

## In Focus

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# Thailand Moves to Connected Government

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## 1. Introduction

Thailand started its race for e-Government development with the policy frameworks of IT 2000 and 2010. The ICT policy frameworks were then translated into the country's ICT Master Plan to lay down e-Government architecture during 2002–2008.

The IT2000 set target to lay basic foundation of ICT Infrastructure including human resource development. Whereby the IT2010 (2001–2010) which is set forward to achieve the ultimate goal of building up the country to the level of knowledge based economy and three specific goals are aimed: firstly to raise the technological capability of Thailand from “dynamic IT adopter” nation to “a potential leader”, secondly to increase the proportion of knowledge workers and thirdly to increase a contributable sum of knowledge-based industries to the country growth. To achieve these goals, IT2010 has identified five main flagships: e-Government, e-Education, e-Commerce, e-Society and e-Industry as the country's e-development initiatives.

Interpretation of the IT2010 has been depicted through the country's first-ever ICT Master Plan (2002–2006 and extended until 2008) with key objectives: to apply ICT to increase competitiveness, to develop a knowledge-based society, to apply ICT for sustainable development, and to develop business around the ICT industry. The second ICT master plan has currently been prepared and ready for deployment during the years 2009–2013. The succeeding master plan's ambition is to further develop the country to a so called “Smart Thailand” where sustainable ICT implementation will be based on IT-literate-human capacity in all levels of society and on the good governance founda-

tion in all development sectors as well as the accessible-to-all infrastructure.

It is about time for reviewing the country's ICT and e-Government direction and at the same time paving way for future fulfilling of substantial aims. Surveys, Interviews and studies on stakeholders including users, webmasters and government CIO community and the present environment conditions have been conducted by the Ministry of ICT to reflect facts and figures of the past e-Government services development as well as future development roadmap has been design as a step forward to leapfrog its maturity level of e-Government services development and to keep abreast with the international development arena.

## 2. Thailand's ICT Development Indicators

ICT indicators in 2007 reflected that Thailand has good opportunities and potentials on ICT development especially in the area of telecommunication infrastructure including internet and mobile penetrations as shown in below figures. According to ITU currently mobile penetration of the country has reached 98% which indicates high potential in mobile business especially in content development. 3-G platform is now under experimental phase and planned for launching implementation soon.

## 3. High growth market segments

After more than a decade of the modern ICT era when information super highway through internet network

### ICT Status of Thailand in 2007

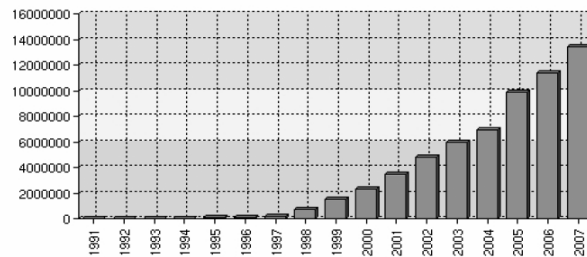
Internet international bandwidth:	20.6 Gbps (Sep 2007)
IP Network size	13,609,000 class C (Sep 2007) (ranked 10 th placed in APAC)
Population of Thailand	63 million
Fixed line subscribers	11.7 per 100 inhabitants
Mobile phone subscribers	38 Million subscribers 60 per 100 inhabitants
Computer Users	30.7 per 100 inhabitants (municipal) 8.2 per 100 inhabitants (rural)
Internet Users	13.4 million people
ADSL users (broadband)	43% of all users

Source: <http://www.nectec.or.th/internet/>  
"Internet user profile in Thailand" report, NECTEC.

Source : Sutee Satanasathaporn, General Secretariat, ATCI, [www.atci.or.th](http://www.atci.or.th)

Fig. 1. Thailand ICT Status in 2007.

### Internet Users and Statistics in Thailand



Source : Sutee Satanasathaporn, General Secretariat, ATCI, [www.atci.or.th](http://www.atci.or.th)

Fig. 2. Thailand Internet Users Statistics During 1991–2007.

has played a major drive on ICT development and shortly afterwards when e-Government has become the major development agenda among the other e-Initiatives, Thailand has gone far enough, for a certain extent, in creating its own market segmentation. Among the high growth markets include the following segments:

#### 1. Financial Segment

- Core Banking, CRM, Call Center
- Business Analysis (Anti Money Laundering),
- Risk Management (BASELII)
- Security (CCTV, Networking)

#### 2. Telecommunications Segment

- 3G Mobile Infrastructure
- Management Security Services for Enterprise Users

- Online Application Services

#### 3. Public Sector Segment

- e-Government
- e-citizen
- Security System

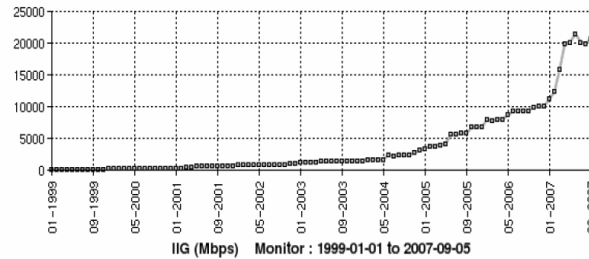
#### 4. SOHO markets (Small Office & Home office)

- Hardware and Small Business software such as Accounting System, CRM and
- POS System
- RFID
- Edutainment (Online Game, Computer Based Training, E-learning)

In conclusion Thailand is ready to step forward for building up ICT society. In order to achieve its goal the country needs to be partnering with related parties both

**THAILAND INTERNET BANDWIDTH**

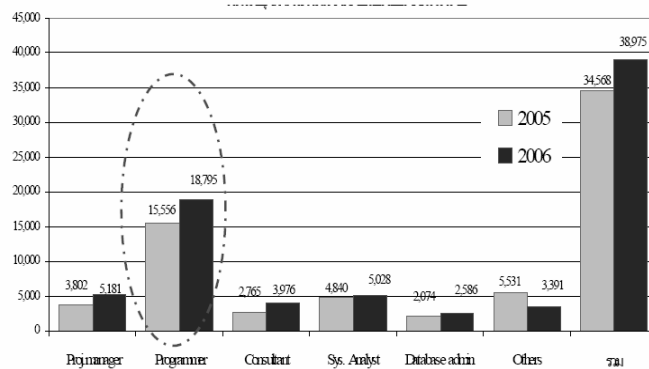
Domestics Bandwidth : 126.71 Gbps  
 International Bandwidth : 20.621 Gbps



Source : Sutee Satanasathaporn, General Secretariat, ATCI, www.atci.or.th

Fig. 3. Thailand Internet Bandwidth During 1999–2007.

**Technical Staff in Software Industry 2006  
 38,975 Persons**



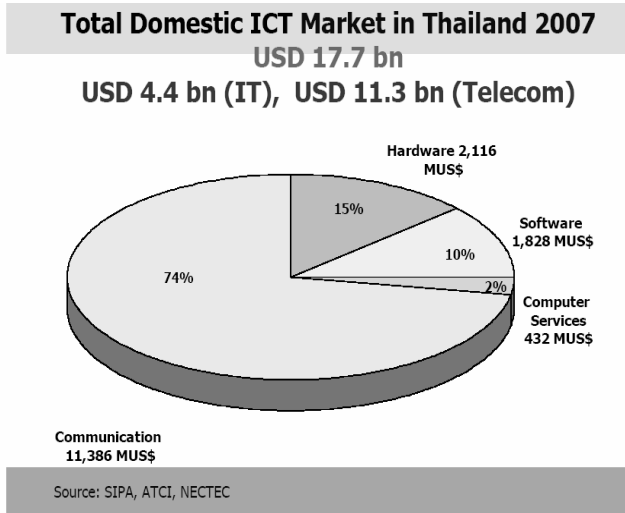
Source : Sutee Satanasathaporn, General Secretariat, ATCI, www.atci.or.th

Fig. 4. Thailand Technical Staff in Software Industry in 2006.

intra-nationally and inter-nationally under a standardization scheme. However the Thai government has to commit to support the ICT Industry to grow sustainably. Most importantly the government under the implementation agencies’ arms have to put the e-Government and ICT development back into a right track where rendering and enhancing integration both within its ministries and across all ministries to step into the so-called “Connected Government” as an essential entry towards government transformation.

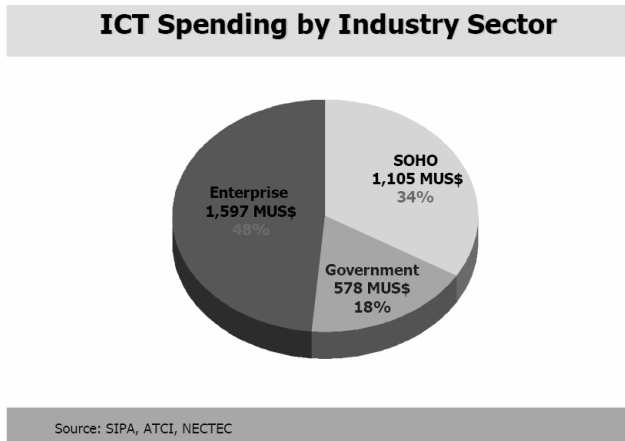
**4. Current Status and Results of Thailand e-Government Services**

e-Government is the use of ICT tools such as internet, mobile computing and cellular phones by government to streamline processes and transactions. In practice, e-Government evolves from e-Commerce. Business sectors have succeeded and experienced the internet world and flocked into the dot com era in the last decade. This phenomenon has turned on public administration



Source : Sutee Satanasathaporn, General Secretariat, ATCI, [www.atci.or.th](http://www.atci.or.th)

Fig. 5. Thailand Total Domestic ICT Market in 2007.



Source : Sutee Satanasathaporn, General Secretariat, ATCI, [www.atci.or.th](http://www.atci.or.th)

Fig. 6. Thailand Total Domestic ICT Market in 2007.

to reinvent itself into “Government Online” which has been spreading all over the world.

With the framework of IT 2010 and succeeded by the first ICT Master Plan, 2002–2006, e-Government has been promoted and developed as a driving mechanism for the other two “e” sectors, i.e. the economy sectors: e-Commerce and e-Industry; and the social sector which comprised e-Education and e-Society. The second country ICT Master Plan has been drafted to cover an implementation period of 2009–2013. The newly drafted master plan plans to take over those still to implement projects under the 5 “e” flagships with more focus strategies. Firstly, the new plan will empha-

size on human capacity buildings for ICT development across the board, including ICT personnel in all level of government sector, ICT workforce for targeted ICT industries such as animation software perse and ICT literacy for all the country’s societies and communities.

Second emphasis is to put more attention on the so called “Governance” factor since there have been lessons learnt during the first plan implementation that, lacking of properly conducted governance caused most of project misconducts as well as less citizen engagement. Therefore e-Governance has been underlined to keep into governance tracks of ICT project implementation in all sectors. ICT governance is also been de-

fined to incorporate into public sector e-Government implementation project both in terms of front and back-end services. Lastly, ICT infrastructure is defined as one of the main 6 strategies in the draft master plan to guarantee that all sectors of society will not be left out of the information era under the universal access framework.

## 5. Current Status of e-Government Services

In the early stage of e-Government development of the country some successful pilot projects under the country's e-Government initiatives included e-Revenue (Revenue Department), e-Investment (BOI), e-Statistics (National Statistics Office), e-Economics (NESDB), e-Commercial Registration (Department of Business Development) and e-Parliament as for good examples. In addition, under the first ICT master plan some urgent projects were specified with the objectives of implementing key infrastructure components for e-Services integration, namely, GDX (Government Data Exchange), GNX (Government News Exchange), Web Portal, One Stop Services, Government Intranet, and Government Authentication. So far, until the end of the plan, these prioritized projects had not been paid much attention enough to succeed as planned. Instead, some minor incidents like the so-called "e-Government Milestones" that set in the e-Government workshop chaired by the then Prime Minister on March 26th, 2003 had been over emphasized and been accomplished gradually at a certain extent of the set-up targets which last up to the year 2005.

In 2002 when Thailand started the public sector reform and Ministry of ICT has been founded, resulted from the first national ICT Master Plan. Since then under implementation of major ministries and other related agencies, various key initiatives and projects have been implemented and deployed and all of them are still high priorities in the ICT and e-Government development pipelines of the country and they are as followings:

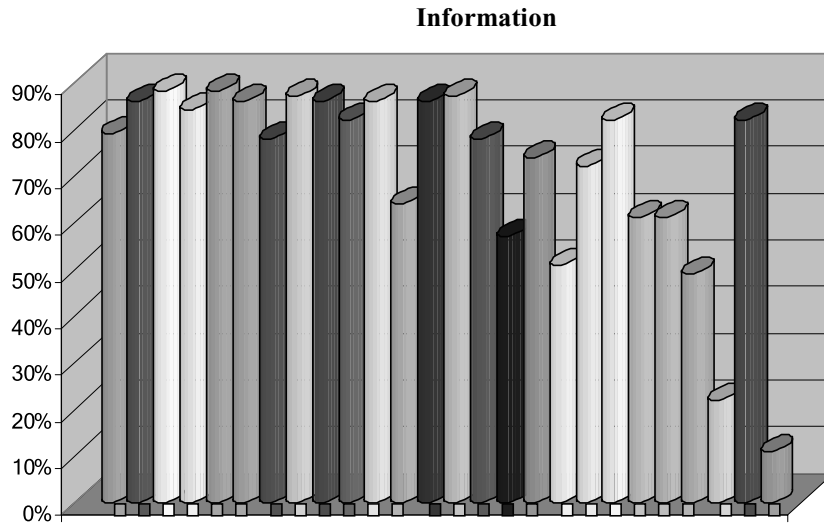
- e-Citizen Smart Cards Project for 63 million people, 25 million smart cards have been delivered since 2005 and the rest within next 3 years
- Related smart card applications are in the pipelines for development including Security System: PKI and Root CA, Identification Card for Access Control and access to e-Government services
- GFMS (Government Financial Management Information System)
- Ministerial and Departmental Operation Centers (MOC and DOC)
- e-Auction
- e-Logistics (Single Window Portal for Importer-Exporter Facilitation)
- e-Port, e-Gate, e-Toll
- e-Healthcare (Front & Back Office Systems for Hospitals)
- e-Security (Networking Security Services)
- e-Services for all government through Web Services/SOA
- Thailand e-Government Interoperability Framework (Th-eGIF)
- CCTV and Monitoring System
- Government Information Network (GIN)
- Thai Tele-centers for all district communities
- e-Province
- e-Municipality

## 6. e-Government Services Survey

A recent study under the project "Survey of Present Status of e-Government Development in Thailand" by Ministry of ICT reflected that Thailand needs to leapfrog its ICT and e-Government development if the country is to raise its ranking in the international competition arena. The UN survey of 2008 revealed that Thailand was ranked 64 out of 191 countries in the overall score table, after Singapore and Malaysia among ASEAN region comparison. The draft second ICT master plan has aimed to leverage the country ICT ranking for a certain level at the end of the plan. Presently, according to the survey, the country's development maturity in terms of e-Government services is still not that far from the last survey conducted in 2004 when it was hosted by MICT and NECTEC. The overall e-Services development at present lack attention on an integration among government agencies, where maturity model used in the survey placed the "Integration" level among the 5 stages in order of advancement, Information, Interaction, Interchange Transaction, Integration and Intelligence. The 5 maturity stages of e-Government services development in concept together with depiction of results from the survey are as follows:

**1) Information**

**Chart 1: Information**

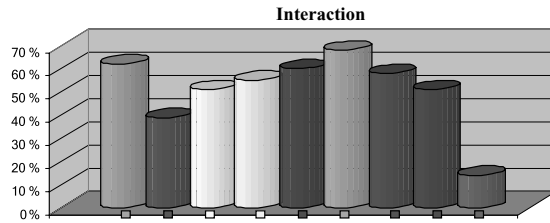


*Legend: Number running in according order with order of the graph bars*

- |  |  |
|--|--|
| 1. Website with homepage on other public web | 2. Organization History presentation     |
| 3. Organization mission & responsibilities   | 4. Organization structure                |
| 5. Organization Address                      | 6. Telephone number                      |
| 7. e-Mail address of responsible person      | 8. Own domain name of website            |
| 9. General public relation                   | 10. Public info.and announcement         |
| 11. Organization info.                       | 12. Bilingual content                    |
| 13. Links to general websites                | 14. Links to other related websites      |
| 15. Organization rules & regulations         | 16. Guidelines for Organization services |
| 17. Downloadable Forms                       | 18. Instruction of content on website    |
| 19. Site map                                 | 20. Counter of visitors                  |
| 20. Truehit installed                        | 22. Truehit for more than 100 sessions   |
| 22. No. of dead links less than 1%           | 24. Accessible to the handicaps          |
| 24. Regular update of info                   | 26. No answer                            |

**Source : Ministry of ICT, Thailand, [www.mict.co.th](http://www.mict.co.th)**

**2) Interaction**  
**Chart 2: Interaction**

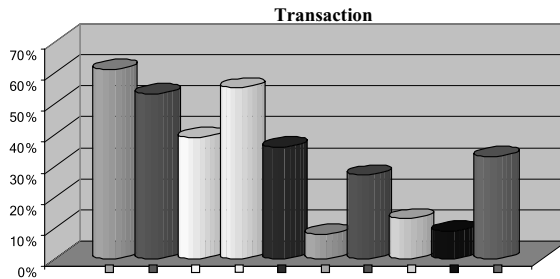


Legend: Number running in according order with order of the graph bars

- 1. Tool to input data to communicate with Script
- 2. Guest book available
- 3. FAQ available
- 4. Search engine available
- 5. Own Tool to input data
- 6. Web Board available
- 7. Internal Search engine available
- 8. Input data verification available
- 9. No answer

Source : Ministry of ICT, Thailand, [www.mict.co.th](http://www.mict.co.th)

**3) Interchange Transaction**  
**Chart 3: Interchange Transaction**

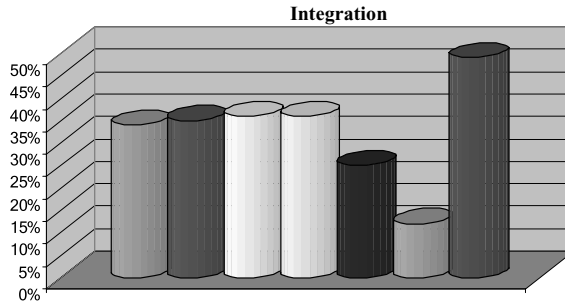


Legend: Number running in according order with order of the graph bars

- 1. Log-in form available
- 2. Online registration available
- 3. Verify in case of password lost and reassign
- 4. Respond when wrong password
- 5. Data and application security available
- 6. Digital Signature available
- 7. At least 1 transactional service available
- 8. Apply account no. for e-Payment
- 9. Apply credit card no. for e-Payment
- 10. No answer

Source : Ministry of ICT, Thailand, [www.mict.co.th](http://www.mict.co.th)

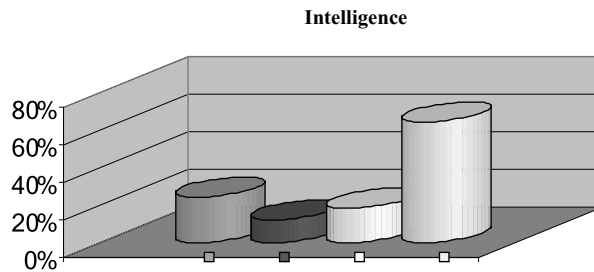
**4) Integration**  
**Chart 4: Integration**



- Legend: Number running in according order with order of the graph bars*
- 1. Application calling external application
  - 2. Calling at least 1 external application
  - 3. Application available for internal call
  - 4. At least giving 1 external service
  - 5. External entity calls at least 1 application
  - 6. Multi units jointly develop Single Window
  - 7. No answer

Source : Ministry of ICT, Thailand, [www.mict.co.th](http://www.mict.co.th)

**5) Intelligence**  
**Chart 5: Intelligence**



- Legend: Number running in according order with order of the graph bars*
- 1. Personalized info services
  - 2. Learning of citizen behavior
  - 3. Citizen can choose info services format
  - 4. No answer

Source: Ministry of ICT, Thailand, [www.mict.co.th](http://www.mict.co.th)



The latest survey as prior mentioned, shows that most public agencies have been aware of priority of e-Government Services in their ICT development agenda. In overall picture found in the survey, majority has achieved an advanced Information maturity, where the “Interaction” stage comes second. Among many ministries such as Ministries of Finance, Industry, Commerce, Interior, Agriculture, Science and Technology, Communications have deployed e-services application in the level of “Interchange transaction”. This is a good sign of a step forward in terms of integration though the effort has been put limitedly within own organization at the same time its own experience from inside will pave way for linking cross-border from outside.

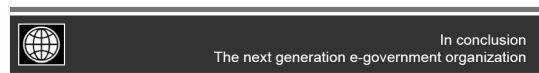
Leading ICT deployed agencies such as taxation agencies, agencies issuing ID card and license including driving license have already implemented cross-border integrated applications in rendering e-Services for citizens. On the other hand, most public agencies are still relying on their “Silo” database system which they believe an obstacle for data integration. Likewise, present ICT development systems of government agencies are based on multi standards and platforms which need right solutions toward data, network, process and security integration. Under these circumstances, government agencies create duplication of budget and resources on ICT development. Human capacity and capability especially in the area of network administration as well as other technical works are still weak points of the government sector. The country has to tackle all of these obstacles in order to leverage the maturity level of ICT and e-Government development.

## 7. Implementation Plans and Activities for Moving Forward

In order for Thailand to achieve its ambitious goal of ICT and e-Government leverage into a higher maturity level as well as higher places in international ranking in the foreseeable time frame, and moving forward into a connected government status, the country has to leapfrog its own development into a right direction and track. Followings are recommendations for the country to focus plans and activities in regards with building up and enhancing technical capability as well as improving management capability:

- 1) To connect all government agencies with shared ICT infrastructure

- 2) To put very much attention to the content side of development on top of its effort of building up such an environment of an m-Government for leap-frogging its maturity of ICT and e-Government development
- 3) To take much more serious attention on the u-Government which allows people in anywhere to access to government e-services by using any devices or access channels under proper bandwidth of communications
- 4) to take Public-Private-Partnership or PPP into account as an effective mechanism for matching core competencies as well as investment funds between public agencies and counterpart companies towards e-Government services deployment
- 5) to cater the right demand of setting up proper Organization for Next Generation of e-Government as defined by the World Bank which is composed of six qualifications as following depicted table:



- Whether centralized or decentralized?
  - Federated
- Whether focused on technology or the business?
  - Business
- Whether public or private?
  - More public, more focus on public-private partnerships
- Whether large or small?
  - Small with a large network of relationships
- Whether doer or influencer?
  - Enabler and facilitator
- Whether hierarchical or flat?
  - Matrix organization

Source : The World Bank, <http://web.worldbank.org/>

- 6) Applying Appropriate Technology
- 7) To move forward from e-Government to connected Government, m-Government and u-Government towards the so-called “Transformed Government” during the period of 2010–2014 e-Government Action Plan for Leapfrog Development
- 8) To neatly categorize ICT capacity development to cover ranging from building awareness to every quarter of society, enhancing ICT literacy for people especially in the rural area, changing government mindset toward better service delivery to citizen and ICT governance for all
- 9) to connect government agencies infrastructure, to serve the near-term e-services, that set forth ranging from national web portal, single window for logistics system, Secured Government Intranet and Secured Payment Gateway and etc..

- 10) To prioritize and handle budget especially on cross-agency integration projects that need longer than a year to execute
- 11) To encourage government agencies to fully implement the ICT laws which are effective already as well as to provide procedures and guidelines as well as technical assistance to the agencies where facing problems in their implementations to be confident that every rule of law has been exercised accordingly
- 12) To set up an e-Government central agency to handle centralized procedures, processes and systems that free from any intervention as well as to closely cooperate and collaborate with other central units like the Bureau of Budget, Office of Civil Service Commission, Office of Public Sector Development Commission and National Economics and Social Development Board for central policy and guidelines upon management of budget, workforces and other resources
- 13) To share and integrate resources and systems in order to utilize the advantage of common systems such as the 13-digit ID number for increasing more integrated e-Services in the rest agencies which never used this unique ID number for cross agency applications. In the efforts of building trust to the e-Government services, the government in collaboration with private domain to set up a root-PKI system in order to integrate PKI and e-Signature that offering services by various providers at present . Moreover, the government has to promote and develop the utilization of Smart ID cards that issued to more than 40% of the Thai citizens already.

Under the above mentioned implementation scheme, the country will be moving forward from e-Government to connected government which means the country will have every public domain connected and integrated, hence accomplishing the “Integration” maturity level. The development target will gradually be able to move further into an m-Government and then u-Government before finally transform into a transformed government that will improve drastically in its services delivery to citizen which will lead the country to sustainable information society.

## **8. Conclusion**

Thailand has started its endeavor on e-Government development when the country issued their ICT policy

framework i.e. IT2000 and IT2010. Based upon the frameworks, the first ever ICT master plan as a blueprint during 2002–2006 for Thailand ICT and e-Government development was laid with the goal of leading the country towards knowledge based society. At the end of the first ICT master plan, the country ICT indicators show that mobile phone penetration has reached 98% has already by-passed the fixed lines, while internet users accounted for some 20%, both out of its population. The IP Network size of Thailand was ranked 10th among APAC members in 2007, while e-Government readiness has been ranked 64th by UN in 2008 among over 190 member countries. Total domestic ICT market was around 17.7 Billion Baht, which communications segment was accounted for more than 70% and less than 30% was for IT segment. ICT industry spending by sector was divided into enterprise spending accounted for 48%, SOHO accounted for 34% and government accounted for 18%.

The 2nd ICT in general implies to maintain the current e-Government flagship which aims to implant e-Governance across the board of ICT and e-Government development of the country, while at the same time, to emphasize good governance for ICT application and usage or in other word, ICT governance. ICT infrastructure development for all is still put as one of the key strategy among the six major strategies of the plan. At the same time ICT literacy for citizen and ICT workforce development are also one of the key ICT strategies. The ultimate goal the plan, is to build up the country as “Smart Thailand”.

During the mid point of the first master plan when it was in 2004, the country surveyed and evaluated maturity status of e-Government services through website and found that maturity level has reached at mid-point of 5 levels which inconsecutive order are Information, Interaction, Interchanged Transaction, Integration and Intelligence. The maturity level remain quite the same when MICT has recently conducted survey on status of e-Government services and found this truth.

In experiencing results of the current international ranking and the recent local survey which reflected that the country ICT status is still lagging behind. The country, under MICT as core agency for ICT development is now set to leapfrog its ICT and e-Government development during 2009–2013. In leapfrogging, direction or roadmap for ICT and e-Government implementation is conceptually defined and recommended in terms of measures and plan of actions including, Building up Technical Capability, Moving from e-Government to Connected Government, Preparing

for m-Government(Mobile-Government), Moving Forward To u-Government(ubiquitous-Government), Single Comprehensive Portal, Citizen centered Information and services, Appropriate connection speed, Public-Private-Partnership or PPP Approach, Organization for Next Generation of e-Government, Applying Appropriate Technology, Improving Management Capability, e-Government Action Plan for Leapfrog Development, ICT and e-Government Personnel Capacity Building, Building and Integrating ICT Infrastructure, Long Term Budgeting for Continuity and Sustainability, Implementing the Effective ICT Laws, Setting up an e-Government Central Agency and Sharing and Integrating Resources and Systems. Under a certain implementation planning scheme the country will be moving forward from e-Government to connected government and ultimately towards a transformed government philosophy.

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