



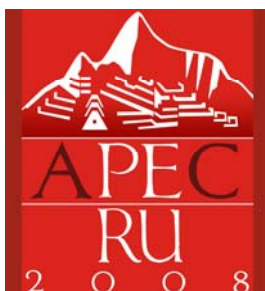
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Thailand Policy and Regulatory Updated

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Thailand's Policy and Regulatory Update

(Activities from April 2008 through September 2008)

I. Regulatory Developments in Telecommunications

• Regulatory Development

As prescribed in Section 47 of the new Constitution of Thailand B.E. 2550 (2007), a single independent national regulatory body shall be established to regulate both telecommunications and broadcasting services. To fulfill the constitutional requirement, the Act on the Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunication Services B.E. 2543 (2000) has been revised, and it is now in the process of submission to the parliament for consideration.

• Telecommunication Master Plan 2008-2010

In April 2008, the second Telecommunication Master Plan for the year 2008-2010 was published in the Royal Gazette. The National Telecommunications Committee (NTC) has subsequently initiated the implementation plan in accordance with the Master Plan, focusing on the following eight primary areas.

- 1) Promotion of Competition
- 2) Telecommunication Resources Management
- 3) Consumer Protection in Telecommunication Services
- 4) Universal Service Obligation (USO) and Corporate Social Responsibility (CSR)
- 5) Telecommunication Industry Research and Development and Telecommunication Personnel Development
- 6) Telecommunication for Specific Services
- 7) Telecommunication Infrastructure and Technology Management
- 8) Modernization of Organization

• Telecommunication Business License

As of August 2008, the NTC has granted telecommunication licenses to Type I, Type II, and Type III operators (59, 11 and 17 respectively). In terms of Internet licensing, the NTC has granted 88 licenses to Type I operators, 8 licenses to Type II operators, and 1 license to a Type III operator. Altogether 120 licenses have been granted to both telecommunication operators and Internet operators.

• Third-Generation Mobile (3G)

The NTC is now evaluating its licensing criteria to determine the appropriate assignment method, number of operators, and relevant conditions to be applied. It is expected that the licensing criteria will be introduced by 2008, and the process of granting licenses will possibly be implemented by 2009. The engagement of foreign businesses in this sector is subject to foreign equity regulations as prescribed in the Telecommunications Business Act 2001 and its amendment Act 2006. In the third quarter of year 2008, the NTC conducted public consultation on IMT or 3G and beyond spectrum licensing in Bangkok and major cities throughout the country.

• Broadband Wireless Access (BWA)

According to the NTC notification on frequency band for Broadband Wireless Access (BWA) trial and testing, the following bands have been announced:

- 1) 2.3-2.4 GHz
- 2) 2.500-2.520 GHz and 2.670-2.690 GHz
- 3) 3.3-3.4 GHz
- 4) 3.4-3.7 GHz.

Approximately 20 telecom operators applied for BWA trial and testing. An evaluation committee has been set up to evaluate the trial and testing. The result has shown that the existing services (including Fixed Satellite Service, Fixed Service, and MMDS) cannot co-exist with Broadband Wireless Access in a ubiquitously deployed manner.

The NTC has also set up another committee to analyze and make recommendations on BWA policy. The committee's responsibility covers the formulation of frequency plan for BWA.

- **Number Portability**

Number portability provides the right to retain an existing telecommunications number when a customer intends to switch to a new service provider and may apply to both mobile and fixed segments. The National Telecommunications Commission (NTC) drafted the Notification on Number Portability and carried out public consultation in the third quarter of the year 2008. The consultation is aimed at exploring the technical processes, administrative procedures, and pricing to be applied when a customer ceases service with one licensee and seeks service from another licensee while retaining the telephone number or other identity previously used to receive service.

II. Bridging the Digital Divide

- **Bridging Digital Divide Strategic Plan (2008-2010)**

The Ministry of Information Technology (MICT) has developed the Bridging Digital Divide Strategic Plan (2008-2010) to be a corner stone of increasing ICT accessibility for all citizens and to promote research and development of the local assistive technology industry. There are three main outcomes: 1) to increase web accessibility; 2) to develop an assistive technology industry; and 3) to increase access channels and personnel related to assistive technology and related technologies. Four strategies under the Plan are:

- Strategy 1: Promote and support information accessibility technology and usage.
- Strategy 2: Promote and support the dissemination of assistive technology and web accessibility
- Strategy 3: Promote research and development of assistive technology and web accessibility
- Strategy 4: Promote and encourage disadvantaged citizens to enter the learning cycle so as to develop themselves into productive citizens.

The Plan has been proposed for approval by the cabinet

- **Universal Service Obligation (USO)**

As prescribed in the Notification of USO, the licensees are obliged to operate the following services in accordance with the conditions and standards for the provision of universal basic telecommunications and social services prescribed in the Addendum to the Notification.

1) Installation of at least 2 public telephone numbers per village in the 6,000 target villages, to be completed within 30 months from the licence-granting date. The installation shall be implemented in no less than a minimum number of target areas within the period specified by the Commission.

2) Installation of at least 1 number for fixed line and public telephone each (a minimum total of 2 numbers), at educational institutions, places of worship, medical facilities, and social service agencies, in the 4,000 target sites within 24 months from the licence-granting date. The installation shall be implemented in no less than a minimum number of target areas within the period specified by the Commission.

3) Issuing telephone cards for the disabled and low-income individual (including the elderly) who have registered with the Ministry of Social Development and Human Security. The cards shall be issued, according to the conditions prescribed by the Commission, at the amount of 100 baht per person per month and a monthly total of no more than one million persons for a period of 30 months from the licence-granting date.

4) Installation of at least 1 public telephone number within a 100-metre radius of a low-income community with no less than 100 households, which has submitted a request for a public telephone and which is located within the network range of a licensed telecommunications business operator. No more than 2,600 numbers shall be reserved for this purpose and shall not be less than the Commission's requirement.

5) Installation of public telephones and facilities for the disabled in accordance with the regulations of the Committee for Rehabilitation of Disabled Persons on the disabled person's equipment or facilities standards, B.E. 2544 (2001).

6) Providing no more than 5,000 numbers for certain types or categories of telecommunications services to assist individuals and agencies that work in public services, under the conditions specified by the Commission.

Following the above Notification of USO, the licensees have now installed public payphones in 1,346 villages, fixed lines and payphones in 1,405 local health centers, and 200 telephone numbers in social organizations. In addition, one million phone cards are being distributed to the disabled, senior citizens, and low-income citizens. It is expected that the plan shall be completed within the year 2009.

- **Employing ICT to Promote an Equitable Society**

To provide citizens with easier access to information technology and reduce the digital divide, the Thai government has placed urgent emphasis on making widely available basic telecommunication infrastructure, including basic telephones services, long-distance communication lines, and telecommunication networks. However, certain groups of citizens may still be unable to access government services offered because of economic or physical disadvantages.

In 2008, the MICT has initiated two projects to promote a more equitable society through the use of ICT. These two projects are:

- 1) Promote web accessibility for visually impaired Internet users by raising awareness and providing web accessibility training to web site designers according to the Web Accessibility initiative (WAI) of the World Wide Web Consortium (W3C).
- 2) Provide information technology training sessions to people who are economically and/or physically disadvantaged.

III. Accessibility

- **Government Information Network (GIN)**

In 2007, the MICT expanded Government Information Network (GIN) coverage to include more provincial areas, including government networks in 35 provinces. In 2008, GIN has progressed into its 3rd phase and matured significantly in terms of its infrastructure development. The MICT plans to extend the GIN coverage to include 40 more provinces by the end of the year.

- **3G Services on 1900 MHz**

Thai Mobile is the only operator using 1900 megahertz, a global 3G cellular-technology platform. The holding structure of the 3G network would be unchanged with ACT Mobile as the network owner, while Thai Mobile would rent the network to operate. CAT and TOT have established an MoU in July 2008 to annul the existing Thai Mobile

Joint-Venture contract where CAT agreed to transfer its 42.11% share to TOT. The MoU shall be in effect after being approved by the cabinet.

In this regard, TOT will move to full development of 3G services. The initial investment in 3G services and networks will be planned to offer network expansion within a five-year period (2008-2012) with a target of 5,220 base stations (2,500 in metropolitan areas and 2,720 in provincial areas). Target coverage areas are:

- Year 2008-2009 : 2,000 base stations nationwide
- Year 2009 -2012 : 3,220 base stations nationwide

Services will also be aimed at expanding TOT's Broadband Internet subscriber base. TOT will apply for permission from the National Telecommunications Commission (NTC) to import equipment and roll out its 3G network following the cabinet's recent approval of TOT to be the sole owner of the 1900 MHz spectrum. Part of the spectrum is the 2.1 gigahertz band for carrying the 3G services.

- **The Expansion of Broadband IP (Internet Protocol) Network**

TOT plans to expand the existing core network by using IP technology with the main purpose to unite technology and voice, data and multimedia services on a single network based on an NGN platform. This is to enhance the efficiency and flexibility of network management and convenience of maintenance through a control center and adequately accommodate a wide array of new and advanced services. TOT plans to build and install the new Broadband IP Network to be the TOT core network for 3.76 million ports within the Year 2010. This development will enhance network productivity and competitive advantage in multi-service offerings and replace the existing outdated fixed-line network and the current IP network. The estimated project cost is 4,765 million baht. Thailand benefits from this project in that it facilitates the delivery of a wide range of Information and communication technology-based services, increases opportunities for reliable and convenient business transactions on the internet, stimulates economic growth and creates national competitiveness.

- **The Expansion of ADSL**

TOT has set the expansion of ADSL to reach 3.3 million of customers within the year 2011. This goal is in accordance with Thai government policy on universal access to bridge the digital divide.

- **The Replacement of SPC switching with the Next Generation Network (NGN)**

To strengthen competitive advantage in the telecom industry and meet growing market demand in Thailand, TOT plans to replace all existing outdated switching equipment with the Next Generation Network (NGN), which is able to support voice, broadband and video services. The objectives of this project are to create business opportunities, save operating costs (OPEX) to maintain multiple systems, and enhance service capabilities. This project divides the operation into 2 phases;

Phase1: Replace 80% of the existing switching equipment in Year 2011 (Approximately 3.65 million subscribers).

Phase2: Successfully change to NGN in Year 2012.

The replacement of the existing switching equipment of 4.6 million fixed-line subscribers with the Next Generation Network (NGN) will support voice, broadband and video services. Such change will substitute outdated switching technology with the new generation network. In the long term, this development will save the operating cost of maintaining the existing equipment. It will also support a wide range of information and communication technology-based services, and, finally, will stimulate the national economic growth.

- **High Speed Packet Access (HSPA) Upgrade**

In order to efficiently utilize scarce frequency resources, CAT has asked the NTC to adjust its 850 MHz frequency band usage for the new High Speed Packet Access (HSPA) mobile network to be invested by its two concessionaires namely TAC and True Move. By contributing its unused frequency portion, CAT has been able to aggregate it into a few 5 MHz frequency blocks where 2x10 MHz bands have been assigned to TAC and 2x4.8 MHz bands have been assigned to True Move. Under such in-band migration, TAC and True Move would be able to migrate their GSM networks into the more advanced HSPA network within a few months for as long as their existing concession agreements of 10 and 5 years respectively.

- **WIMAX Trial**

In July 2008, CAT has launched a WIMAX trial project in Chiang Mai Province using WIMAX equipment provided by ZTE, after being granted a WIMAX Trial license from the NTC. The test has been successful and an initial investment plan shall be established in line with the new WIMAX license to be granted by NTC within the next year.

- **ASEAN Community Brought to the Cutting-Edge IP Platform by ACASIA**

Collaboration among seven incumbent carriers in the form of an alliance company, ACASIA Communications, now enables the ASEAN community to provide a more efficient telecommunication platform. The ACASIA Communications consists of Indosat (Indonesia), Telekom Malaysia (Malaysia), SingTel (Singapore), PLDT (Philippines), Telbru (Brunei), VNPT (Vietnam) and CAT (Thailand). In early 2008, ACASIA partners jointly invested in a highly advanced IP Network Platform to provide fully managed and high quality telecommunication services, serving country-to-country demands throughout the ASEAN community. The new platform can fully support multi-services for all types of multimedia communication. The highlight is the International Ethernet Service which can now provide seamless connectivity for office-to-office communication and meet all ranges of business and industry requirements.

IV. ICT Security

- **Enforcement of the Computer Crime Act 2007**

Since the enactment of the Computer Crime Act in 2007, the government has committed significant resources to human capacity building in both the public and private sectors. Cyber crime awareness and skill levels have been raised through frequent training courses and public seminars organized through the collaborative efforts of multiple government agencies throughout the country. As a result, law enforcement officers and judicial personnel are now more knowledgeable and better equipped to deal with cyber crime cases than before. In addition, the Ministry of ICT, as the Computer Crime Act executor, has appointed highly skilled officers from multiple law enforcement agencies, including the Royal Thai Police, the Department of Special Investigation, the National Intelligence Agency, and the MICT itself to act as designated authorities for the enforcement of the Computer Crime Act 2007.

- **Security Services**

CAT has foreseen an increase in Internet threats and, therefore, has launched an IT Security Service called Cyfence, and built the first Security Operation Center (SOC) in the country in 2006. The provided services cover various areas of Internet Security, ranging from network vulnerability assessment to system integration to managed security services. CAT believes that with all these services, a customer's network infrastructure and digital assets will be fully protected, thus, ensuring business continuity and minimizing

the risk of cyber attacks. Furthermore, CAT can also monitor network and security devices, detect and alert authorities in cases of unusual behavior in real-time 24x7. Security Analysts and CAT's Computer Security Incident Responsible Team (CSIRT) are working around-the-clock to provide assistance and recommendations to strengthen network infrastructure and minimize the level of vulnerability.

In order to protect infrastructure and valuable digital assets, the Thai Government passed the Computer Crime Act B.E. 2550 in 2007 to promote and strengthen regulations related to cyber crime and, hopefully, create a better digital community throughout the kingdom. The minimum requirement of this Act is that all service providers, government agencies, private companies, and those who provide Internet for the public must maintain their Internet activity logs for at least 90 days. With regard to the current facility, CAT is able to assist all 21 ministries and their subsidiaries, as well as, private companies to comply with the Computer Crime Act by providing a service called Secure Log Management to store and manage Internet activity log files. Besides the main facility in Bangkok, CAT also has setup well-equipped Customer Service Centers around the kingdom. Therefore, organizations can take full advantage of network infrastructure and continue their business operations without having to worry about Internet wrongdoers.

- **ICT House Keeper 2008**

The Ministry of ICT in cooperation with King Mongkut's Institute of Technology Ladkrabang developed ICT House Keeper 2008. The objective of this project is to provide parents with a tool to manage Internet access and prevent children from viewing inappropriate material at home, to generate awareness of the potential dangers that some websites and certain computer games pose to children and Internet users, to support the application of information and communication technology by the general public and relevant organizations to prevent children from exposure to inappropriate Internet content, and to promote confident and safe use of the Internet. It has generated greater awareness of internet dangers as the number of reported inappropriate websites has increased. The development of ICT House Keeper 2008 is beneficial to the expanding community of Internet/computer users and society in general.

V. Human Resources Development

- **High-level Software Engineering Development**

SIPA has identified two areas where the Thai software development industry still lacks skilled engineers, namely enterprise software and embedded software development. There is an urgent need to produce software engineers who are familiar with newer technologies such as SOA, EJB 3, and Agile. SIPA will supply the funding to develop high-level software engineers to meet the industry's demand. It is expected that these skilled experts will supply the industry with innovative contribution and also provide more outsourcing opportunities.

- **Animation and Multimedia Software Human Capacity Development**

SIPA has initiated multiple human capacity development projects to produce expert animation and multimedia software developers. A systematic development cycle was utilized to mentor pre-professional personnel to become competent professional experts in specific software industries, including animation and multimedia. To increase exposure to software animation business and its potential profit return, SIPA has hired expert instructors to transfer market-specific knowledge and skills to local Thai developers and has initially identified 2D and the cartoon animation industry. Other activities which SIPA has emphasized include participation in international exhibition events in order to expose Thai software developers to broader international software markets.

VI. Business Facilitation

- **ICT Innovation Paradise Project**

The MICT has signed a Memorandum of Understanding (MoU) with the Software Industry Promotion Agency (SIPA), CAT Telecom Public Company Limited (CAT), and TOT Public Company Limited (TOT) for high-speed communications infrastructure construction to pave the way for the "ICT Innovation Paradise" Project in Phuket Province. The project aims to increase the country's economic productivity through the development of software and technology. CAT and TOT will develop a joint telecommunication infrastructure development plan which provides services to wider areas and reduces redundant investment.

According to the MoU, SIPA, TOT and CAT will provide integrated ICT services for all target groups. The services include a high quality and affordable Data Center, reliable high-speed Internet and stable international circuits. The three parties will also ensure that sufficient services are setup to handle rising demand in the future.

- **TOT one stop service**

In order to better serve its customers, TOT is currently redesigning and upgrading its service centers nationwide. The new "Modern and Care" concept program offers a more streamlined appearance to TOT. The first of these new TOT service centers recently opened in Pattaya. These service centers focus on greater communication and entertainment services. TOT is planning to upgrade all of its 65 service centers by the end of this year and completely redesign all of them in the next 3 years.

- **Promote Information Technology Usage among Thai SMEs**

As a designated government agency in charge of software industry promotion, the Software Industry Promotion Agency (SIPA) encourages SMEs to incorporate IT usage in their business operations. During 2007-2008, SIPA has encouraged small Thai business developers to produce more business software to match the need of SME businesses. Training courses in modern software development techniques were provided to these small software developers to reduce their overall costs and manage their development cycles more efficiently.

Additionally, in recent years SIPA has organized road shows and business matching events for niche markets in order to allow outstanding software developers to meet the demands of SME business owners. SIPA has been able to pair 77 companies (96.25%) of the 80 originally targeted.

VII. Others

- **Improving Global Telecommunication System (GTS)**

In the second quarter of 2008, the Thai Meteorological Department (TMD) completed an upgrade of the Bangkok-New Delhi GTS circuit from Asynchronous Protocol at 200 bps to Digital leased line (IPLC) with speed of 64 Kbps. The new upgraded Bangkok-New Delhi circuit has been in operation since 16 June 2008. In addition, TMD also plans to upgrade a GTS circuit between Bangkok-Jeddah from Asynchronous Protocol, at 75 bps, to Digital leased line (IPLC), at a speed of 64 Kbps within 2008. This GTS circuit has been implemented and is now undergoing operational testing.
