ITU Regional Forum on Reshaping Policy and Regulatory Landscape for Accelerating Broadband Access

Thailand Broadband Policy and Progress

Ministry of Information and Communication Technology (MICT), Thailand
Content Outline

- Country Profile and ICT Indicators
- National Broadband Policy
- Projects and Activities toward Broadband Development
- Network Infrastructure and Internet Connectivity
- Way Forward
Thailand Profile and ICT Indicators

- Area: 513,115 sq km.
- Population: 65.2 MN
- GDP per Capita: 5560 USD
- Fixed Broadband Subscribers: 5.9 MN
- Mobile Broadband subscribers: 56.78 MN
- Estimated Internet users: 33 MN

Source: DOPA Thailand Wordbank, NBTC
National Policy and Plan

Year

2000 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21

IT Policy Framework 2010 (2002-2010)


ICT Master Plan Extended (2007-2008)


2nd ICT Master Plan (2009- 2013)

3rd (Draft) ICT Master Plan (2014-2018)

National Digital Economy Policy and Plan (2016-2020)

National Broadband Policy (9 Nov. 2010)

Government Agenda on Digital Economy
ICT Policy Framework 2020 (ICT 2020)

ICT 2020 Vision

ICT is a key driving force in Leading Thai people towards knowledge and wisdom and Leading society towards equality and sustainable economy

Approved by cabinet on 22 March 2011
ICT Policy Framework 2020 (ICT 2020)

- 7 Development Strategies

- Universal and secure ICT and Broadband Infrastructure
- ICT HR and ICT competent workforce
- ICT industry competitiveness and ASEAN Integration
- ICT for government service innovation and good governance
- ICT for Thailand competitiveness and vibrant economy
- ICT to enhance social equality
- ICT and Environment
National Broadband Policy, Why?

- The government is aware of the role and significance of developing broadband service within the scope of the ICT 2020 policy framework as part of the country’s development.
- Broadband service will contribute to the continuous expansion of Thailand’s Gross Domestic Product (GDP).
- Broadband network is an important element of telecommunications, broadcasting, and television businesses.
- Broadband penetration rate is still low.
- Broadband service is mainly available in the capital and cities.

To serve as a framework for implementing and driving the development of broadband service.
National Broadband Policy

- The government intends to support the development of broadband service which is considered important public utility *(with universal, sufficient, at a reasonable cost, and under conditions of free and fair competition)*.

- Every Thai person should be able to fully access and make use of the improved broadband service *(reduce inequality and narrow the digital divide, enhance the quality of life)*.

- The government and private sector should be able to fully access and make use of improved broadband *(sustainably increase national productivity and competitiveness)*.
National Broadband Policy

- In developing broadband service, the government will manage the invested telecommunication resources to benefit all telecommunication businesses in an impartial manner.

- In all matters related to national sovereignty (i.e., satellite orbit positions, underwater cable landing points, or connection points of transboundary networks) will be considered important for national security and will be the right or property for the state to utilize for the highest benefit. The government will establish policies and supervise the implementation of the policies. Private sector enterprises will have opportunity to participate in investment for providing such services.

- The government will support both fixed-line and wireless last-mile telecommunication businesses, ICT entrepreneurs, content producers, broadcasting businesses, television businesses, and e-commerce businesses.
National Broadband Policy: Objectives

- Develop the broadband network to provide access to at least 80% of population by 2015 and at least 95% by 2020, ensuring standard quality of service and reasonable service fee. In addition, Cities that are economic and regional hubs should have high-speed fiber optic cable broadband with a minimum speed of 100 Mbps by 2020.

- People should be able to universally and equitably access education, public health, disaster monitoring and warning, and other public services through a broadband network.
  - Sub-district-level schools can access quality broadband service by 2015 and schools around the country to access broadband service by 2020
  - Sub-district hospitals and health centers can access broadband service of equal or comparable quality to the service in provincial hospitals
  - E-government services will be available through the broadband network

- The business sector can access and utilize the broadband network in a universal and equitable manner
Action Plan toward National Broadband Policy

**Supply Side**
- Broadband to be made available as one of basic utilities
- Open access of network infrastructure and level playing field to all players
- Backbone and backhaul investment to be supported by Government to ensure reach to every sub-district (Tambon)* all over Thailand

**Demand Side**
- Government to drive implementation of key electronic services over broadband network
  - e-Government
  - e-Healthcare
  - e-Education
  - e-Agriculture

---

**e-Government**
- Connecting all 7,800 District centers (76 provinces) and all local communities

**e-Healthcare**
- Connecting 15,000 hospitals and healthcare centers

**e-Education**
- Connecting 30,000 schools and local libraries and community education centers

**e-Agriculture**
- Connecting 95% Thai citizen especially those remote poor farmers

---

Each Ministry with different visions & development stages But common needs in basic connectivity and key solutions
Projects and Activities for Broadband Development

- Public Free WiFi
- ICT-Telecenter & USO NET
- Broadband Access in Unprofitable Area with USO Fund
- WiFi Network for School Education
- National Education Network (NEdNet)
- Government Information Network (GIN)
Projects and Activities for Broadband Development

- Increase broadband access
- 150,000 WiFi Access Points are available

Free Public WiFi Access

- Rural Areas
- Tourist Areas
- Public Transportation Areas
- Hospitals
- Shopping Malls
Projects and Activities for Broadband Development

ICT Telecenter & USO NET

- Provide opportunity for the citizen in remote area to learn with computer and internet
- Reduce digital divide
- Improve quality of life
- 2500 Telecenters have been set up at
  - Sub-district administrative offices
  - Community centers
  - HealthCare Centers
  - Schools
Building broadband access to unprofitable un-served area with USO Fund

Source: NBTC
Projects and Activities for Broadband Development

WiFi Network for School Education

- Improve Thai school education with mobile devices (OTPC) and broadband access
- Provide high-speed Internet to school

Source: MICT, MOE, OBEC, TOT, CAT
Ministry of Education (MoE) has the policy on network development for education and research (NEdNet) by providing network connectivity to every office, school, and education institute under the Ministry.

Applications, MIS, EIS, e-Learning, Security

- MOE Net
- UniNet Net
- REN Net
- VEC Net
- NFE Net
- OBEC Net
- ONEC Net

MOE-Net

UniNet2

UniNet2 Layer 2 Backbone

Fiber optics with DWDM 5 Lambda (5 $\lambda$ x10Gbps)
UniNet2 Backbone

Source: UniNet, MOE, OBEC
Projects and Activities for Broadband Development

→ MOENet and OBECNet ←

- There are around 36,000 schools and 20,000 remote education centers to be connected.

Source: MOE, OBEC, TOT
Projects and Activities for Broadband Development

Network for Research and Education

About 66,000 km of optical fiber cables have been installed.

- Optical Network Backbone with DWDM @ N x 10Gbps
- Fiber to the University @ 1 - 2 Gbps
- Fiber to the school @ 10 – 100 Mbps
- Public libraries @ 10 – 100 Mbps

<table>
<thead>
<tr>
<th>Members</th>
<th># of Members</th>
</tr>
</thead>
<tbody>
<tr>
<td>Universities/Institutes</td>
<td>177</td>
</tr>
<tr>
<td>Vocational Education</td>
<td>445</td>
</tr>
<tr>
<td>Educational Service Area</td>
<td>185</td>
</tr>
<tr>
<td>Basic Education</td>
<td>9,717</td>
</tr>
<tr>
<td>Public Library</td>
<td>151</td>
</tr>
<tr>
<td>Research and others</td>
<td>242</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>10,857</strong></td>
</tr>
</tbody>
</table>
Network Infrastructure

- Optical fiber cables > 310,000 km national-wide
- ~76% of sub-districts have fiber cable access
- Mobile Broadband Network covers 97% of populated areas
  - The rest will be covered by satellite service
International Gateway Networks

- Thailand has international gateways through landlines, submarine cables, and satellites (Thaicom)
- Submarine cable systems are mainly used for global network connections.

Three telecom operators (i.e., CAT Telecom, TOT, and Symphony Communication PCL) which have submarine cable systems (SMW3, SMW4, FLAG, AAG, TIS, APG, AAE1, SJC, MCT)
THAILAND INTERNATIONAL INTERNET GATEWAY

Internet Connectivity

Legend

Total International Bandwidth 1,733,883 Gbps.
Last update: 07/08/2015

This Internet Map is created by NECTEC (a member of NSTDA) with the support of the National Broadcasting and Telecommunications Commission (NBTC). NECTEC does not make any warranties to the accuracy, quality, completeness, suitability and reliability of the content contained in this Internet Map. All information combined therein is provided by Internet Service Provider (ISP). This Internet Map is provided on the "AS IS" basis and without any warranties, including but not limited to the fitness for the particular purposes. NECTEC disclaims all indemnities and representations of any kinds arising out of or in connection with the use of this Internet Map. For any inquiries, please contact info@nectec.or.th
International PoP and Connectivity

- Major International PoPs and Internet routes

Source: CAT, and TOT
International PoP and Connectivity

CAT Connectivity Map

Equinix Paris (France)
DE-CIX (Germany)
LINX (UK)
Vodafone
Telehouse North London

Equinix San Jose (USA)
TATA
Microsoft (US)
Level 3
Hurricane
Coresite Any 2
LAIX

New York

Equinix

UBIX

SoftBank Telecom

KT

MPT

Reach(HK)

Verizon(HK)

Google(HK)

PLDT

Equinix SG

Global Switch

SG

Etisalat

TATA

StarHub

SingTel

Reach(SG)

SingTel

Google(SG)

PT Indosat

International PoP

Plan PoP

International Provider

Backbone Cable

Plan Backbone

Transit

Peering

IXP
Way Forward

Moving towards Thailand’s National Digital Economy Policy and Plan

The Five Pillars of Thailand’s Digital Economy Initiative

National Digital Economy Committee

Hard Infrastructure
- National Broadband
- Data Centers
- International Gateways
- National Broadcast
- Satellite
- Radio Frequency Management

Service Infrastructure
- Digital-Government
- Service Platforms
- E-Logistics
- Data Service Innovation

Soft Infrastructure
- e-Trade Facilitation
- CERT Readiness
- Laws
- E-Commerce Directory

Digital Economy Promotion
- Digital Commerce
- Digital Entrepreneurs
- Digital Innovation
- Digital Contents

Digital Society Promotion
- Lifelong Learning
- Digital Archive & Library
- Media & Information Literacy
- Universal Healthcare

NDEC Secretariat
- Knowledge Center
- Project Management
Infrastructure Topics under Thailand’s Digital Economy Initiative
Thank You for Your Attention

Contact
Mr. Chalermpol Charnsripinyo, Ph.D., email: chalermpol.c@mict.go.th
Ms. Suchada Inluksana, Ph.D., email: suchada.i@mict.go.th

Ministry of Information and Communication Technology, Thailand