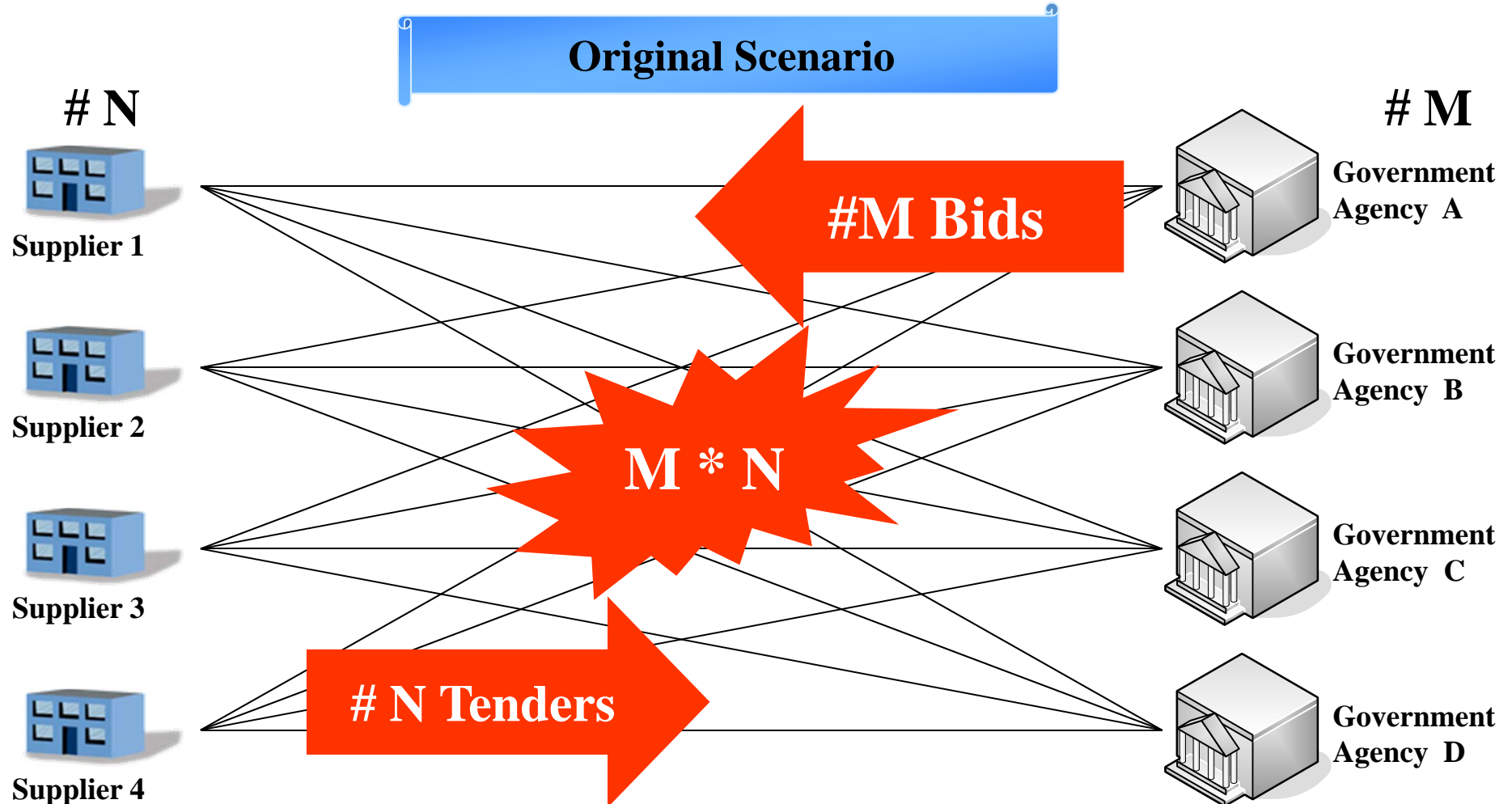


Concept of Common Supply Contract (1/3)



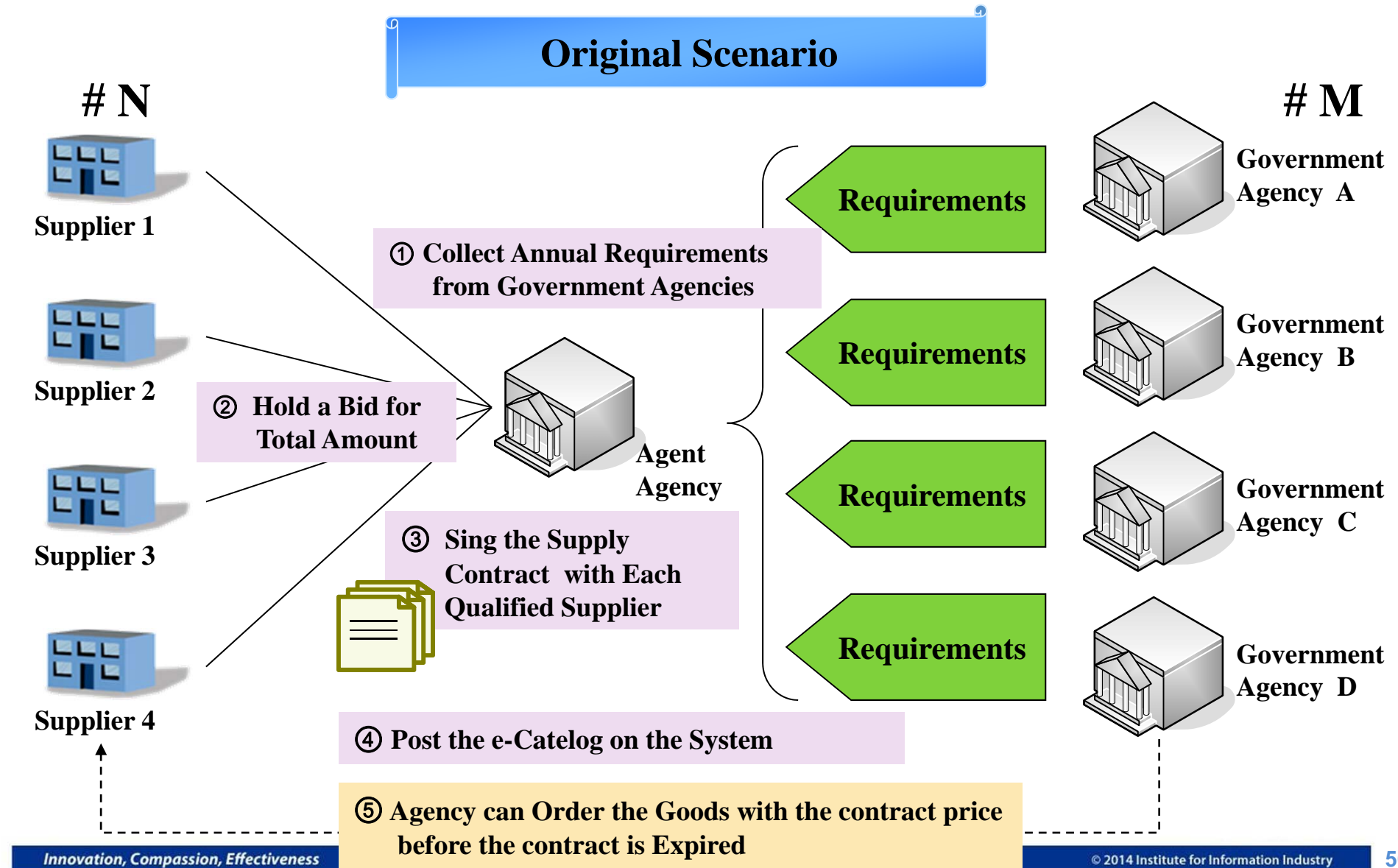


Concept of Common Supply Contract (2/3)



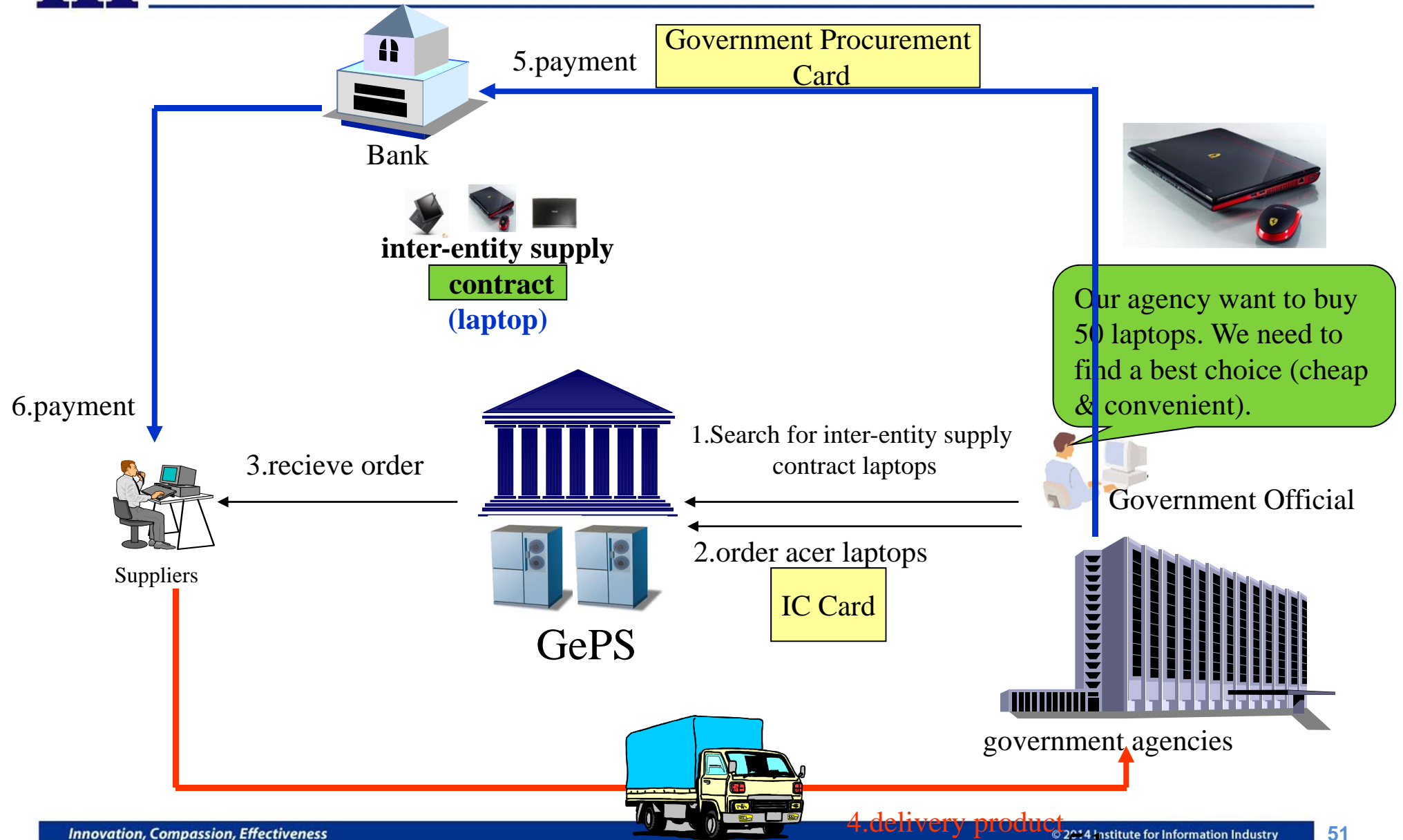


Concept of Common Supply Contract (3/3)



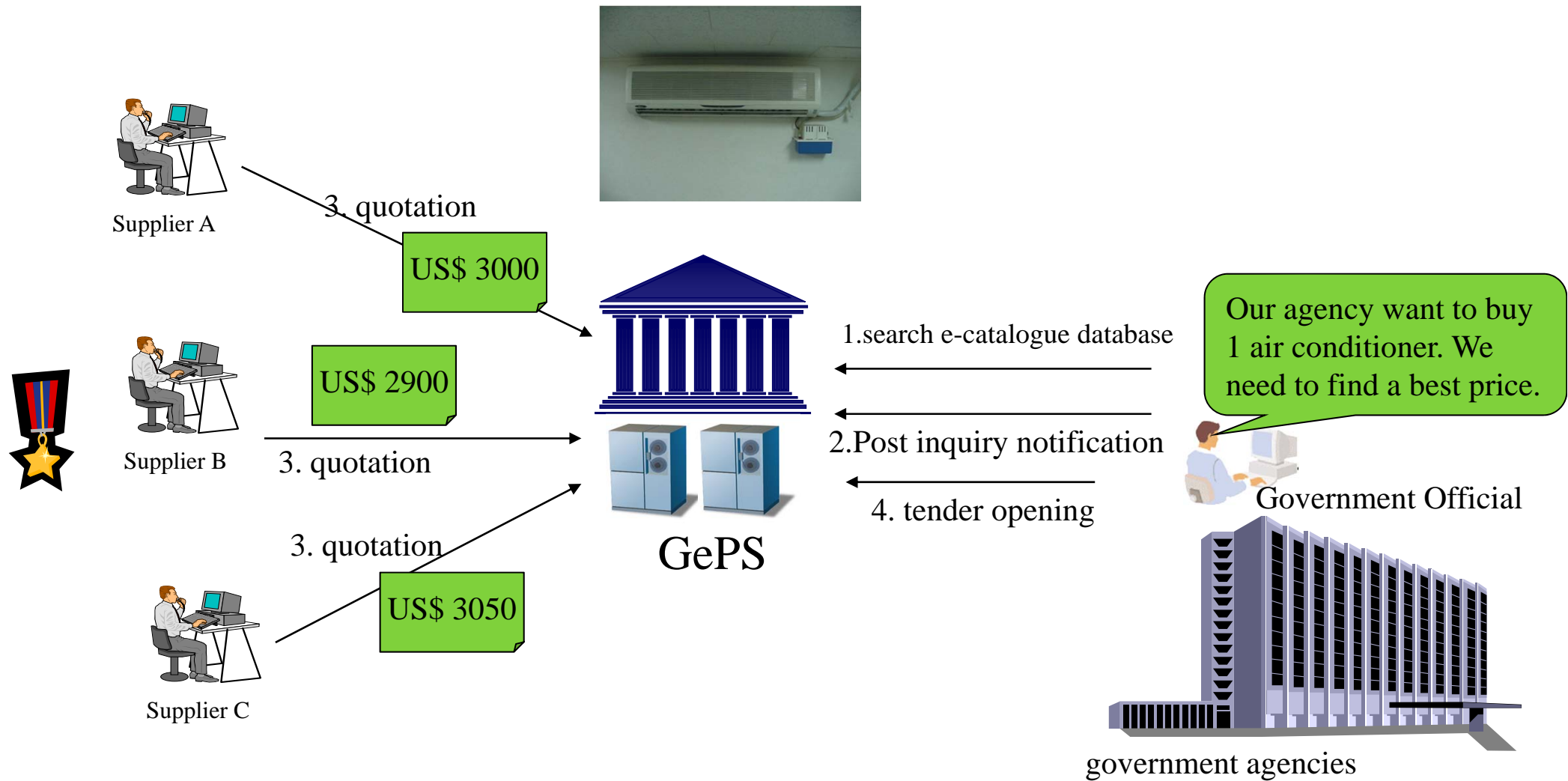


Scenario of Inter-entity contract Procurement





Scenario of Small Amount Procurement





GePS2 2012 Statistic Achievement

[GPIS]

- ❖ Announcement Case / with e-receiving: 236,105 / 238,237 (99.11%)
- ❖ E-receiving Times : 993,475
- ❖ Awarded Case : 180,201
- ❖ Awarded Amount: NT\$ 1,322,300,000,000
(Around USD\$ 44,000,000,000)
[Not include the national "Crude Oil" and "Gas" procurement]

[IESCS]

- ❖ Order (# of Transaction) : 1,410,000
- ❖ Order Amount: NT\$. 87,100,000,000
(USD\$ 2,900,000,000)
- ❖ Average Amount : USD\$2,050



PPP Financial Model

The government spent no money but gets the win-win-win achievement by PPP Model

- ❖ The “procurement amount” (equivalent value of the service) is
 - USD\$33.3million (NTD 1 billion) for 10 years concession (with defined SLA)
 - In Average, USD\$3.3 million (NTD 100 million) per year
- ❖ The “Government Budget” of the project is “Zero (0)” .
- ❖ The revenue of the system (2012) is
 - E-Receiving: 0.7 million USD (↑)
 - Each e-receiving is charged 0.7 USD (NT.20~NT.30) and there are total 1 million e-receiving.
 - E-Order: 2.75 million ~ 3.3 million (↑)
 - Each order is charged 0.25%-0.3% transaction fee of order amount
 - Total order amount is USD\$ 1.1 billion
 - The other “Value Add Service” , ex. Advertisement, Personal e-Paper etc.
- ❖ Gov gets feedback fund : USD\$0.4M (in 2012)



2. E-Government PKI Enabled Application in Taiwan

2.4 Other Applications



MOICA-Enabled Application

Traditional Land-Administration Process



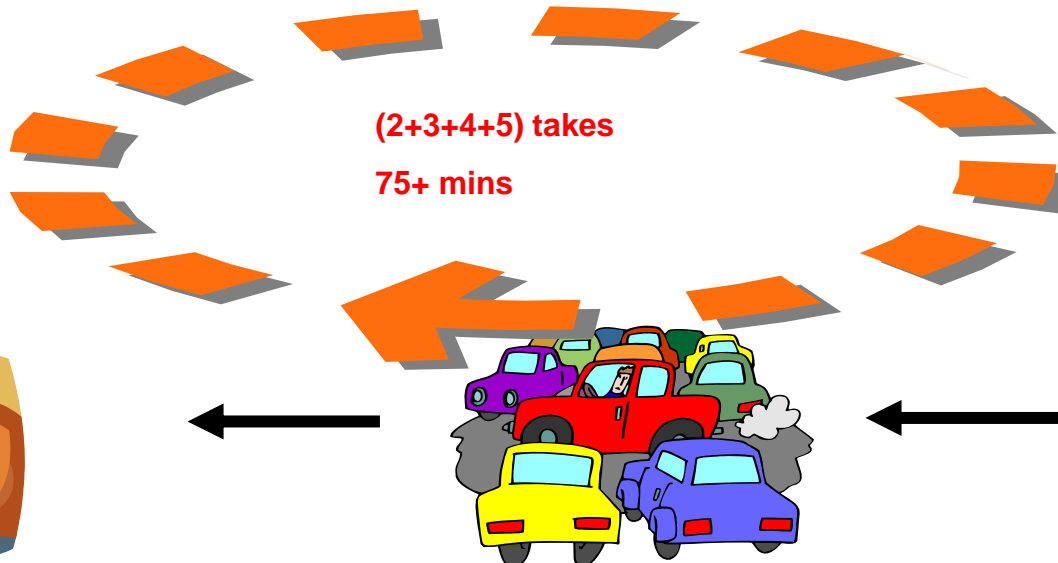
1. Apply for a loan and prepare a **land certificate** for deposit purpose



2. Call agent to go to Land Admin Office for land certificate (5 mins)



3. Agent drives to Land Admin Office (30 + mins)



6. Finish loan application at bank



5. Receive land certificate and drive to bank (30+ mins)



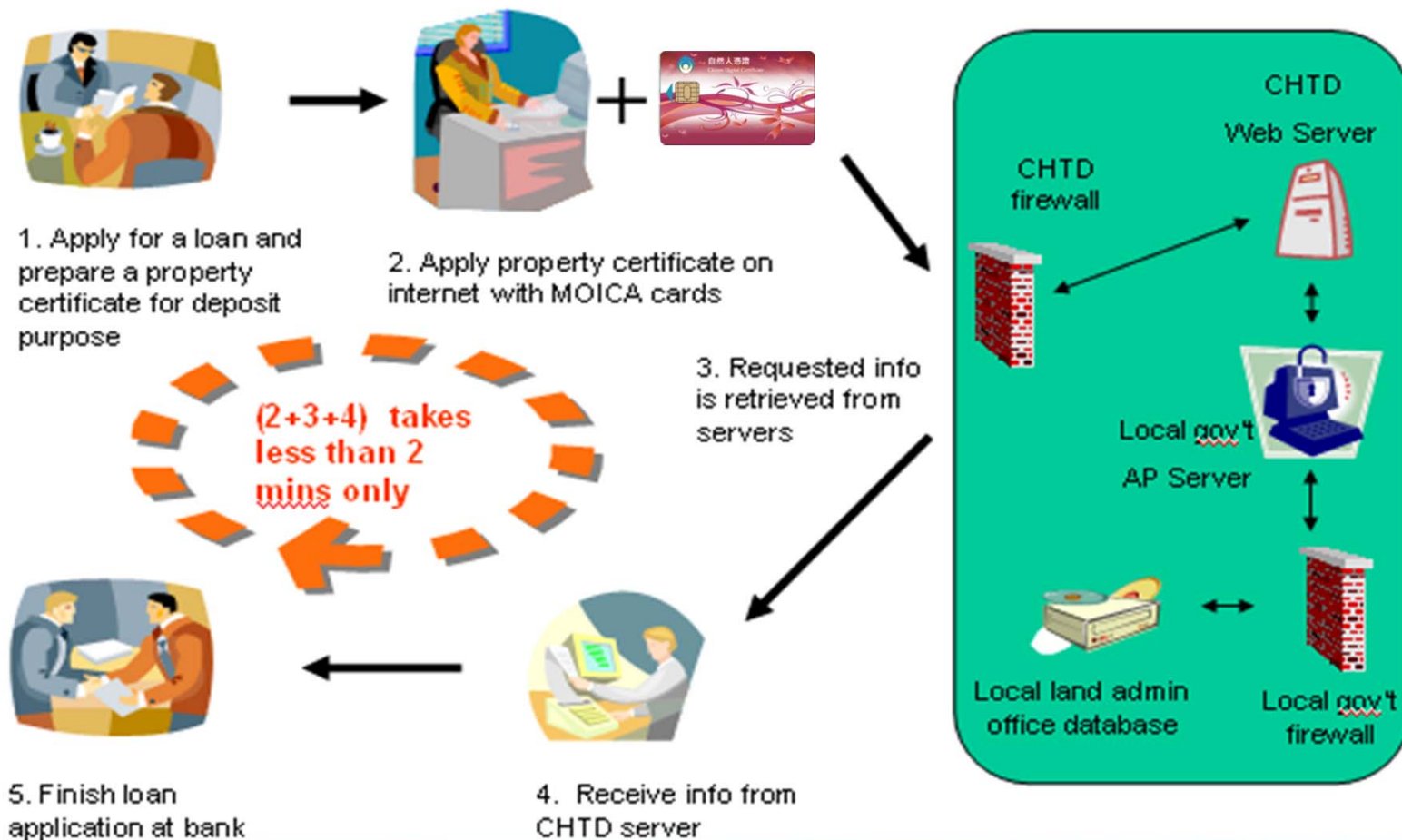
4. Waiting at Land Admin Office (10 mins)



MOICA-Enabled Application

MOICA-Enabled Applications

□ Land Administration e-Service for Government Agencies





MOICA-Enabled Applications

Report the loss / Revoke the loss of ID Card etc.



Services

- Birth/Death registration
- Address change registration
- Marriage/Divorce registration
- Name change registration
- Personal ID Card issuing
- Domicile transcripts application
- Household registration / population statistics and reporting
- Voter list generation
- Etc.

Benefits

- Manpower US \$49M / year
- Waiting Time US \$88M / year



MOICA-Enabled Applications

- Entry and Departure Data Inquiry
- Restriction from Leaving the Taiwan, etc.

The screenshot displays the official website of the National Immigration Agency (MOICA). The header features the agency's logo, name in Chinese and English, and a navigation menu with links for site map, official mailbox, English, mobile version, children's zone, common questions, bilingual services, and e-mail services. A visitor count of 60271576 is shown. The main banner includes a world map and a list of service points. Below the banner, a search bar and a 'Google' search link are present. The left sidebar contains a 'Website Information' section with links to 'About Us', 'Business Explanation', 'Major Policies', 'Immigration Regulations', 'Government Information Disclosure', 'Business Statistics', 'Business Special Zones', 'Publications and Audio/Video', 'Related Websites', 'Border Affairs Team', and 'Northern Affairs Team'. The main content area shows the current location as 'Home > Online Application' and provides information about the 'Entry and Departure Date Certificate Online Application (Free Trial Period)' service, including a link to apply and a note about the verification process.



MOICA-Enabled Applications

- ❑ Bureau of Labor Insurance Online Service Application System
 - ❑ Inquiry / Change pension package
 - ❑ Apply the insurance certificate

The screenshot shows a web browser window with the URL <https://edesk.bli.gov.tw/na/>. The page header includes the Bureau of Labor Insurance logo and the text "行政院勞工委員會 勞工保險局全球資訊網" and "Bureau of Labor Insurance, Council of Labor Affairs, Executive Yuan Taiwan R.O.C.". The main heading is "勞工保險局 e 化服務系統". Below this, there is a section for "個人網路申報及查詢作業 登入" (Personal Online Declaration and Query Operation Login). Under the "▶ 自然人憑證" (Natural Person Certificate) section, users are prompted to enter their PIN and ID number. The form includes fields for "自然人憑證IC卡密碼(pin碼):", "身分證號:", and "出生日期:" (with a dropdown menu set to "民國"). A note below the form states: "注意事項：自然人IC卡PIN碼(既密碼)輸入三次以上錯誤，即造成IC卡鎖卡，請至內政部憑證管理中心『憑證作業』\『鎖卡解碼』重新設定新的PIN碼。" At the bottom, there are "登入" (Login) and "清除" (Clear) buttons. The footer of the page mentions "請確定您所使用的瀏覽器為IE6.0以上(含)版本" and "Copyright 2008 勞工保險局版權所有 建議使用 1024X768 解析度來瀏覽本站".



MOICA-Enabled Applications

□ Online Healthcare Insurance Operation Platform (Bureau of National Health Insurance)

The screenshot displays the official website of the Bureau of National Health Insurance (BNHI) in Taiwan, accessed via a Windows Internet Explorer browser. The page features a top navigation bar with the BNHI logo, a search bar, and various utility links. A left sidebar contains a comprehensive menu for users, categorized into 'General Public' (一般民眾), 'Insurance Units' (投保單位), and 'Medical Institutions' (醫療機構). The main content area is titled '一般民眾' (General Public) and lists several key services: 'Online Application and Inquiry' (網路申辦及查詢), 'Personal Insurance Information Query, Statement of Premiums, and Address Change' (個人投保資料查詢、列印繳款單、繳費證明及變更地址), and 'Medical Service' (醫療服務). Each service category includes a list of specific functions, such as querying insurance status, applying for ID cards, and managing medical claims. The page also includes a feedback section at the bottom with a 'Feedback' (訊息臉譜) button and a 'Logout' (送出) button. The update date is noted as 2012/05/04.



Real Estate Actual Price Registration System

Purpose:

1. To promote the transparency of real estate price
2. avoid improper pricing due to asymmetric information

What:

1. Land Adm. Offices receive buy-sell registration.
2. Real estate agents sign a rental contract.
3. Real estate agents sign a sales agent contract and make the deals.

When:

Within 30 days after transfer of real estate

Who:

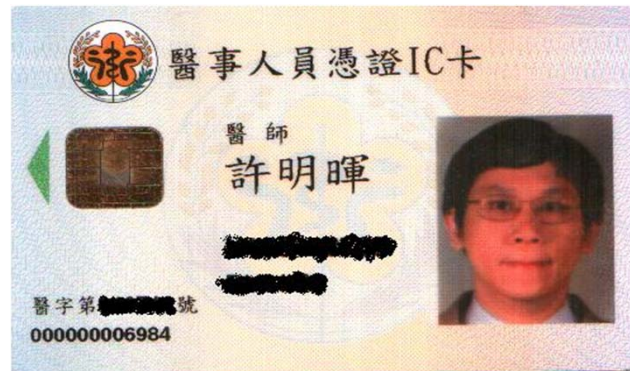
MOICA: Seller, Buyer or Land Registrar

MOEACA: Real Estate Agents





HCA Card



RSA Card issued from HCA
to health professionals



non-RSA Card for all citizens

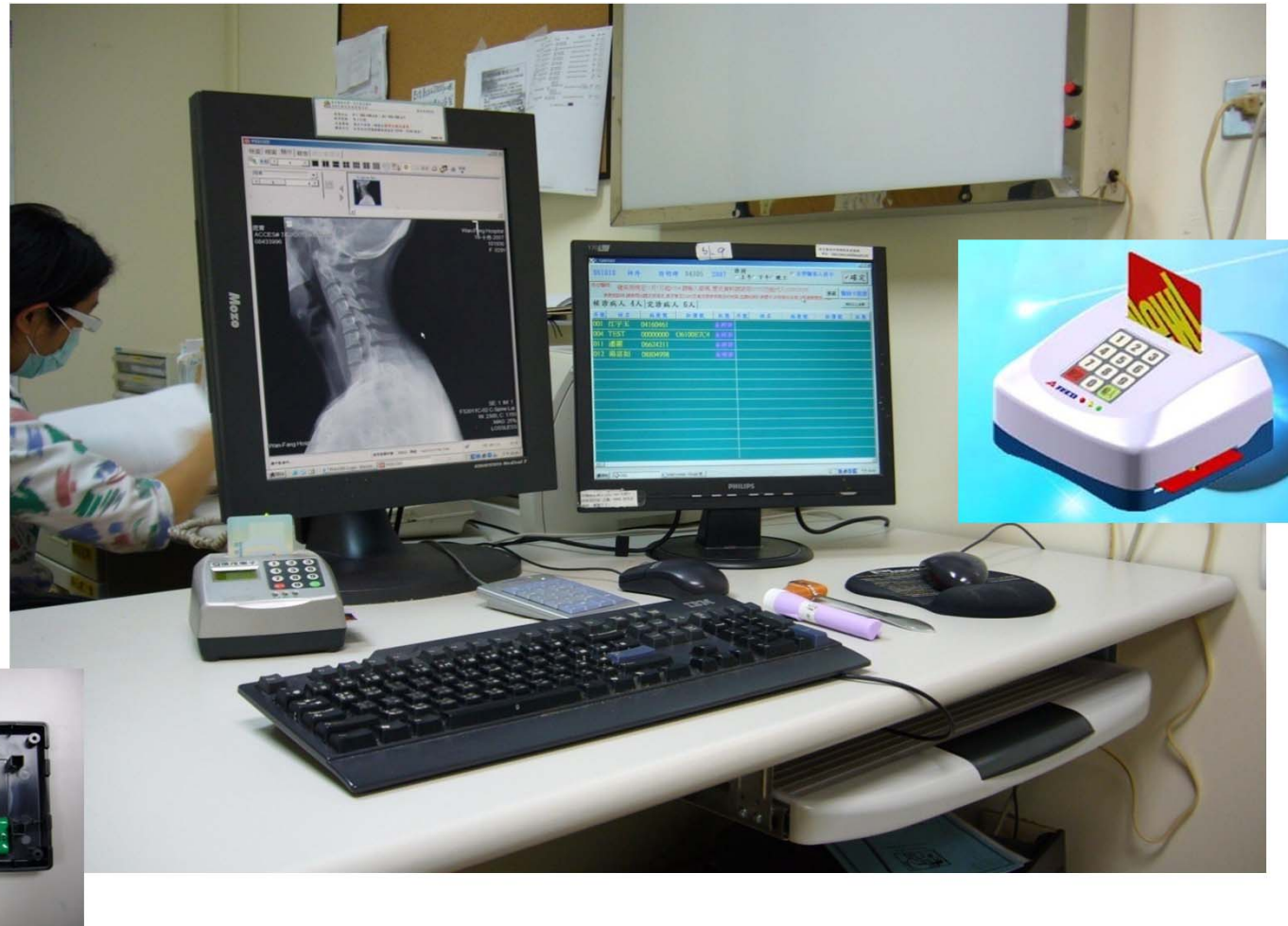


IC Card of Health Institute





Dual-card System





Use of HCA Card

❖ IC Card of Health Institute

- Infectious disease report
- Birth report
- National Health Insurance Claim
- E-Document Signature
- etc.

❖ Login to the hospital information system

- Login to the hospital information system
- Access E-Medical Record
- etc.



~Thank you~
Q&A

