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

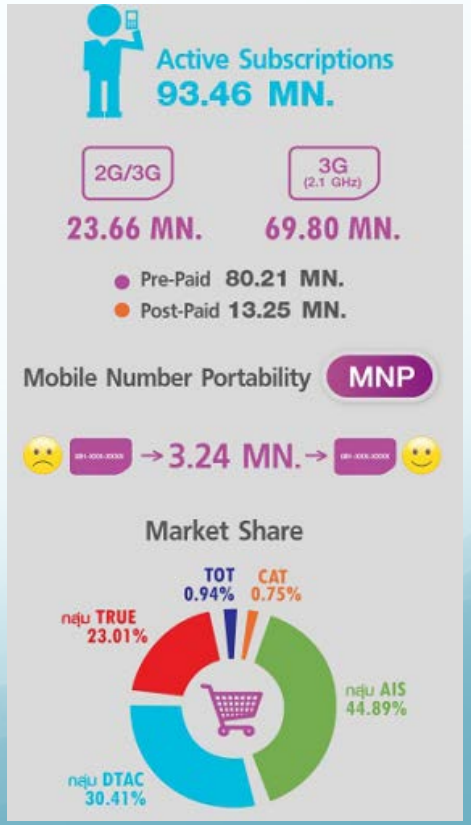
ITU Regional Forum on Reshaping Policy and Regulatory Landscape for Accelerating Broadband Access, Jakarta, Indonesia, 8-10 September, 2015

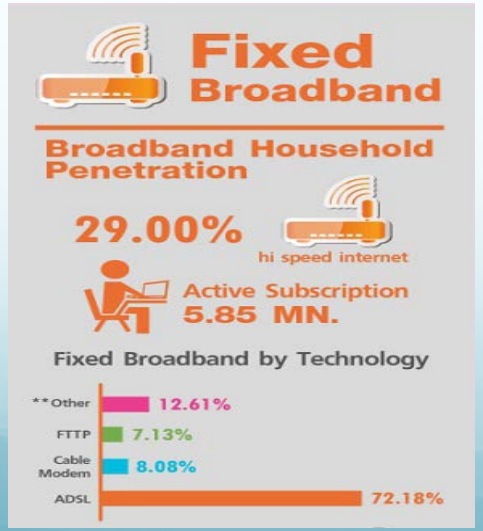
Content Outline

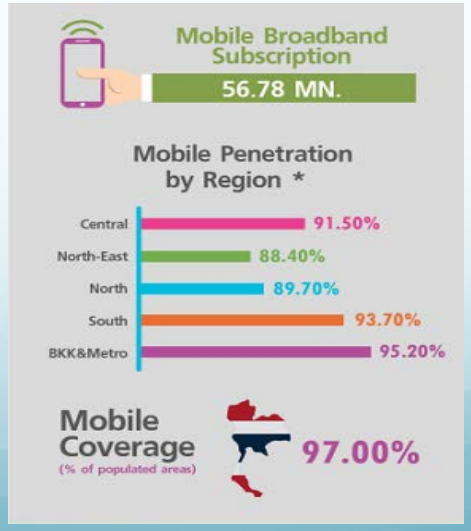
- Country Profile and ICT Indicators
- National Broadband Policy
- Projects and Activities toward Broadband Development
- Network Infrastructure and Internet Connectivity
- Way Forward

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**

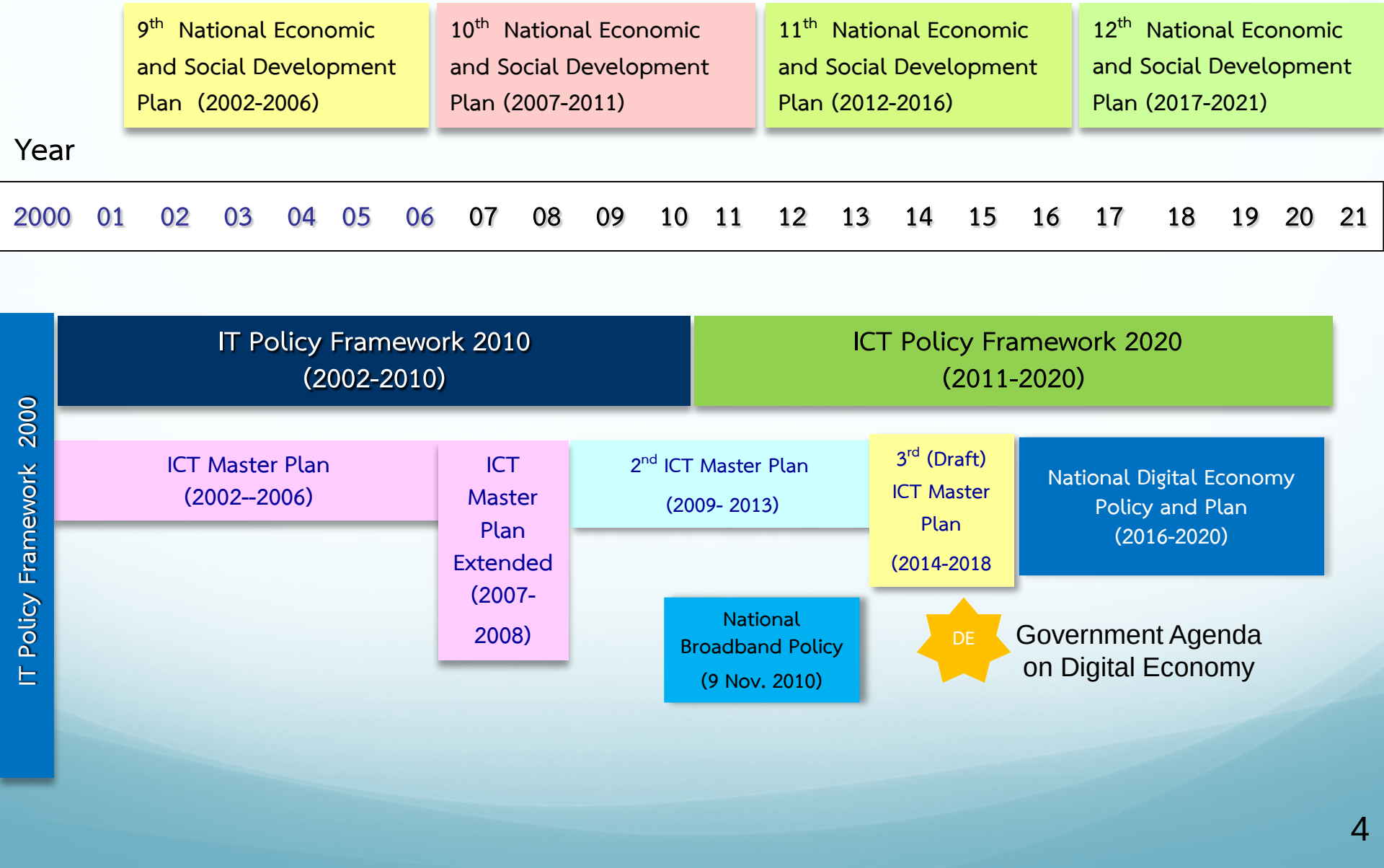






Source:
DOPA Thailand
Wordbank,
NBTC

National Policy and Plan



ICT Policy Framework 2020 (ICT 2020)

Thailand ICT Policy Framework 2020

(2011-2020)

Approved by cabinet on 22 March 2011

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

Smart Thailand

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.

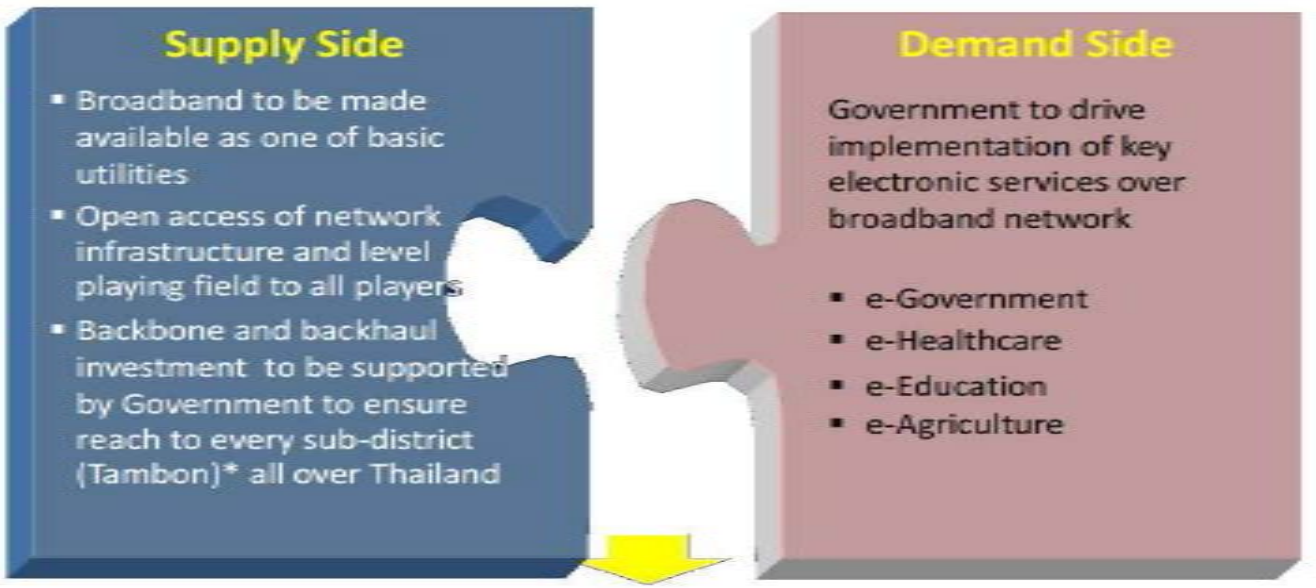
National Broadband Policy: Objectives

- 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



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
← Free Public WiFi Access →

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

Hospitals

Rural Areas

Public Transportation Areas

Tourist Areas

Shopping Malls

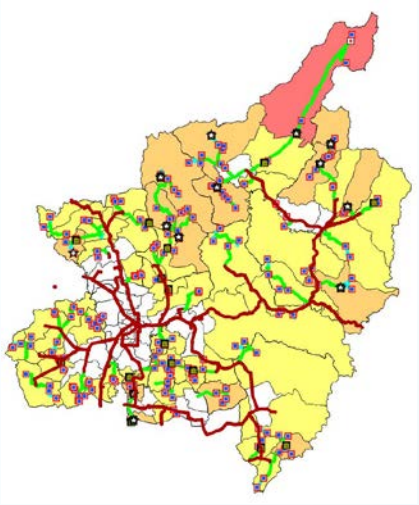
Projects and Activities for Broadband Development
← ICT Telecenter & USO NET →

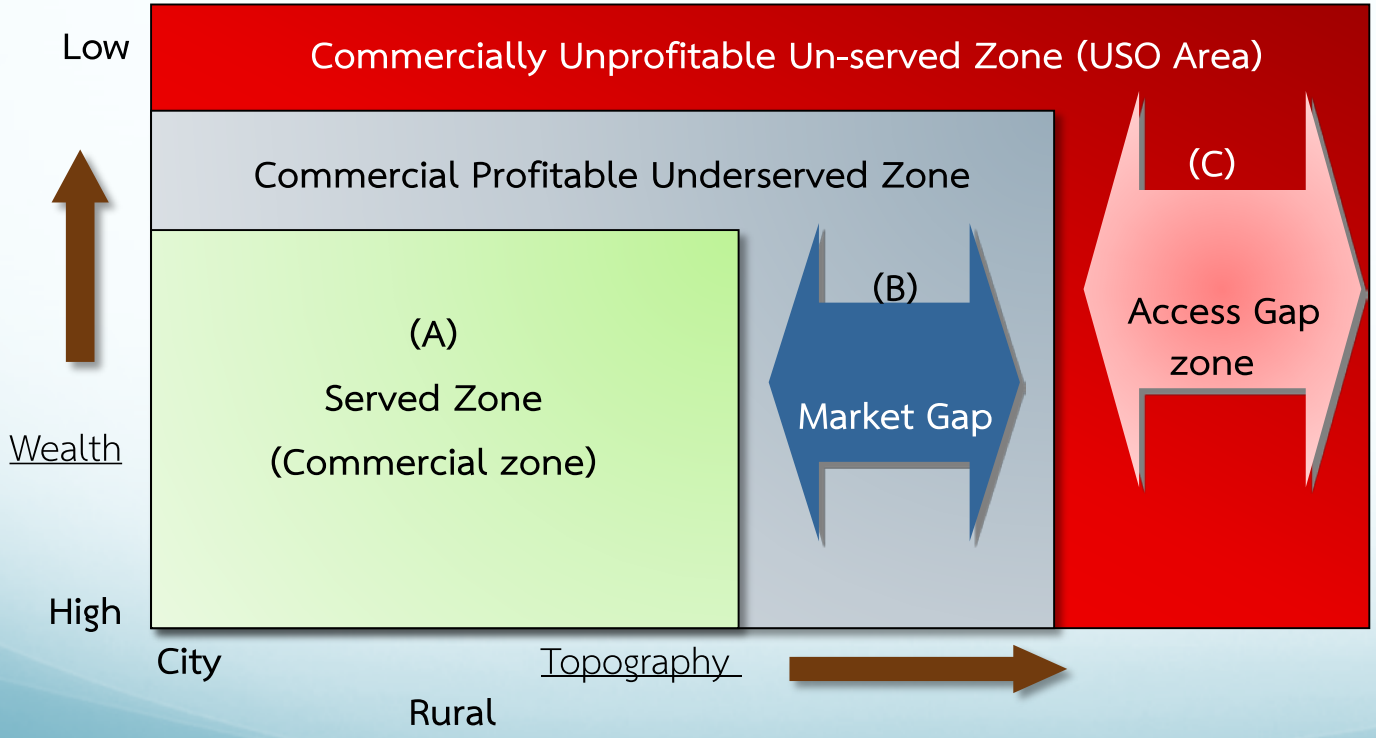
- Provide opportunity for the citizen in remote area to learn with computer and internet

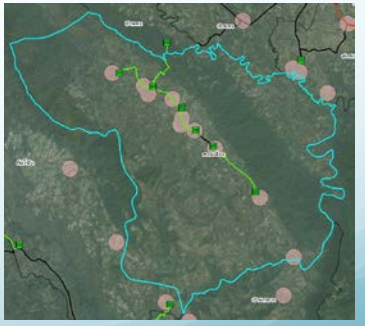
- Reduce digital divide
- Improve quality of life
- 2500 Telecenters have been set up at
  - Sub-district administrative offices
  - Community centers
  - HealthCare Centers
  - Schools

Projects and Activities for Broadband Development
← Building Broadband Access with USO Fund →

- Building broadband access to unprofitable un-served area with USO Fund



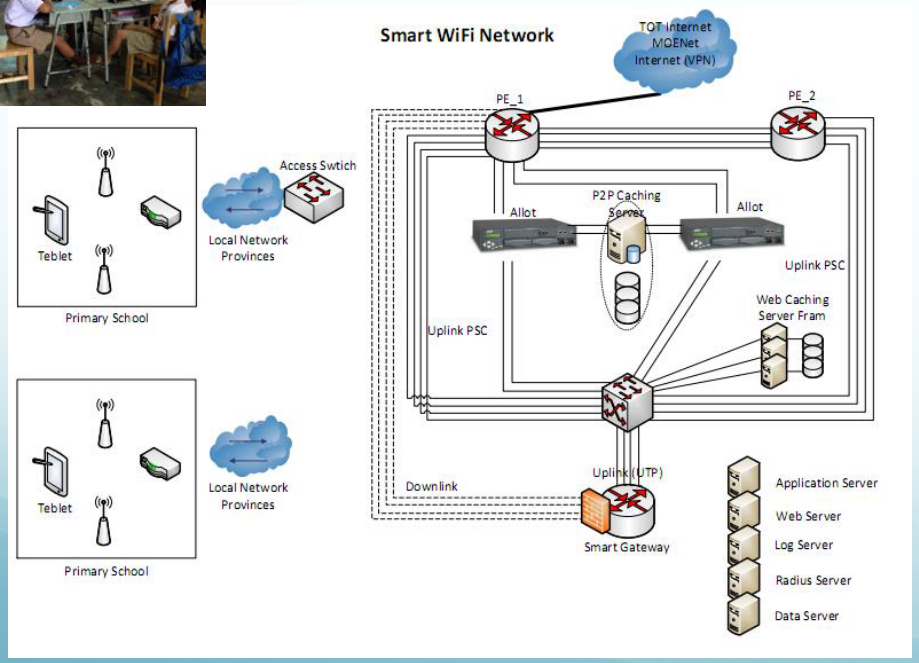


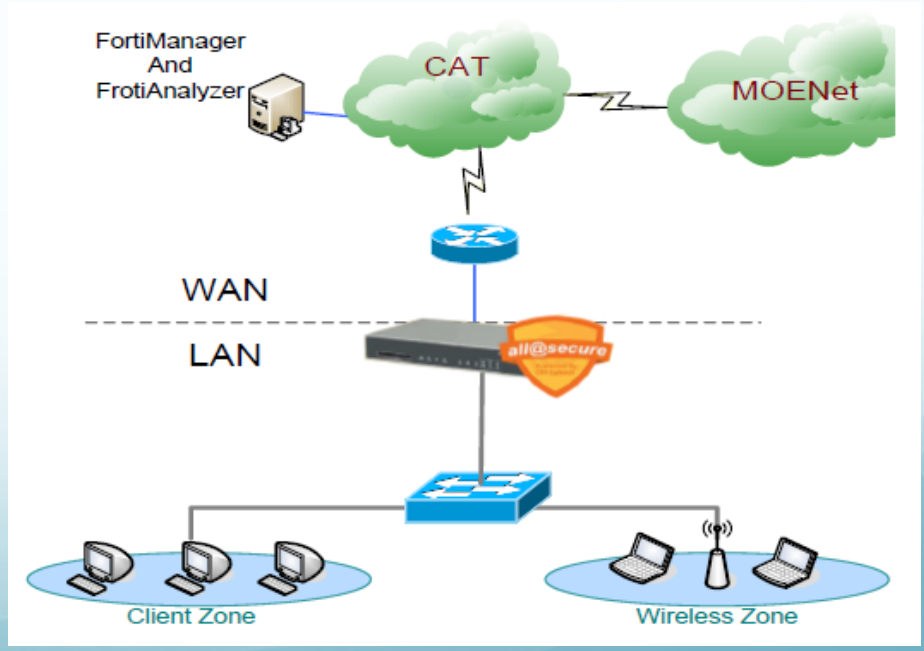


Source: NBTC

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

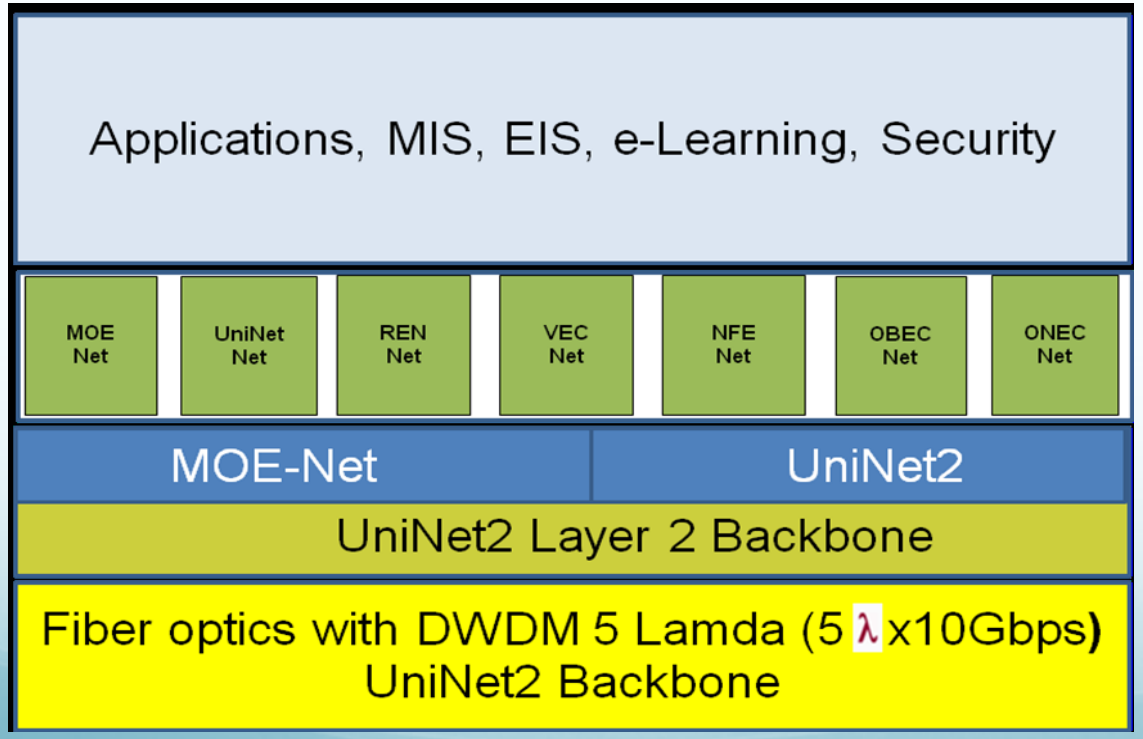


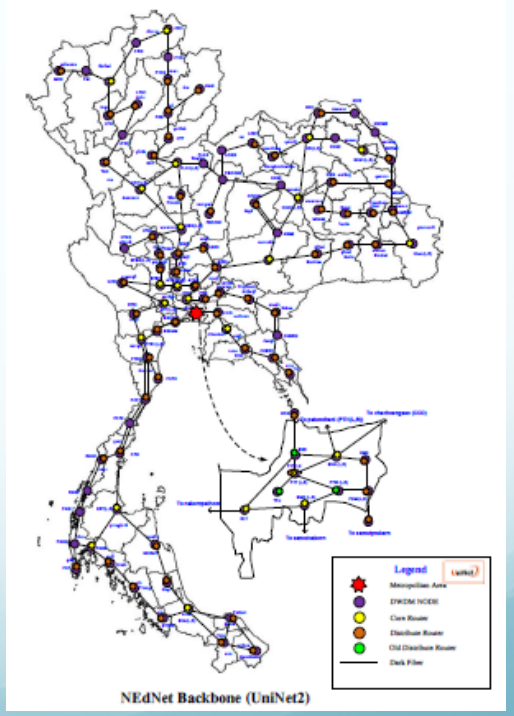


Source: MICT, MOE, OBEC, TOT, CAT

Projects and Activities for Broadband Development
← NEdNet →

- 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.

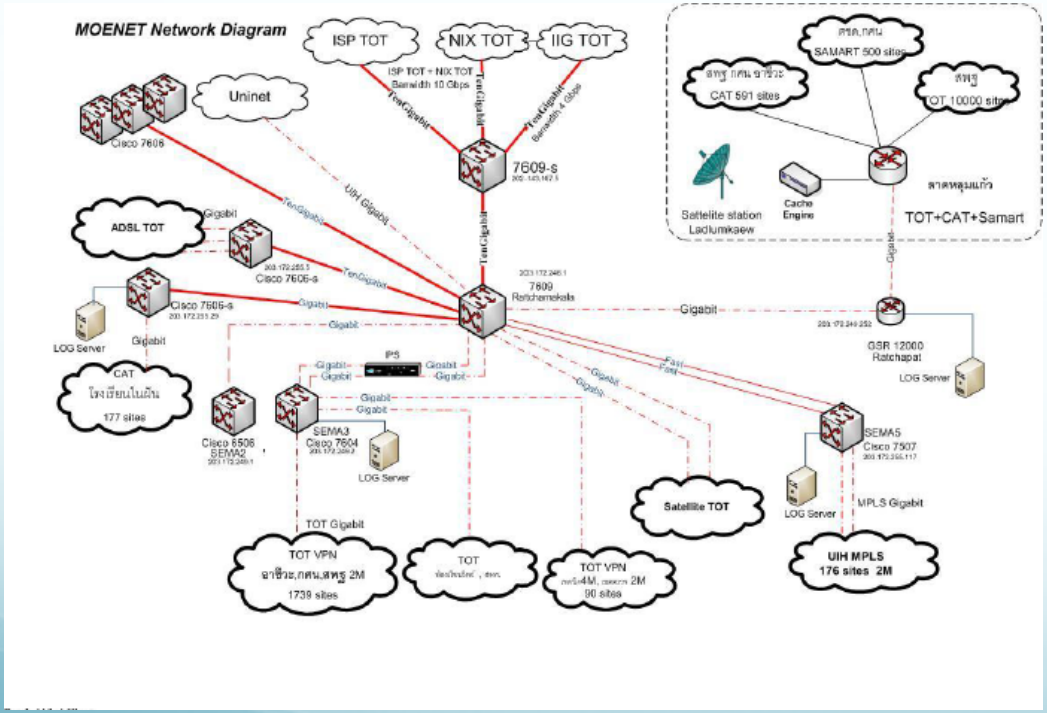


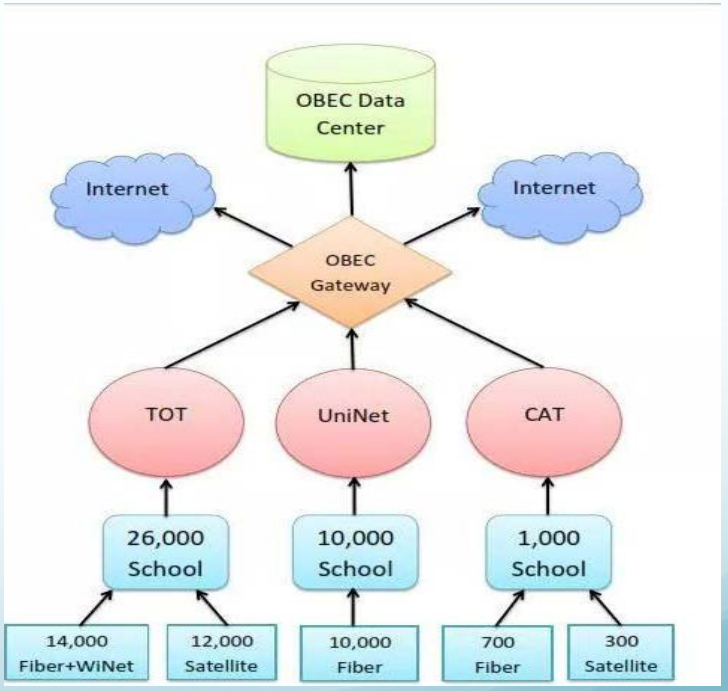


Source: UniNet, MOE, OBEC

Projects and Activities for Broadband Development
← MOENet and OBECNet →

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

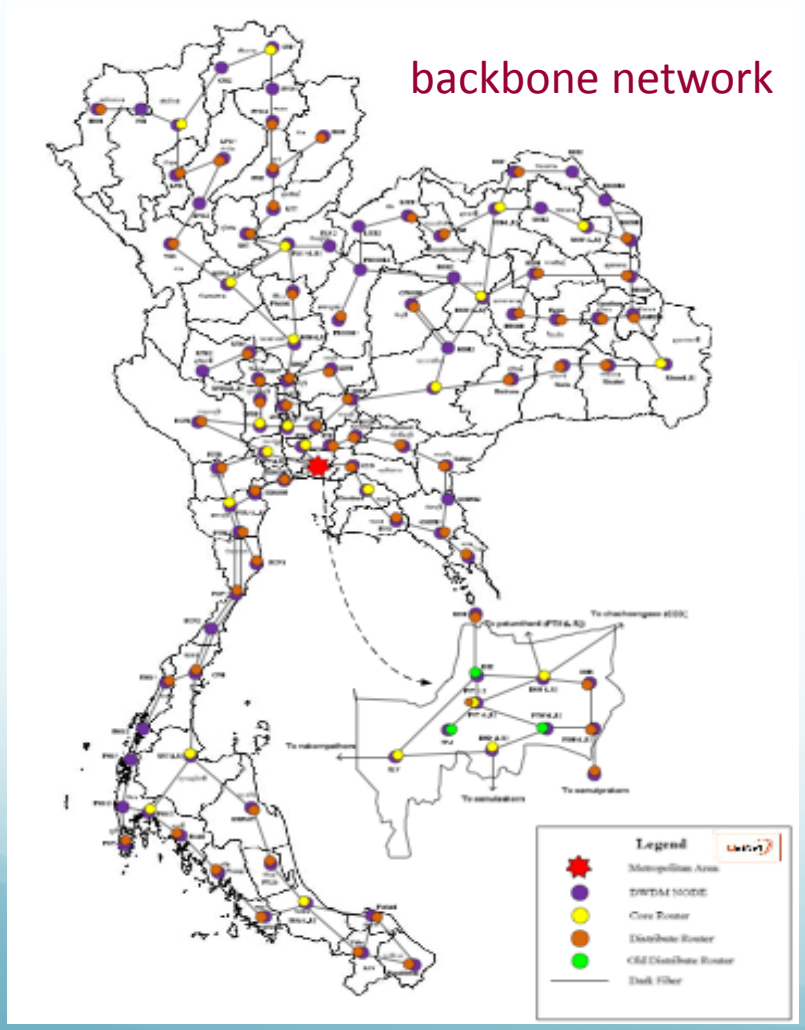




Source: MOE, OBEC, TOT

Projects and Activities for Broadband Development
← Network for Research and Education →

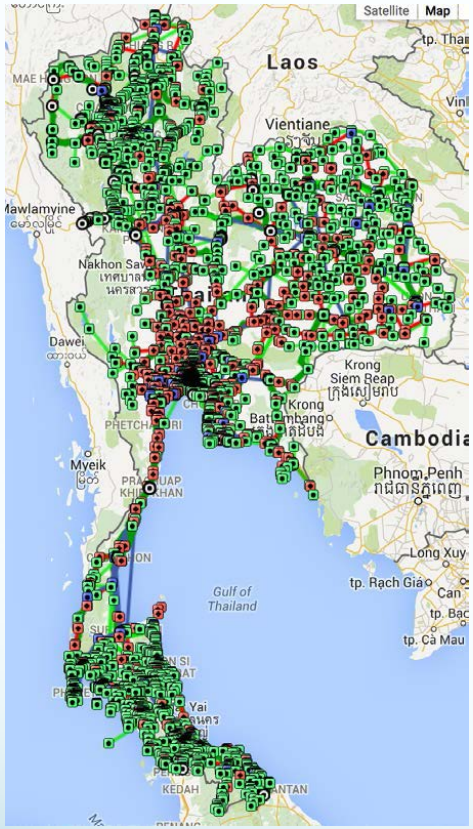
About 66,000 km of optical fiber cables have been installed.



- 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

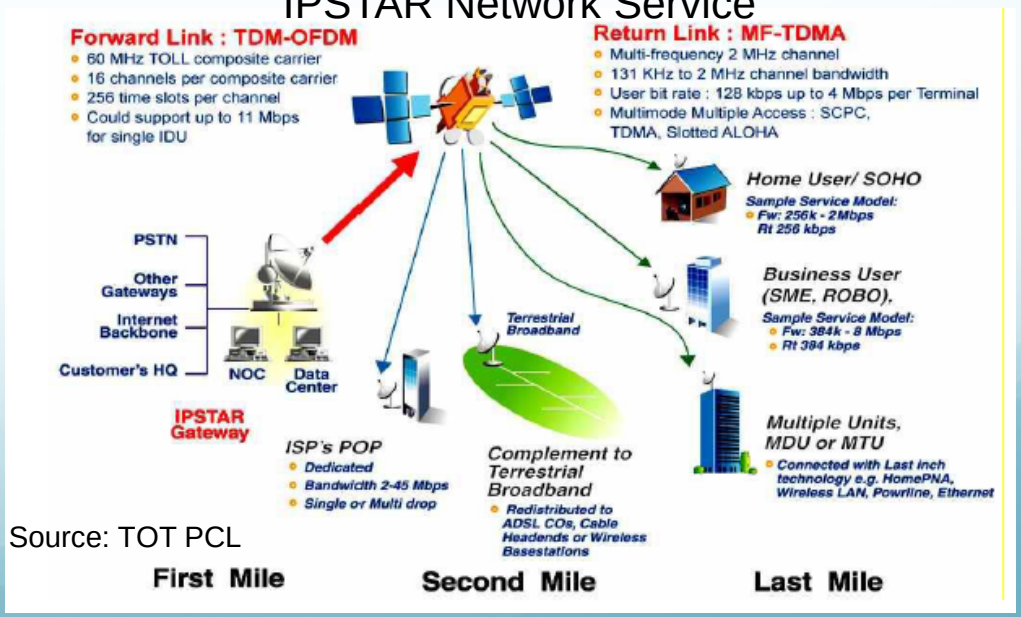
Members	# of Members
Universities/Institutes	177
Vocational Education	445
Educational Service Area	185
Basic Education	9,717
Public Library	151
Research and others	242
Total	10,857

Network Infrastructure



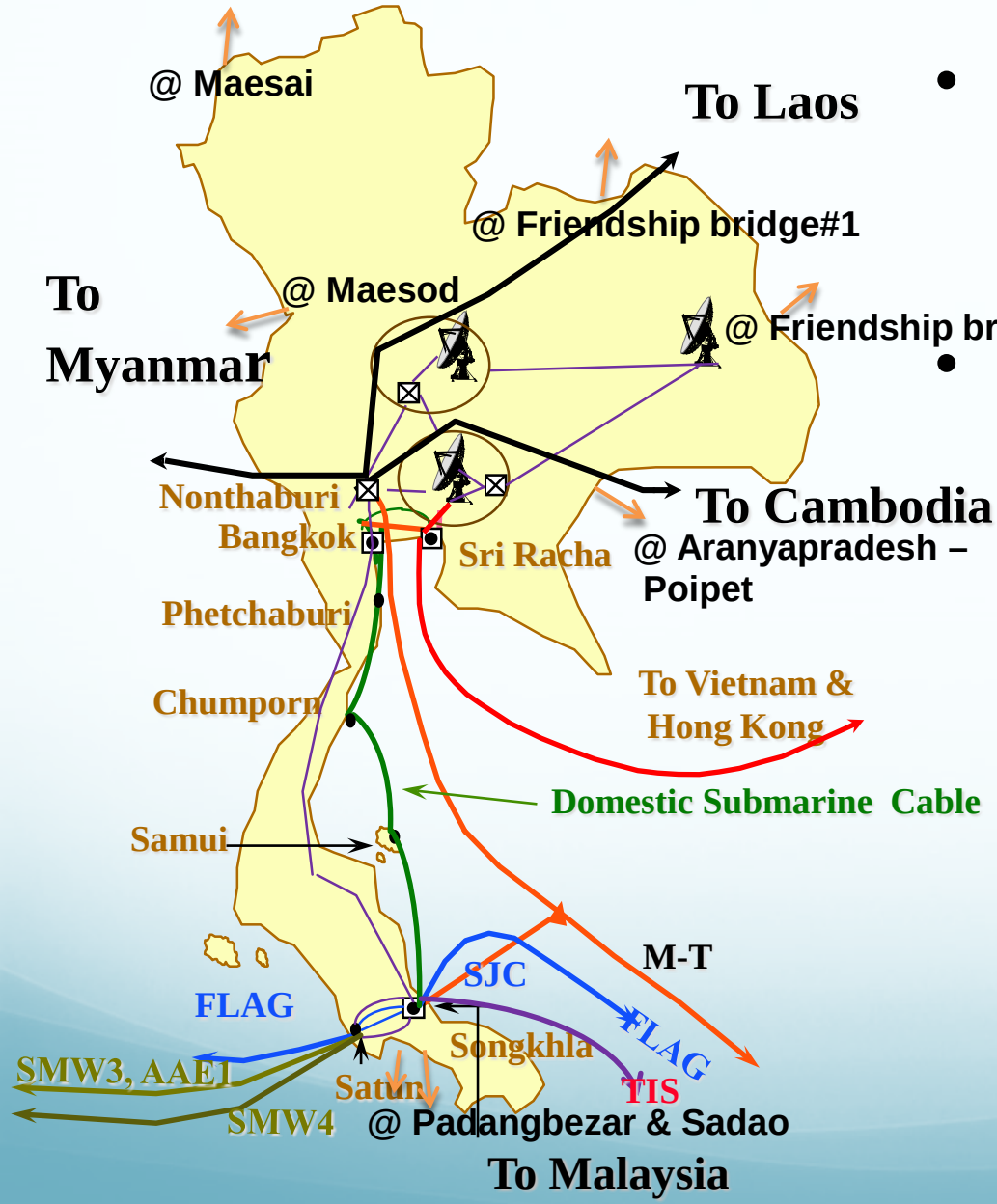
- Optical fiber cables > 310,000 km national-wide
- ~76% of sub-districts have fiber cable access
- Mobile Broadband Network covers 97% of populated areas
  - The rest will be covered by satellite service

IPSTAR Network Service

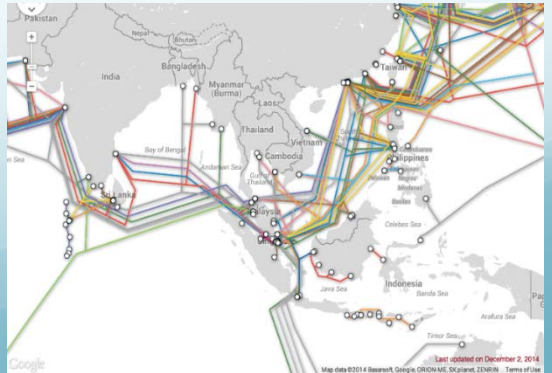


Source: TOT PCL

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 Internet Map
July 2015

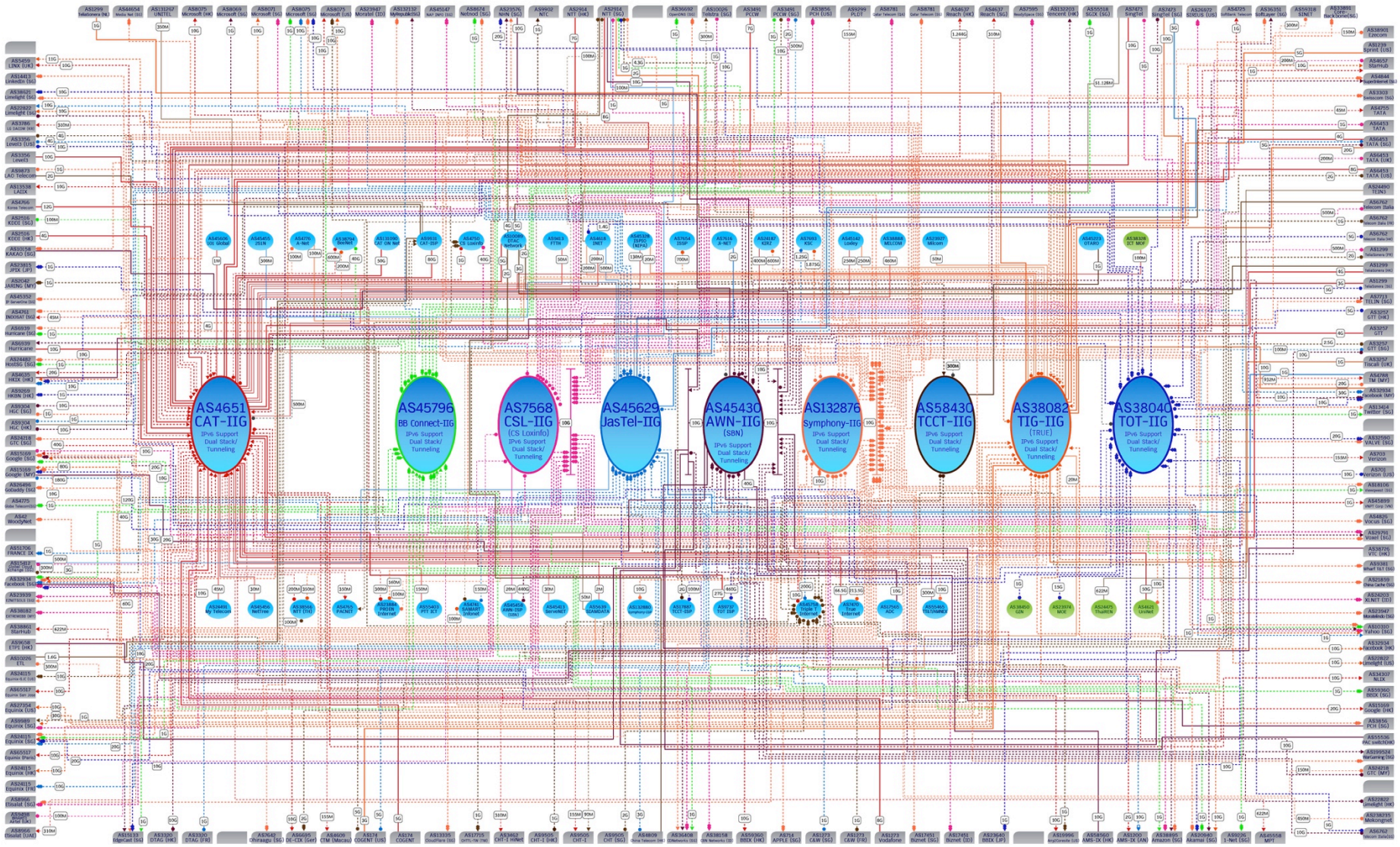
THAILAND INTERNATIONAL INTERNET GATEWAY

แผนภาพการเชื่อมต่อเครือข่ายอินเทอร์เน็ตระหว่างประเทศ

กสทช.

NECTEC
a member of NSTDA

Total International Bandwidth
1,733.883 Gbps.
Last update: 07/08/2015

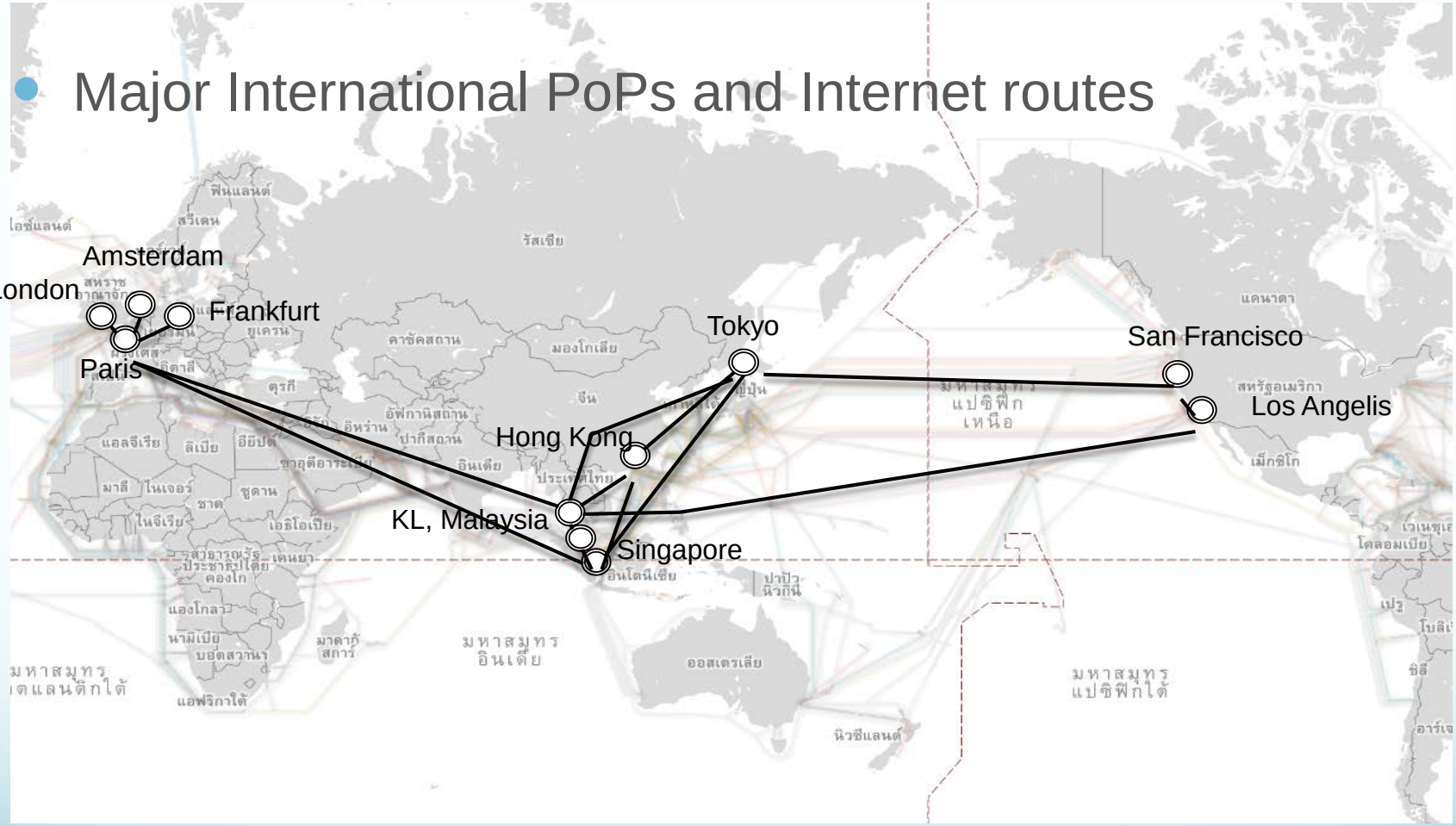


Legend

- International Internet Gateway: IIG
- International Internet Provider
- Commercial Internet Provider
- Government/Research/Academic
- CAT International Link
- BB Connect International Link
- CS Loxinfo International Link
- JasTel International Link
- SBN International Link
- Symphony International Link
- TCCT International Link
- TIG International Link
- TOT International Link
- IIG to IIG
- ISP to International Internet Provider
- Share Bandwidth
- IPv6 Dual Stack
- IPv6 Tunneling
- IPv6 Native
- Peering
- Peering/ IPv6 Dual Stack
- Peering/ IPv6 Tunneling
- Peering/ IPv6 Native

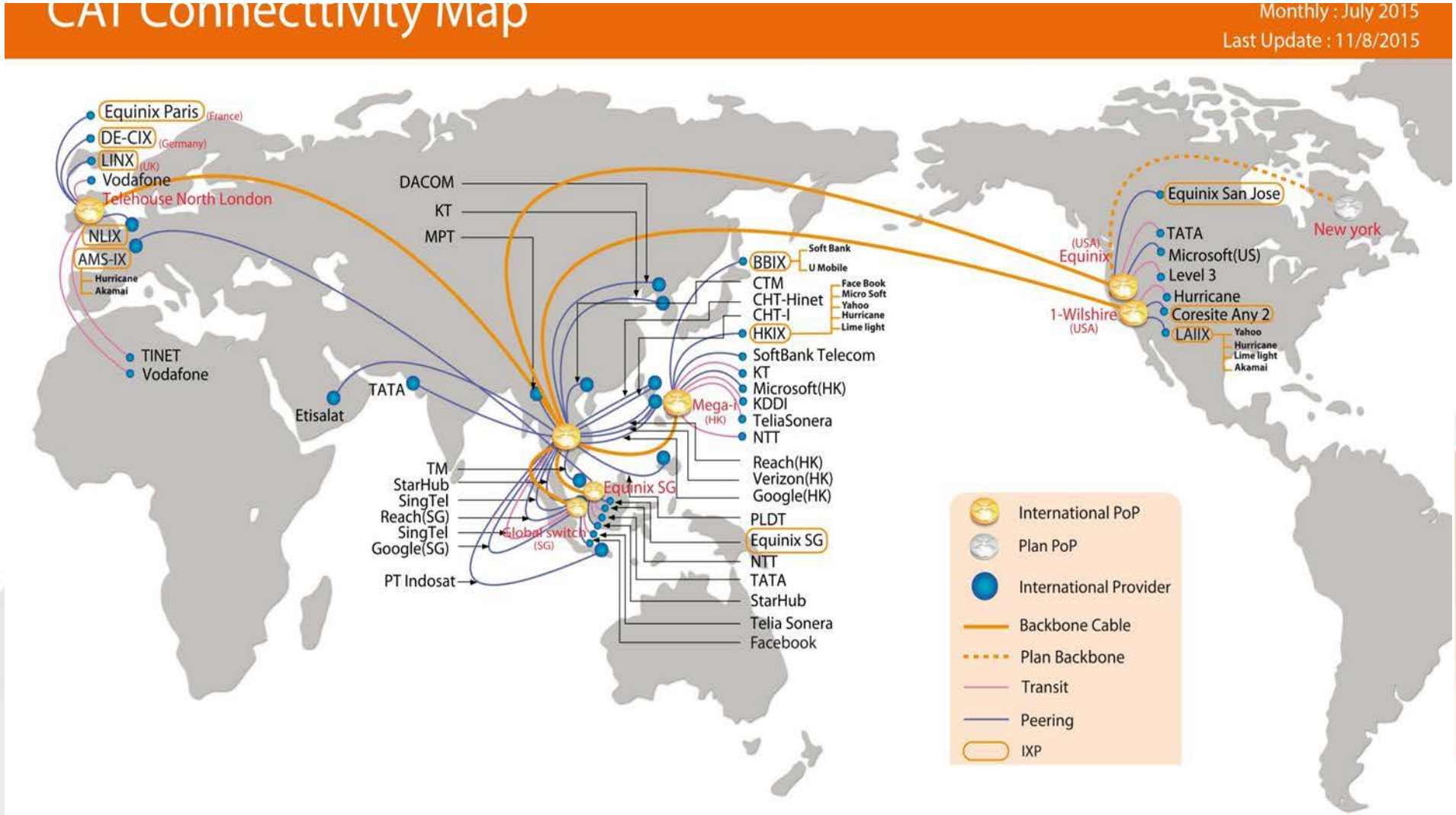
International PoP and Connectivity

- Major International PoPs and Internet routes



Source: CAT, and TOT

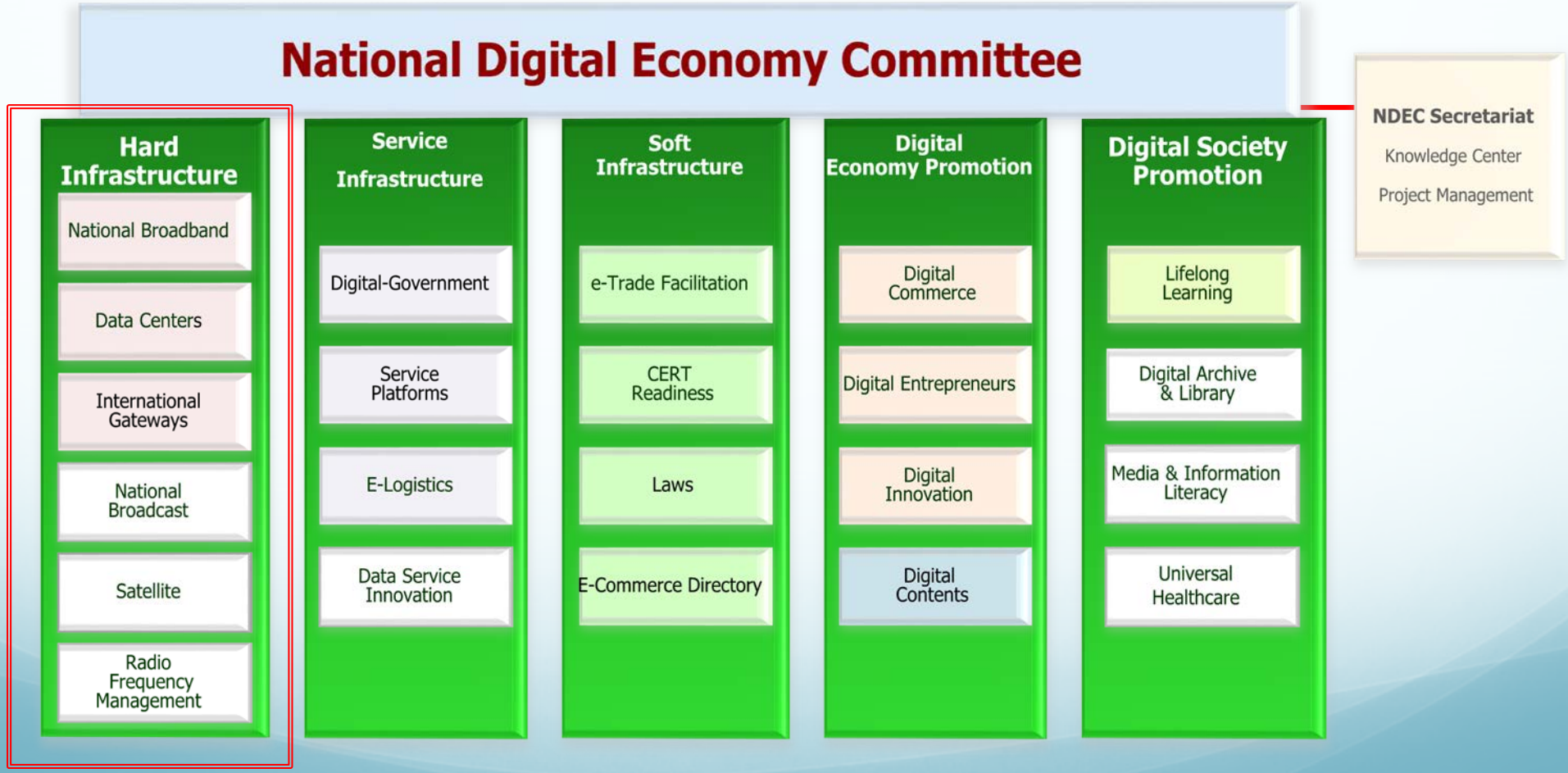
International PoP and Connectivity



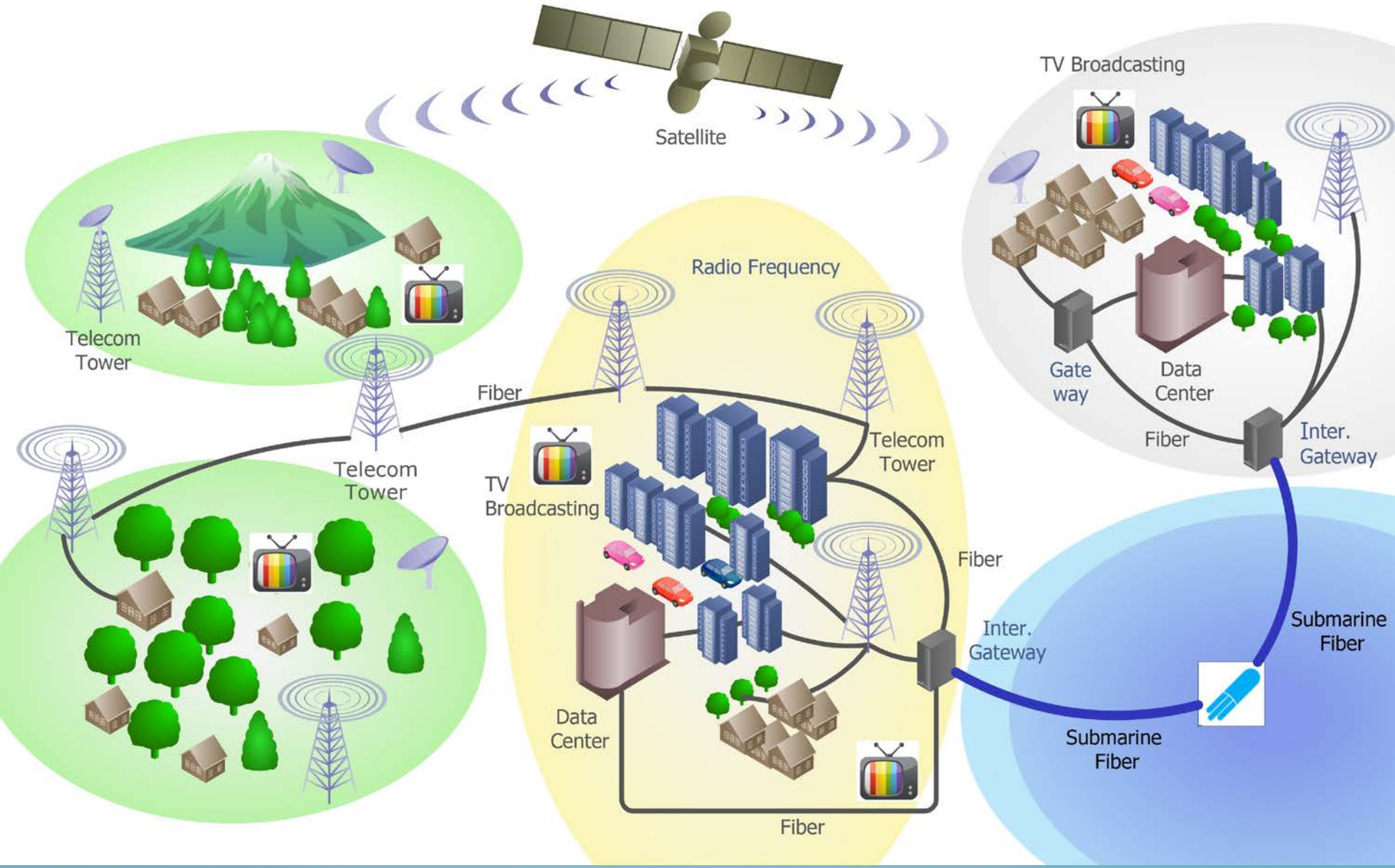
Way Forward

Moving towards Thailand's National Digital Economy Policy and Plan

The Five Pillars of Thailand's Digital Economy Initiative



Infrastructure Topics under Thailand' Digital Economy Initiative



Thank You for Your Attention

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