



## "แนวทางการพัฒนารัฐบาลอิเล็กทรอนิกส์และ การบริหารงานภาครัฐแนวใหม่"

### Part I

ดร.ศักดิ์ เสกขุนทด ผู้อำนวยการ สำนักงานรัฐบาลอิเล็กทรอนิกส์(องค์การมหาชน) 26 พฤศจิกายน 2557



# **Topic**

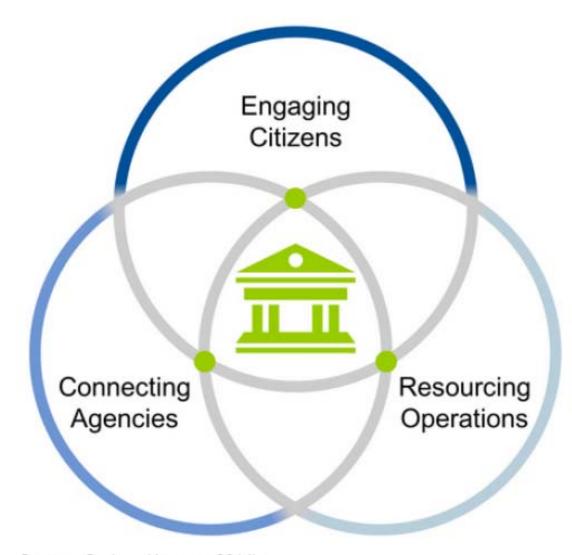
- Government Agenda
- Digital Government
- e-Government in Asia
- UN e-Government Ranking 2014



# **Government Agenda**



## **Government Agenda Overview**



Source: Gartner (January 2014)



## **Promoting Rapid IT Innovation**

To create a shared understanding of the strategic value of IT among government stakeholders, Gartner has oriented its 2014 government agenda around the central themes of engagement, connection and resourcing:

**Engaging Citizens** 

• How will government engage the public (individuals and organizations) and its workforce in more efficient, agile and trustworthy relationships? Value comes not from government or the public alone, but from how they interact.

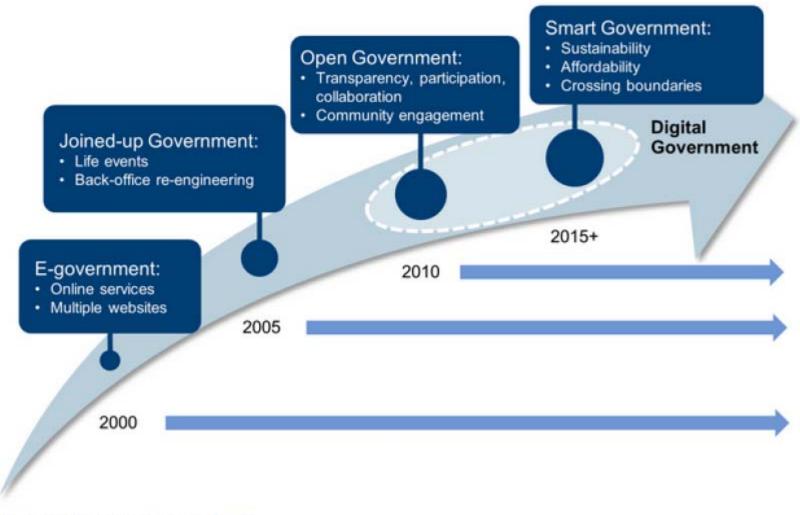
Connecting Agencies

• How will government connect agencies at the technical, policy and operational layers via wide and agile networks? IT-related economies of scale — reliant on national or global standards — have the potential to drive down costs while enabling assets to be shared, and services coordinated, throughout government and with not-for-profit or private-sector partners.

Resourcing Government • How will CIOs preserve or expand the financing of IT-related initiatives by restructuring portfolios, increasing sourcing alternatives and improving collaboration to respond to business needs? Containing the cost of government services and gaining greater business value from IT spending remain top priorities and key measures by which the effectiveness of public-sector leaders and CIOs will be evaluated.



## **Phases of IT Evolution in Government**



Source: Gartner (January 2014)

Source: Gartner government research for 2014



# What is <u>e-Government</u>?

Started with TCP/IP and the growth of the Internet in the 1990s. It offers "online, not in-line" opportunities, with technology-enabled ways for the public to access government services. When online services are effective, citizens and businesses — and governments — can reduce the costs and inconvenience of needing to stop what they are doing to take care of government interactions.

E-government is relatively easy to begin, as individual programs can offer their own interactions over the Internet, often without much change in production procedures and without much integration with other services.

# What is Joined-Up Government?

This phase makes it easier for "customers" (individuals, firms and other government units) to consume **related services across the boundaries of government programs** — for example, to integrate and gain value from the multiple transactions needed to handle a marriage, a death or the start of a new business.

Source: Gartner (May 2012)



## What is Smart Government?

- <u>Sustainability</u> *Technology solutions must focus on how to ensure that government services* remain viable, despite budget constraints and financial difficulties.
- Focus on affordability To ensure sustainability, technology solutions should preferably not require additional net funding, but should instead leverage savings they immediately generate and/or reduce significantly the longer-term cost base.
- <u>Crossing boundaries</u> *Technology solutions should cross traditional boundaries or* combinations of boundaries between domains, agencies, process areas, and constituencies. However, unlike a number of lower-quality joined-up initiatives, these endeavors should driven by necessity rather than political fashion.
- More-organic innovation In order to deliver "affordable sustainability," technology solutions must be simultaneously more productive and more feasibly implemented than earlier initiatives. This can rarely be achieved by traditional planning approaches. What is required is more active engagement from business leaders (and individual employees), and more bottom-up and middle-out innovations in how technology can be utilized.

**Source**: Gartner (May 2012)



## **Smart Government & e-Government**

Table 1. Smart Government and E-Government

Characteristics	E-Government	Smart Government	
Scope	Electronic Service Delivery	Sustainable Services and Operations	
Approach	Self-Contained, Point Solutions	Evolutionary Solutions	
Technologies	IT	IT and Operational Technology	
Focus	Service Delivery, Operations	Planning, Management, Operations	
Driver	Optimization	Sustainable Public Value	

Source: Gartner (June 2011)



# **Smart Government & Joined-Up Government**

Table 2. Smart Government and Joined-Up Government

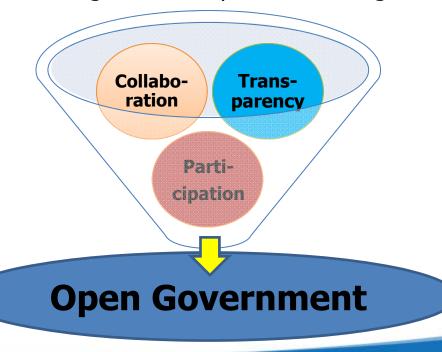
Characteristics	Joined-Up Government	Smart Government
Scope	Integrated Service Delivery	Sustainable Services and Operations
Approach	Integration	Interoperability
Technologies	IT	IT and Operational Technology
Focus	Management, Operations	Planning, Management, Operations
Driver	Service Effectiveness and Efficiency	Sustainable Public Value

Source: Gartner (June 2011)



# What is Open Government?

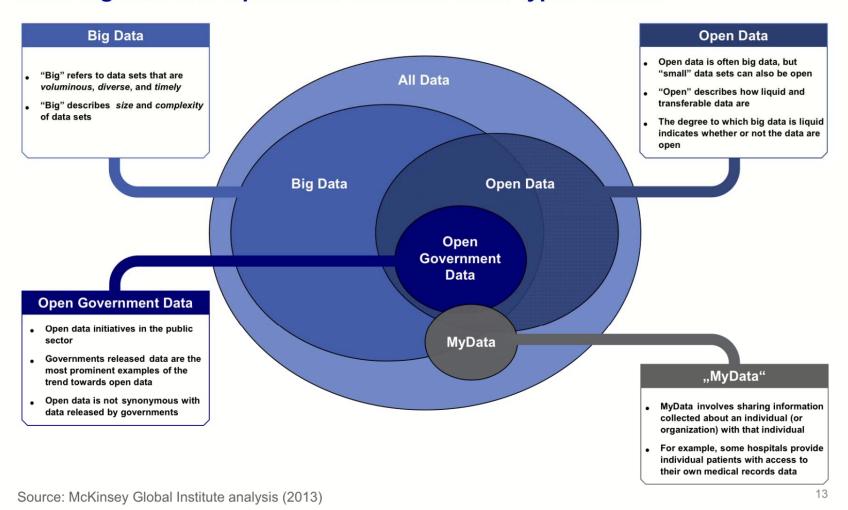
- **Transparency** Making government activities visible and accountable by releasing data to internal employees and the public (where not constrained by issues of privacy or security)
- <u>Participation</u> Making it easier for employees and the public to provide feedback and input to government through social networking tools
- •Collaboration Making it easier for employees and the public to work with each other on crowd sourcing and other problem solving activities



Source: Gartner (May 2012)



### How Big Data and Open Data relates to other types of data



12



# Government Data

### Citizen-Generated Data

### **Environment**

- Air quality
- Water quality
- Water consumption

### Energy

- Instant power supply
- Instant power demand
- Energy consumption

### **Traffic**

- Traffic light map
- Number of vehicles per zone
- Parking lot status
- Traffic cameras

- Instant gas consumption/ carbon emission
- Instant water consumption
- Instant home power demand
- Active devices per type
- Consumer GPS location
- Traffic-related feeds & microblogs
- Geolocated pictures & videos



Crowdsourced Traffic Management



Consumer-Device to Government-Infrastructure



Collaborative Environmental Management

Figure 4 - Example of future crowdsourcing activities



# **Digital Government**



# 4 Big Tech Trends





Social

**Mobile** 



## **Analytics**



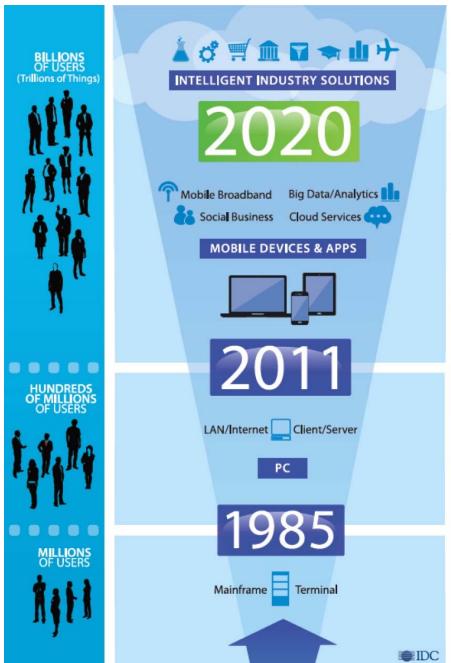
## **Cloud Computing**





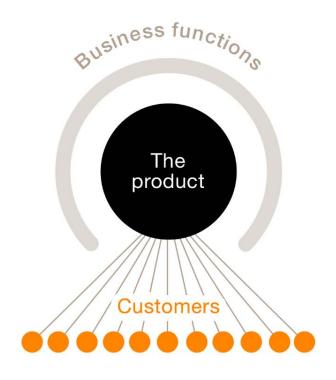
Trend	Relationship with work
Social	Who we work with
Mobile	How we get to work
Analytics	What we work on, the meaning of work
Cloud	Where we do the work











**Product-centric** 

**Business functions** 



**Customer-centric** 



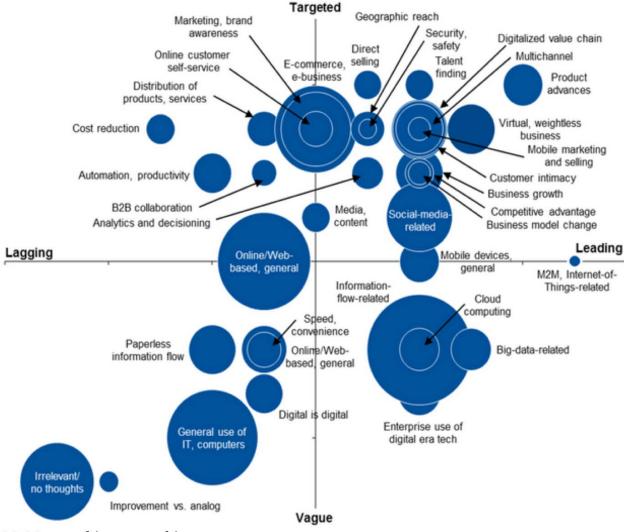


Figure 1. CEO Survey Results on the Meaning of Digital Business

M2M = machine to machine

Source: Gartner (June 2014)



### **Definitions**

Digital refers to all electronically tractable forms and uses of information and technology. It is bigger in scope than the typical company definition of "IT" because it includes technology outside a company's control: smart mobile devices (in the hands of customers, citizens and employees), social media, technology embedded in products (such as cars), the integration of IT and operational technologies (such as telecom networks, factory networks and energy grids) and the Internet of Things (physical objects becoming electronically tractable).

Digital business refers to business created using digital assets and/or capabilities, involving digital products, services and/or customer experiences, and/or conducted through digital channels and communities.

Digital business strategy refers to the component of overall business strategy that answers the question, "How will our business, public-sector agency, government or country survive and thrive in an increasingly digital world?" The answers to that question are not limited to digital business decisions. Note that "digital strategy" means the same as "digital business strategy."



Figure 11: Why firms are investing in digital technology

How important do you consider Digital Transformation will be to the following aspects of your business?

(% stating very important or extremely important)

Most important

Second-most important

	Total	Financial Services	Life Sciences	Manufacturing	Retail & Consumer	TICE
Reducing the time required to complete various tasks	60%	68%	55%	49%	70%	64%
Providing more responsive customer care	60%	63%	71%	46%	64%	68%
Improving employees productivity	58%	60%	63%	50%	64%	62%
Making it simpler to reach new customers	56%	66%	50%	34%	75%	61%
Reducing costs of doing business	56%	65%	61%	46%	57%	56%
Improving innovation in the business	56%	62%	47%	38%	58%	53%
Making working conditions more flexible	53%	59%	55%	49%	53%	53%
Eradicating functional silos to enable end-to-end process excellence	52%	57%	50%	37%	62%	58%
Redefining markets and terms of competition	50%	59%	47%	41%	57%	55%
Making it easier for suppliers to do business	48%	50%	47%	38%	58%	53%

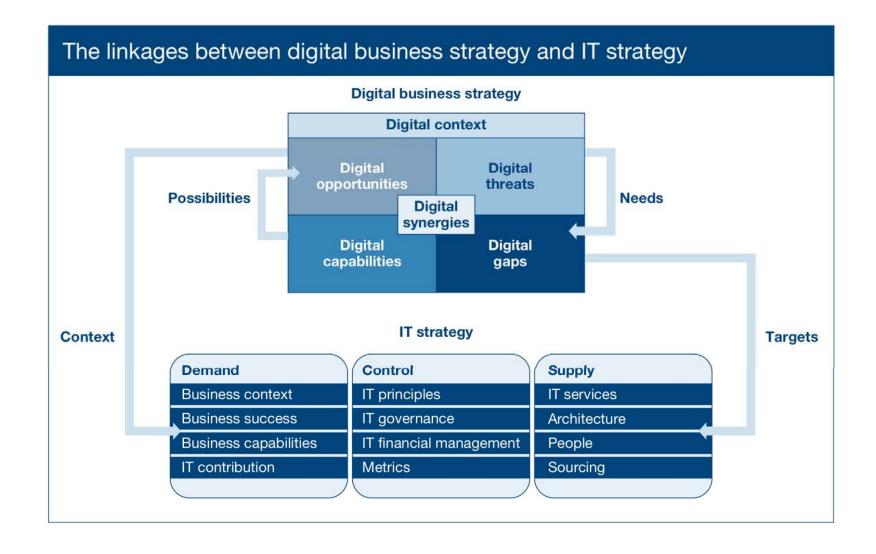




## Case examples of digital opportunities

Case	Industry/sector	Digital opportunity
City of Boston	Public sector	Using a closer relationship with residents to enable digital services, including Citizens Connect, an engagement program, and Street Bump, an app that allows residents to share real-time location and acceleration information from their mobile phones to help solve traffic delays
Novartis	Healthcare	Digitally enabling 24,000 field staff to improve the customer experience
FoodCo	Food and beverage	Developing the capabilities to work with key players in its ecosystem through digital marketplaces such as Amazon, Rakuten and Taobao
City of Brisbane	Public sector	Setting the ambitious goal of doubling the number of digitally engaged small and midsize enterprises over the next five years and creating a "cyber-city" program that includes internal council improvements, a fully integrated "way-finder" system (featuring signage, maps and attractions integrated with an interactive mobile digital experience), a better online and mobile city experience for residents and visitors, and free Wi-Fi in 20 parks and libraries
Alibaba	Online retail and services	Moving as much of its ecosystem to the cloud as possible, with the scale and reliability to handle a peak load of 100 million transactions in a day and delivery of 60% of all parcels in China; includes operating 100% in the cloud infrastructure (with the company aiming to move 70% to 80% of its retailers' systems onto the cloud this year)







	Before the Web	Before the Nexus of Forces			After the Nexus of Forces		
	Analog	Web E-Business		Digital Marketing	Digital Business	Autonomous	
Focus	Build relationships that drive business or lower cost	Extend relationships into new markets or geographies	Transform sales channel into a global medium to drive efficiencies	Exploit the nexus to drive greater efficiency	Extend potential customers from people to things	Smart, semiautonomous things become the primary "customer"	
Outcomes	Optimize relationships	Extend relationships	Optimize channels	Optimize interactions	Build new business models	Maximize retention of and relationships with things	
Entities	People	People Business	People Business	People Business	People Business Things	People Business Things	
Disruptions	Emerging technologies	Internet and digital technologies	Automation of business operations	Deeper customer relationships, analytics	Creation of new value and new nonhuman customers	Smart machines and things as customers	
Technologies	ERP, CRM	CRM, Web	EDI, BI, portals	Mobile, big data, social	Sensors, 3D printing, smart machines	Robotics, smarter machines, automation	
	▲ Change of kind	Change of degr	ee				

 $BI = business\ intelligence;\ EDI = electronic\ data\ interchange$ 

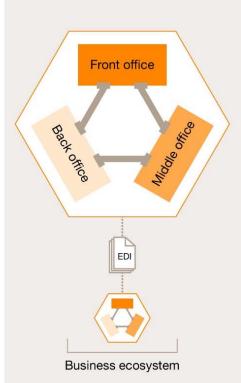
Source: Gartner (June 2014)



### Figure A: Despite decades of IT investments, most companies do not have a digital operating model because they could not scale integrations easily, an opportunity possible today with RESTful APIs.

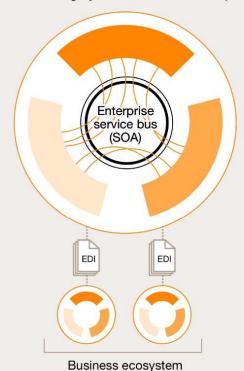
### A1

Historically, the front, middle, and back offices of an enterprise were integrated point to point by tight coupling, suitable only for a small number of integrations.



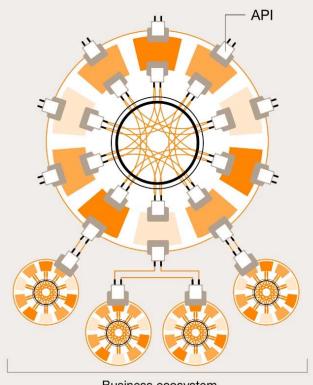
### **A2**

With SOA, enterprises adopted an architecture using a service bus for integration, creating loose coupling and the potential for reuse and flexibility. The complexity of integration meant use remained largely internal to the enterprise.



### **A3**

The new architectural principle and programming model based on RESTful APIs reduces integration cost and complexity, so integrations can scale for many internal as well as external uses.



Business ecosystem



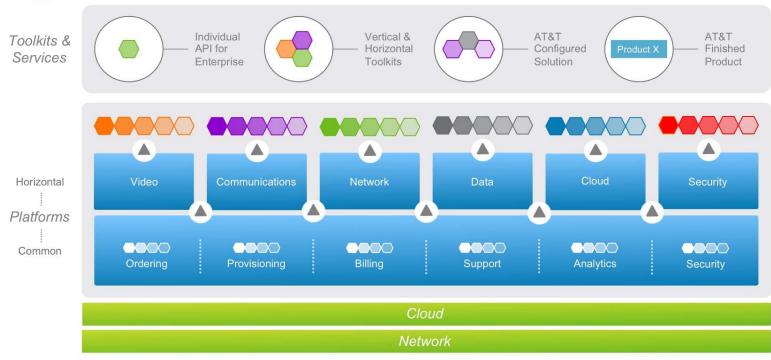
# It's a Journey 18 Months+ Now 2-5 Years IT as a Platform Move to Cloud Entire business on APIs © 2014 AT&T Intellectual Property. All rights reserved. AT&T, the AT&T logo and all other marks contained herein are trademarks of AT&T Intellectual Property and/or AT&T affiliated companies. All other marks contained herein are the property of their respective owners. Information contained herein is not an endorsement by AT&T and is subject to change. Mention of a specific company or entity is not an endorsement by AT&T





# AT&T Platform Framework





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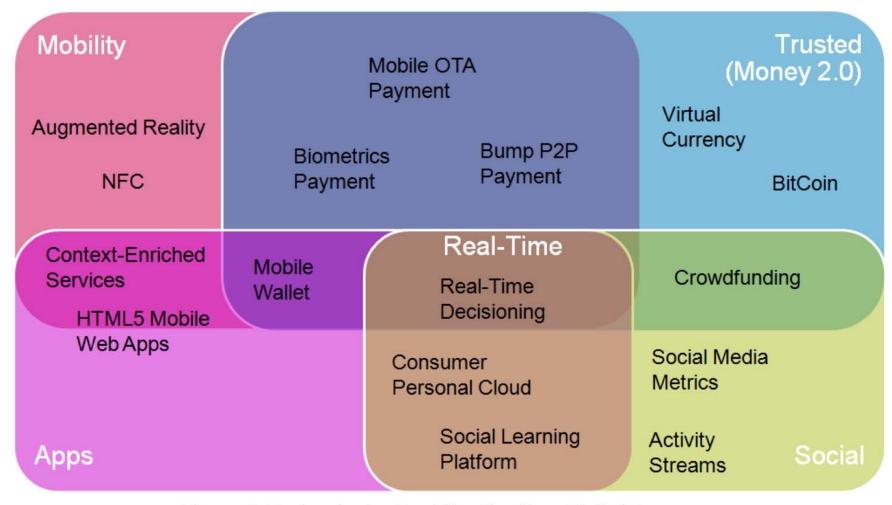
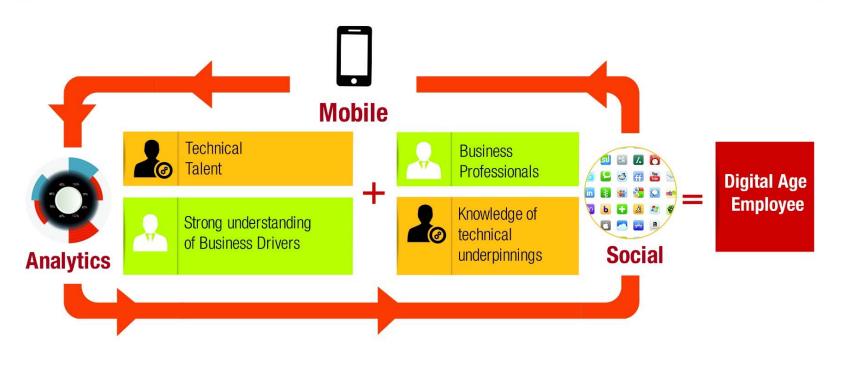


Figure 8: Technologies Enabling the New Digital Economy



Figure 2: Skill Evolution for the Digital Age



Source: Capgemini Consulting Analysis



## **Comparing E-Government and Digital Government**

Characteristics	E-Government	Digital Government
Focus	Streamlining and Optimizing	Opening and Transforming
Scope	Service Delivery	Service Delivery and New Business Model
Approach	Service-Driven	Data-Driven, Citizen Co-Creation
Technologies	Web	Cloud, Mobile, Social, Machine to Machine (M2M)
Main Challenges	Interoperability, Back-Office Integration	Change Management, Governance

Remark: Modified from Gartner



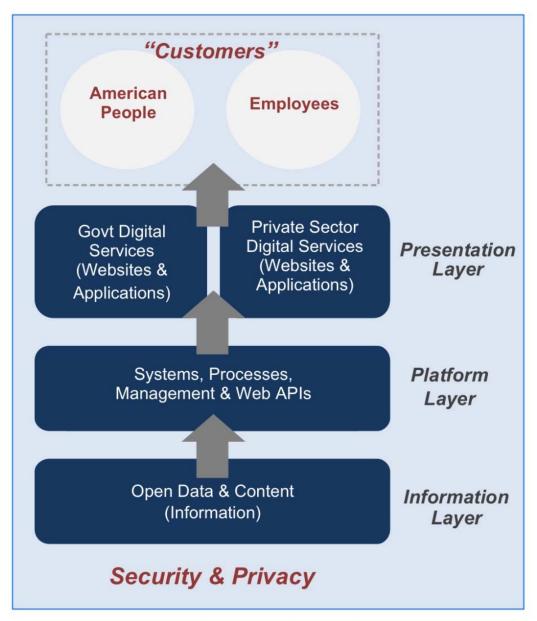


Figure 1: The Layers of Digital Services



### **Strategy Principles**

To drive this transformation, the strategy is built upon four overarching principles:

- An "Information-Centric" approach—Moves us from managing "documents" to managing discrete pieces of open data and content<sup>17</sup> which can be tagged, shared, secured, mashed up and presented in the way that is most useful for the consumer of that information.
- A "Shared Platform" approach—Helps us work together, both within and across agencies, to reduce costs, streamline development, apply consistent standards, and ensure consistency in how we create and deliver information.
- A "Customer-Centric" approach—Influences how we create, manage, and present data through websites, mobile applications, raw data sets, and other modes of delivery, and allows customers to shape, share and consume information, whenever and however they want it.
- A platform of "Security and Privacy"—Ensures this innovation happens in a way that ensures
  the safe and secure delivery and use of digital services to protect information and privacy.

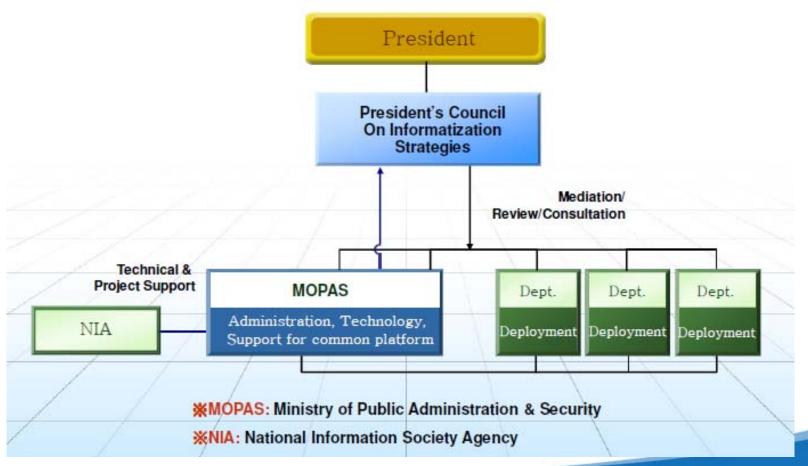


## e-Government in Asia





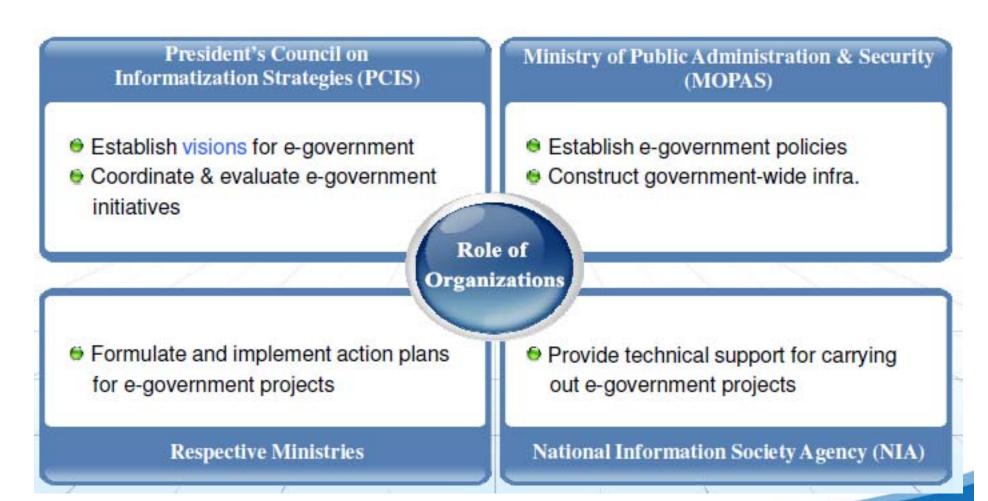
## **Organizational Structures- Republic of Korea**



Source: United Nations Project Office on Governance (UNPOG) In Republic of Korea, 26 September 2011



# **Role of Organizations**





Vision

### Realize world's best e-Government in tune with the people

### Concept of smart e-Government

 Advanced government that people can avail themselves of including services, participation, and communication anytime, anywhere and with any device made possible through convergence and integration of smart IT and government services.

Features of smart e-Government Seamless

Mobile

Any time

Real time

Together

Service linkage and integration among departments, and people-oriented, integrated and customized services.

Mobile e-Government that provides convenient services at any place any time.

Services that are available any time people want them.

A service response system that responds to people's needs in real time.

Advanced services based on mutual prosperity of the enterprises, consideration on the alienated social class, and people's participation and communication.



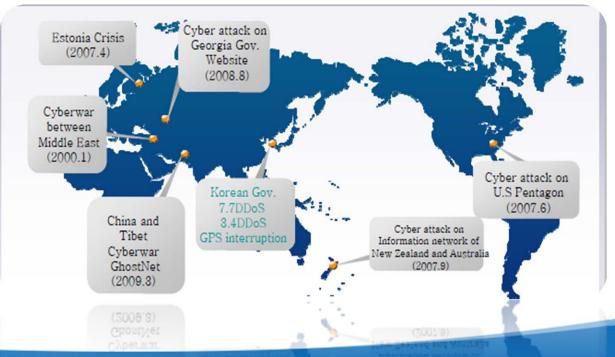
Vision Realize world's best e-Government in tune with the people World's best Global e-Government Leader Goals e-Government services Sustainable Integration Collaboration **Openness** Strategy Green growth Realize world's best mobile e-Government Agenda Establish a safe and sound society Promote smart work that balances work and life Provide personalized services by communicating with the people **Build strong e-Government infrastructure** 

Source: Smart Government Implementation Plan (2011~2015). Ministry of Public Administration and Security



## **Key Challenges**

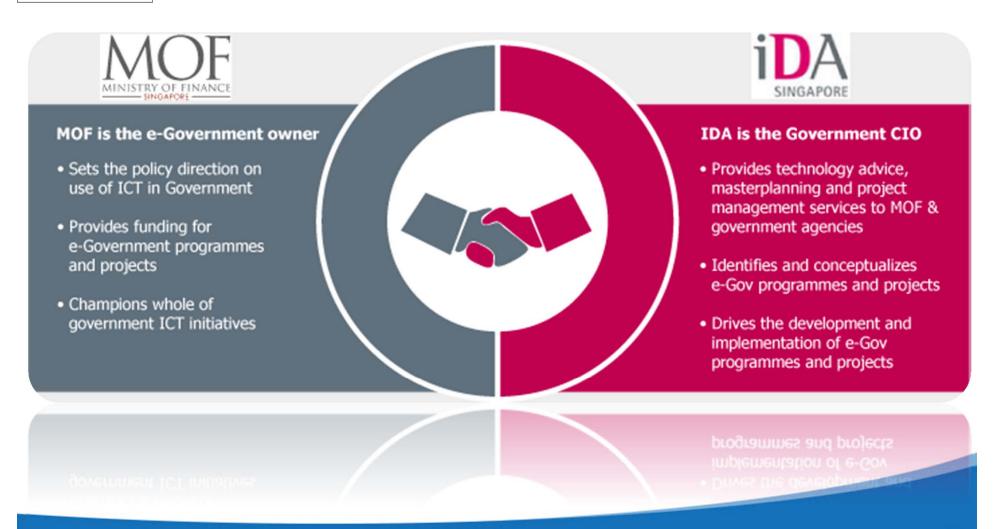
- 1. Increasing 'Cyber threats' such as Hacking, DDoS, Stuxnet
- 2. Threats to 'Digital Privacy'
- 3. Digital Divide
- 4. Internet Addiction
- 5. Cyber Ethics







## Organizational Structures- Singapore



### Vision

"To be a Collaborative Government that Co-creates and Connects with Our People"

#### **Strategic Thrusts**

- Co-creating For Greater Value
- Connecting For Active Participation
- Catalysing Whole-of-Government
   Transformation

**Source:** The Singapore e-Government Masterplan 2011 – 2015 (or eGov2015)

#### **Co-creating For Greater Value**

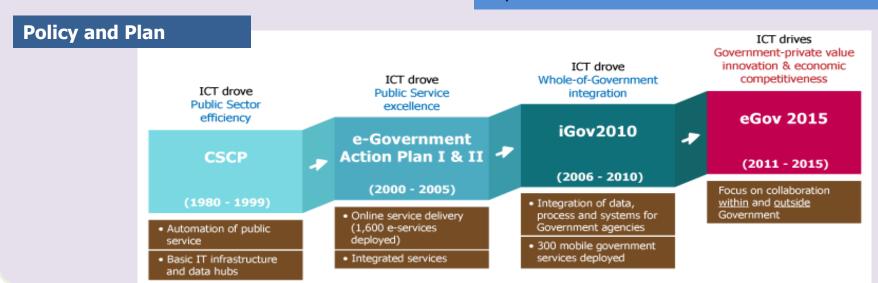
- Government as a Service Provider
- Government as a Platform Provider
- Government as a Platform Provider

#### **Connecting for Active Participation**

- Consulting the Public
- Inviting Ideas from the Public

#### <u>Catalysing Whole-of-Government</u> <u>Transformation</u>

- Transforming Public Sector Infrastructure and Services
- Transforming Public Sector Workplace and Capabilities





# **Key Activities**

**Programmes for Citizens** 

data.gov.sg



data.gov.sg provides easy discovery of and access to publicly-available government datasets. mGov@SG



mGov@SG is a one-stop mobile site that allows individuals and businesses to easily search for, identify, and access m-services provided by the Government. OneInbox



OneInbox is a one-stop official and trusted platform for individuals and businesses to receive electronic correspondences from the Government, in place of hardcopy letters.

**Programmes for Government** 

Cloud Computing for Government



The Government Cloud (G-Cloud) provides a resilient and secure ICT shared environment that allows government agencies to procure computing resources on-demand, with greater ease and speed.

Whole-Of-Government Enterprise Architecture (WoG EA)



The programme aims to establish a federated view of all government agencies' enterprise architectures to optimise government ICT assets for greater cost savings or avoidance.



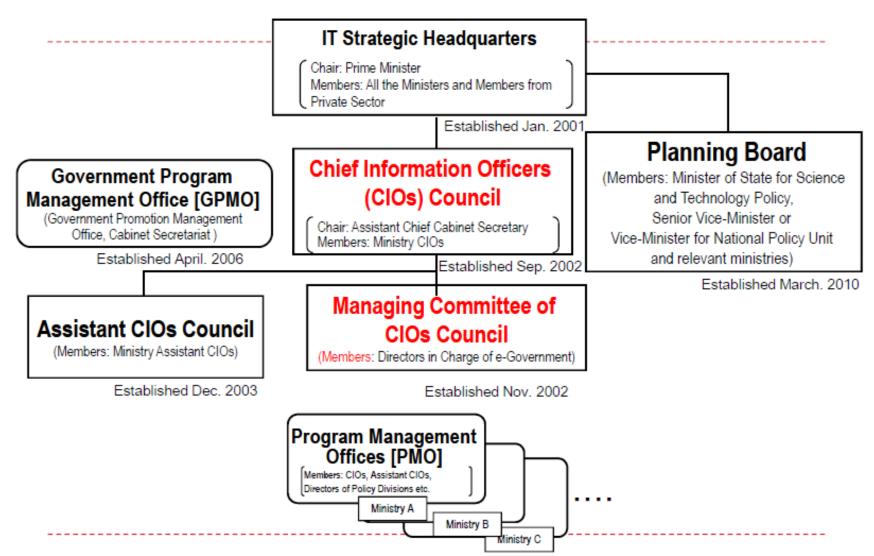
# **Key Challenges**

- 1. The growth of the infocomm sector globally has been positive and encouraging. According to Gartner's report, worldwide IT spending in 2010 totalled US\$3.4 trillion and it recently revised the forecast for global IT spending growth for 2011 from 5.1 per cent to 5.6 percent. In Singapore, our infocomm industry revenue grew by 12.2 per cent to reach \$70.39 billion in 2010. With Gartner's forecast, the projected increase in spending presents tremendous business opportunities for the ICT sector.
- 2. A key area for ICT development is in the mobile space. The convergence of social networking, location sharing and mobile devices has created new opportunities and challenges. Consumers are no longer just using their mobile phones for telephony or SMS, evident in the proliferation of tablets and other mobile devices over the last 12 months.
- 3. The evolution of these mobile devices has greatly altered the way we communicate and how we consume content. Operators are looking at new technology to improve the networks and meet the increasing mobile communication needs, like M1's launch of their new Long Term Evolution network. Singapore is also looking at the reallocation of spectrum to pave the way for operators in Singapore to deploy 4G technology in the next few years. This technology will offer end-users higher data speeds and lower latency. The "always connected lifestyle" is now a global phenomenon.





## **Organizational Structures- Japan**



Source: E-Government in Japan, Prof. Dr. Toshio Obi. May 2011



# **Vision**

### *i*-Japan Strategy 2015

for a "secure and vibrant digital society" with the people at center



#### Vision for 2015

- Digital technology, like "air" or "water", is accepted as a part of the environment. It encompasses the whole economic system (Digital Inclusion), enabling a high standard of living and giving people the sense of being connected with one another.
- Digital technology and IT transforms the whole economic system to generate new vitality (Digital Innovation) enabling us as individuals or as members of society and participants in the economy take the initiative to create new values in a dynamic way.

#### How to turn the vision into reality

- Create a strategy to bring about a digital society where easy-to-use human-centric digital technology is readily embraced by people as a part of everyday life
- Formulate a new digital strategy targeting four goals:
- Easy-to-use
- Break barriers preventing the use of digital technology
- Ensure a sense of security about using digital technology
- Create a new Japan by the infusion of digital technology/ information throughout the economic system

### Primary domain of i-Japan Strategy

#### Three Priority Areas

e-Government (National/Local)

Medicine/Health Care

Education/Human Resources

#### Establishing digital infrastructure

Support progress in utilization of digital technology in all fields to promote growth

- Establish broadband infrastructure (over 100Mbps for mobile, 1Gbps for fixed)
- Establish information security measures
- Promote development of digital infrastructure technology
- ■Improve infrastructure for the distribution/utilization of digital information

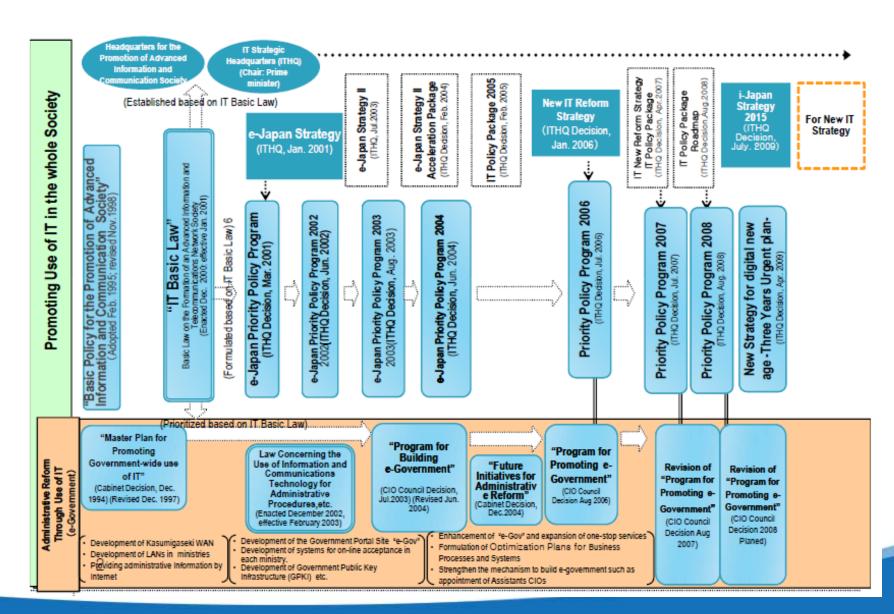
#### Revitalizing industries & regional communities/fostering new industries

Carry out <u>structural reforms in all industries and revitalize regional communities</u> by utilizing digital technology/information, to <u>strengthen the international competitiveness</u> of Japan

- Develop business infrastructure for small and mid-sized enterprises
- Promote green IT/ITS
- Develop new types of business within regional industries
- Increase the number of teleworkers (to double the number of teleworkers working from home)
- Create a new vibrant market



# **Policy and Plan**





## **UN e-Government Ranking 2014**

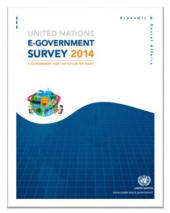


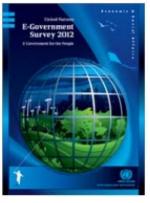
## **United Nations e-Government Survey**

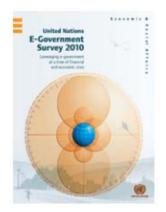
United Nations e-Government Survey คือ รายงานการจัดอับดับความพร้อมของ รัฐบาลอิเล็กทรอนิกส์ (e-Government Readiness) โดย องค์การสหประชาชาติ ซึ่งทำการ เผยแพร่รายงานผลการสำรวจรัฐบาลอิเล็กทรอนิกส์ทั่วโลกตั้งแต่ ปี ค.ศ. 2003 จนถึง ปัจจุบัน

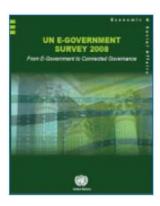
**Indicators** - Online service index (OSI)

- Telecommunication infrastructure index (TII)
- Human capital index (HCI) and supplementary e-participation index (EPI)











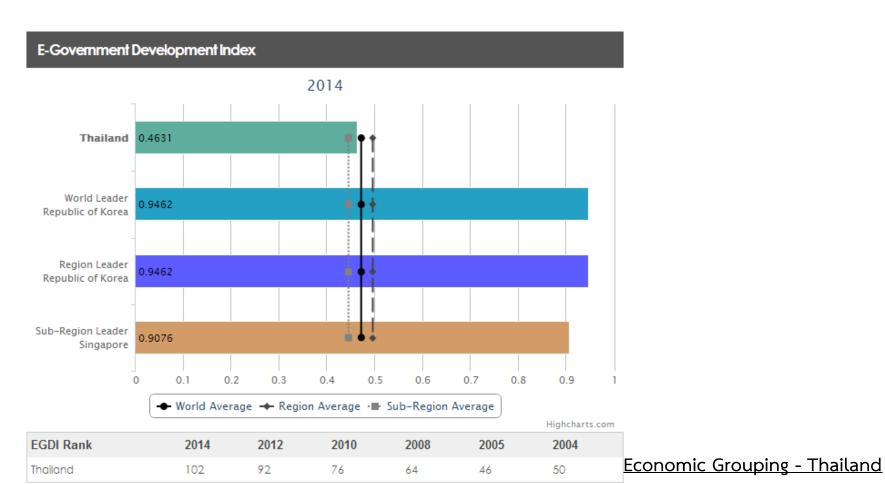


## การเปลี่ยนแปลงของระดับคะแนนและการจัดอับดับปี 2012 – 2014

	Index	2014	2012	Rank Change
UI	N e-Government Development Index (EGDI)	102	92	-10 ◀
	- Telecommunication Infrastructure Index (TII)	107	103	-4 ♣
	- Online Service Index (OSI)	76	67	-9 ♣
	- Human Capital Index (HCI)	118	104	-14 🖡
e-	Participation (EPI)	54	48	-6 ♣



### **E-Government Development Index (EGDI)**



EGDI Level: Middle (0.4631)

Level of Income: Upper Middle

Gross National Income (GNI): 5210 49



## **E-Government Development Index 2003-2014**

Year	e-Government (Rank)	Online Service x <sup>1</sup> / <sub>3</sub> (Rank)	Infrastructure x 1/3 (Rank)	Human Capital x <sup>1</sup> / <sub>3</sub> (Rank)	e-Participation (Rank)	Countries
2014	0.4631(102)	0.1470(76)	0.0948(107)	0.2213(118)	0.5490(54)	193
2012	0.5093(92)	0.1699 (67)	0.0787 (103)	0.2606 (104)	0.3158(48)	193
2010	0.4653(76)	0.1133 (67)	0.0576 (94)	0.2943 (66)	0.0857(110)	192
2008	0.5031(64)	0.1683	0.0503	0.2843	0.2955(41)	192
2005	0.5518(46)	0.2218	0.0433	0.2867	0.2540(28)	191
2004	0.5096(50)	0.178	0.039	0.293	0.2131(25)	191
2003	0.446(56)	0.127	0.039	0.280	0.103(31)	191



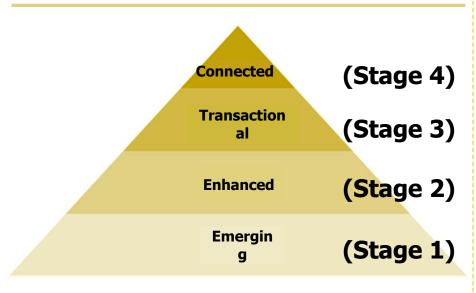
## **E-Government Development Index 2014: Southeast Asia**

No	Country	E-Government 2014	Rank 2014	Rank 2012	Rank Change
1	<u>Singapore</u>	0.90762	3	10	+7
2	Malaysia	0.61152	52	40	-12
3	Brunei Darussalam	0.50424	86	54	-32
4	<u>Philippines</u>	0.47681	95	88	-7
5	<u>Viet Nam</u>	0.47045	99	83	-16
6	<u>Thailand</u>	0.46308	102	92	-10
7	Indonesia	0.44874	106	97	-9
8	<u>Cambodia</u>	0.29986	139	155	+16
9	Lao People's Democratic  Republic	0.26588	152	153	+1
10	<u>Timor-Leste</u>	0.25276	161	170	+9
11	<u>Myanmar</u>	0.18694	175	160	-15



### **Online Service Index (OSI)**

The four stages of online service development



### ตัวอย่าง การคำนวน Online Service Index (OSI)

ประเทศ "x" ได้คะแนน Online Service Index = 114 คะแนนจากการเก็บข้อมูลที่น้อยที่สุดในครั้งนี้ คือ 0 คะแนนจากการเก็บข้อมูลที่มากที่สุดในครั้งนี้ คือ 153

#### Focus on:

- ➤ the rising importance of a whole-of government approach and integrated online service delivery;
- ➤ the use of e-government to provide information and services to citizens on environment related issues;
- ▶ e-infrastructure and its increasing role in bridging the digital divide, with a particular emphasis on the provision of effective online services for the inclusion of disadvantaged and vulnerable groups, such as the poor, the disabled, women, children and youth, the elderly, minorities, etc;
- the increasing emphasis on service usage, multichannel service delivery, 'open government data', e-procurement;
- > the expansion of e-participation and mobile government.

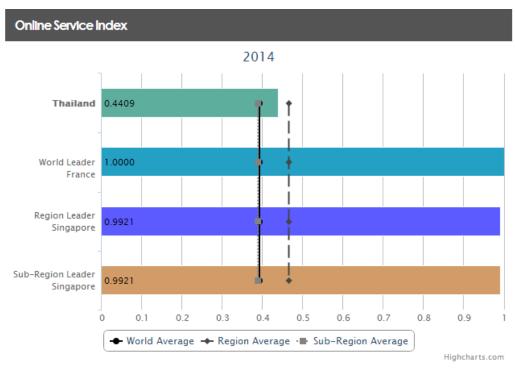
And the thematic subthemes identified are:

- Whole-of-government;
- Multichannel service delivery;
- Bridging the digital divide;
- Increasing usage;
- Open Government;
- E-participation.

Online Service Index (Country "x") = 
$$\frac{(114-0)}{(153-0)}$$
 = 0.745



### **Online Service Index 2012-2014**



Year	Online Service (Rank)	Stage 1	Stage 2	Stage 3	Stage 4	Total
		percentage				
2014	0.4409(76)	94	34	14	35	41
2012	0.5098(67)	100	55	31	39	45



## **Thank You**





