

# Philippine Research, Education and Government Information Network



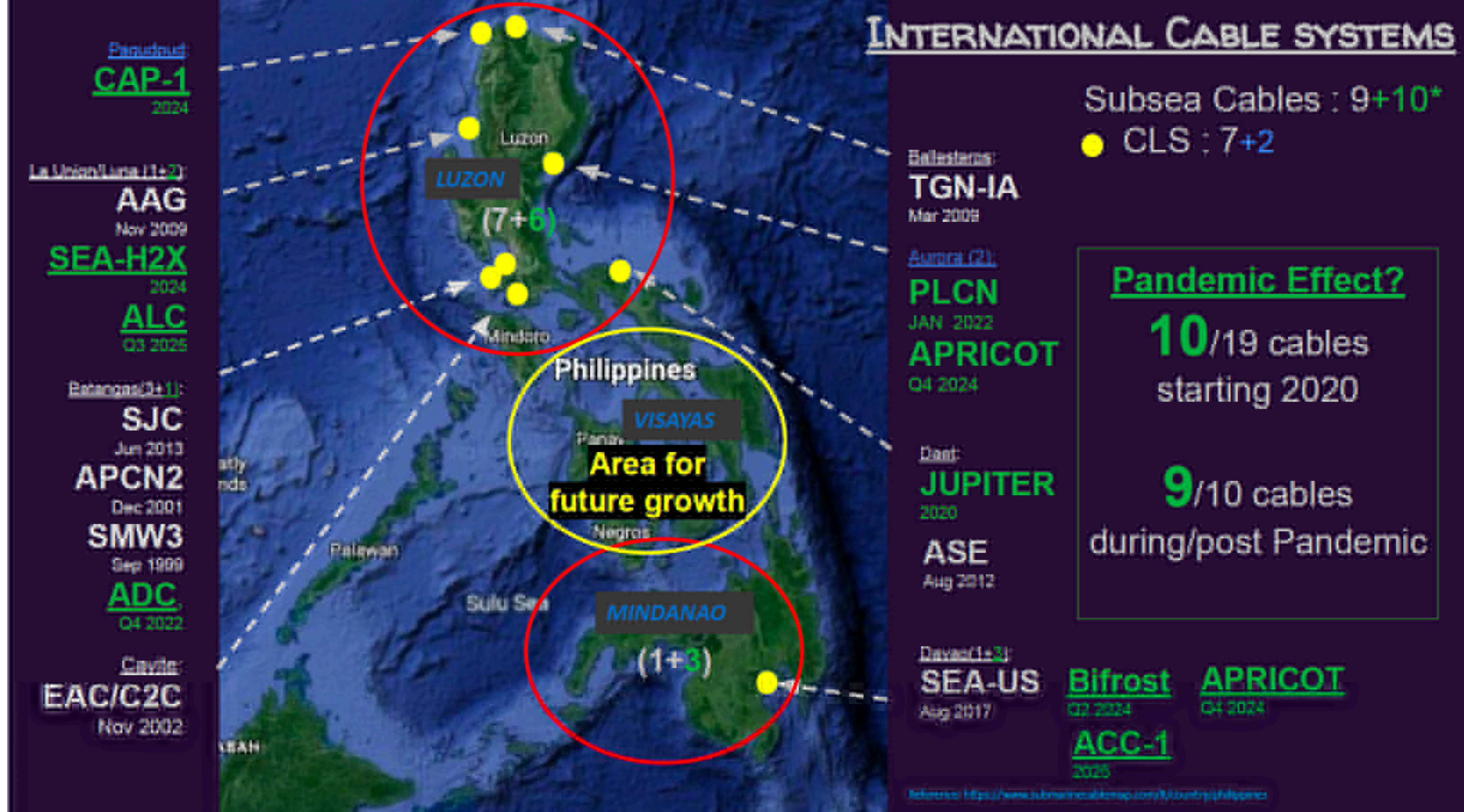
PREGINET

# ASTI's Experience on Internet Governance

Bayani Benjamin R. Lara

Advanced Science and Technology Institute  
Department of Science and Technology







## IXPs

### Manila(9)\*\*

ComclarkIX  
MIX  
GETAFIX  
GIX/NIGX  
PCTA-IX  
PHIX  
PhOpenIX  
VIX  
DE-CIX

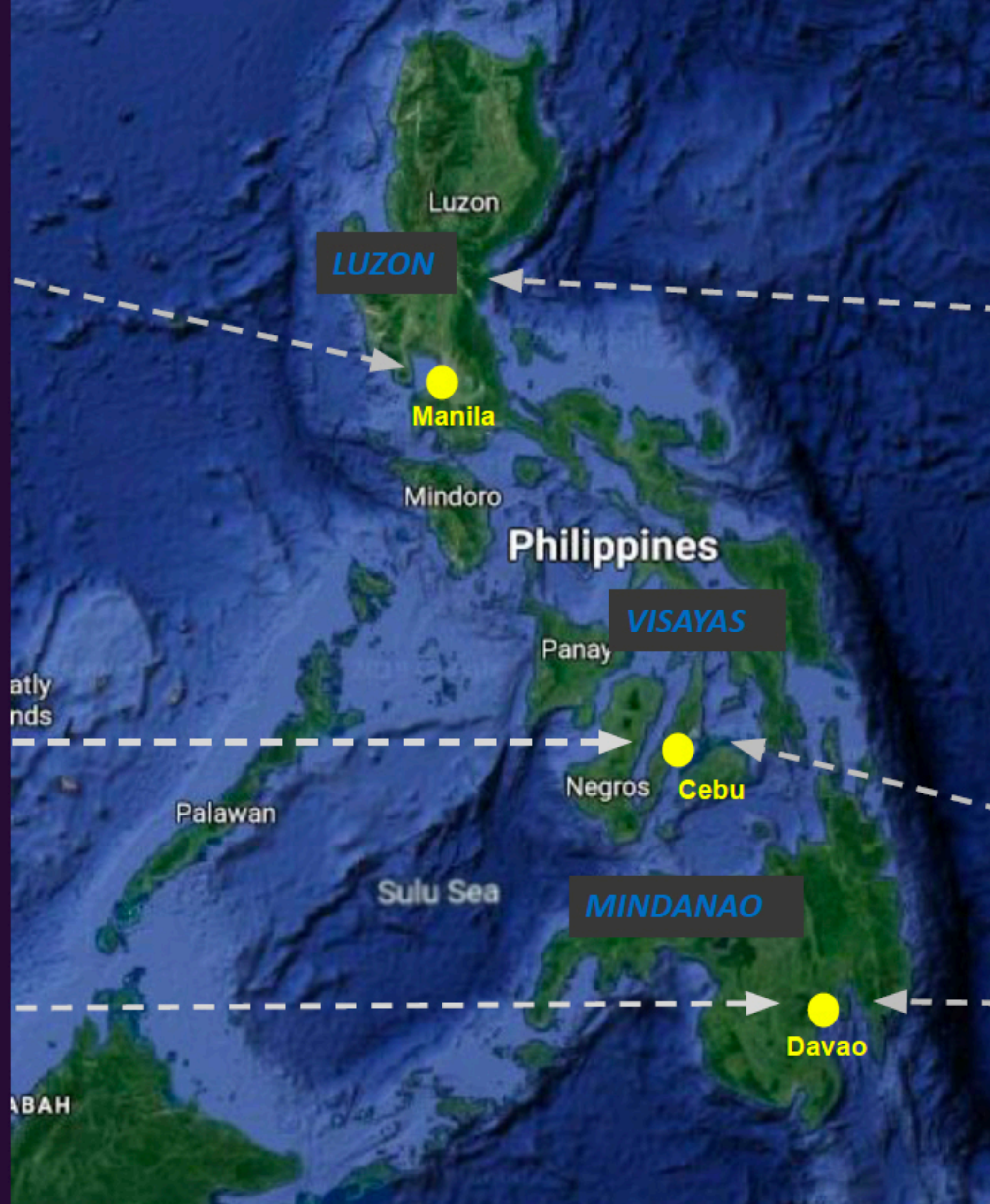
### Cebu(4)

GETAFIX  
GIX  
PhOpenIX  
VIX

### \*Davao(3)

GETAFIX  
GIX  
PhOpenIX

\*\*more soon



## IXP & DC LANDSCAPE

IXPs (9+1\*), DCs (11+3)

## Data Centers

### Luzon(11+3)

Bee Info Tech  
Comclark  
DataOne  
Digital Edge  
Eastern Communications  
FlowDigital\*  
IP Converge  
VST-ECS  
Globe Telecom  
PHCOLO  
PLDT  
STT  
Tech Global  
TIM

### Visayas - Cebu(2+1)

Globe Telecom  
PLDT  
STT

### Mindanao - Davao(2+1)

Globe Telecom  
PLDT  
STT

\*soon

Reference: <https://www.submarinecablemap.com/#/country/philippines>



# Policy



# Policy (formal)

- ICT Ministry (DICT)
  - Representation in the Government Advisory Committee (ICANN)
  - Representation in the International Telecommunications Union (UN)
  - e-commerce Act (RA 8792)
- Regulator (National Telecommunications Commission)
  - Representation in the International Telecommunications Union (UN)
  - Issues licenses to "carriers" to authorize them to lay fiber
  - Keeps track of the frequency allocation table (FAT)



# Policy (formal)

- National Privacy Commission (NPC)
  - Data Privacy Act of 2012
- Philippine Competition Commission (PCC)
  - Makes sure competition in the telecoms market is preserved



# Department of ICT

- The Department of Information and Communications Technology (DICT) is the primary policy, planning, coordinating, implementing, and administrative entity of the Executive Branch of the Philippine government that will plan, develop, and promote the national ICT development agenda.



# <https://www.intgovforum.org/en/content/manila-hub-report>

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- a. Philippines internet penetration rate
- b. Cost of access and the cost of devices used to access the internet
- c. Means of access (some places in the Philippines do not have reliable electricity)
- d. International standards in terms of the definition of broadband access, and if our local telcos/ISPs are adhering to those standards
- e. Encourage competition in the ISP business
- f. IPv6
- g. The thin line between censorship and scarcity of bandwidth
- h. etc



2010



# Philippine IPv6 Policy

## Executive Order No. 893, s. 2010

Signed on [June 18, 2010](#)

MALACAÑANG  
MANILA

BY THE PRESIDENT OF THE PHILIPPINES

EXECUTIVE ORDER NO. 893

### PROMOTING THE DEPLOYMENT AND USE OF INTERNET PROTOCOL VERSION 6 (IPV6)

**WHEREAS**, Section 24, Article II (Declaration of Principles and State Policies) of the 1987 Constitution states that, “The State shall recognize the vital role of communication and information in nation-building”;

**WHEREAS**, advanced internet services are now widely used and have become an enabler to social and economic development of all countries, as these services have increased worker productivity and connected local businesses to local and international markets;

### SECTION 10. EFFECTIVITY CLAUSE

This Executive Order shall immediately take effect fifteen (15) days after its publication in a newspaper of general circulation.

**DONE**, in the City of Manila, this 18th day of June in the year of Our Lord, Two Thousand and Ten.

(Sgd.) **GLORIA MACAPAGAL-ARROYO**  
President of the Philippines

By the President:

(Sgd.) **LEANDRO R. MENDOZA**  
Executive Secretary

<https://www.officialgazette.gov.ph/2010/06/18/executive-order-no-893/>

The Commission on ICT (CICT), the government's main agency for ICT matters, will ask the Internet Corporation for Assigned Names and Numbers (ICANN) to rescind the authority it has delegated to dotPH Domains Inc. to issue country code level domains (ccTLD) if the latter would not relinquish control as a registrar and administrator at the same time.

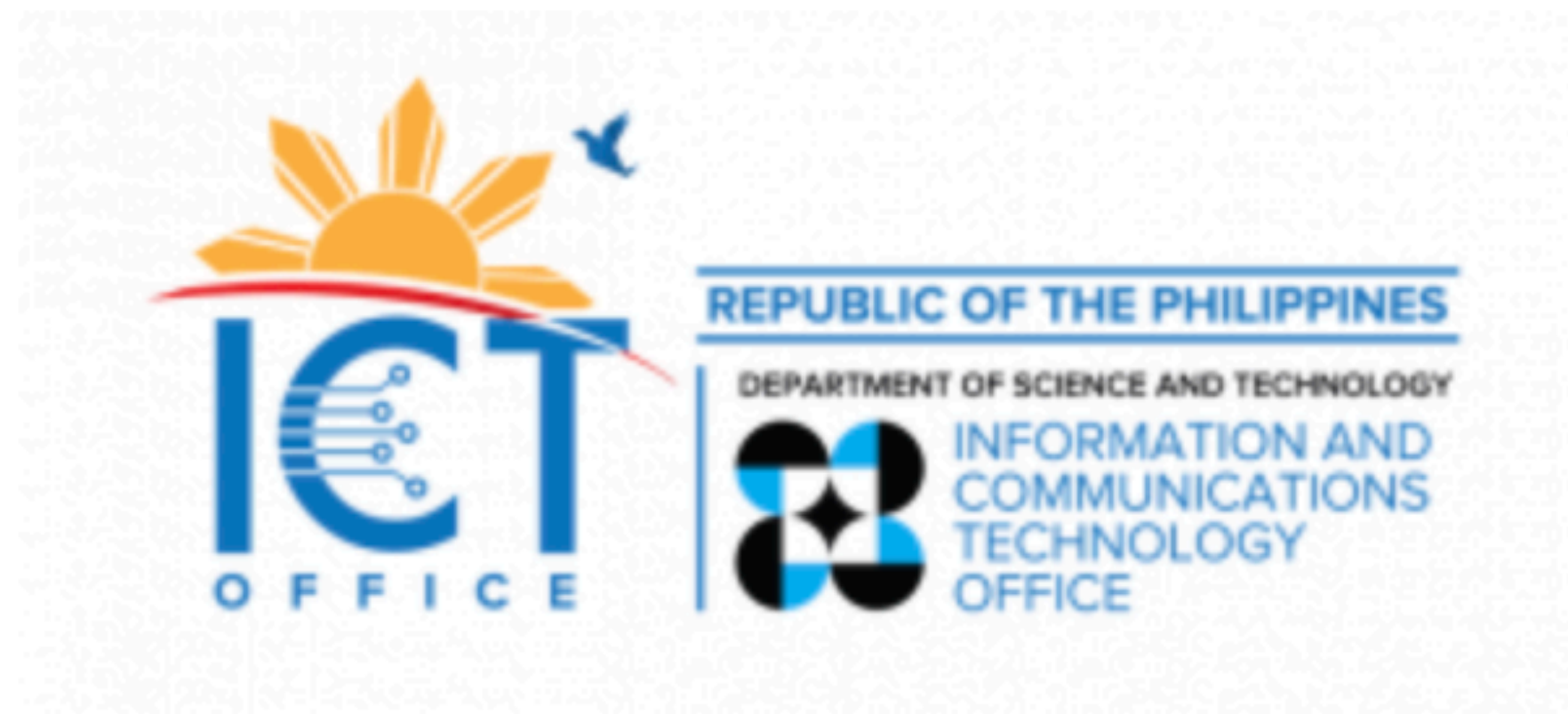
"It has to choose only one function: either as registrar or as administrator. But it can't have both," said CICT chair Virgilio Pena during the sidelines of a media briefing meant to update the public on the Philippine position in the recently concluded World Summit on the Information Society held in Tunis, Tunisia.

Pena headed the local delegation which included CICT Commissioner Emmanuel Lallana, Sun Microsystems **Philippines** president Cynthia R. Mamon, and Foundation for Media Alternatives executive director Alan Alegre.



**<https://www.yugatech.com/the-internet/cict-to-ask-icann-to-revoke-dotph-control/>**





# ABOUT DOST – ICTO

The Information and Communications Technology Office (ICTO) of the Department of Science and Technology (DOST) was created through Executive Order (EO) 47 which transferred the former Commission on Information and Communications Technology (CICT) from the Office of the President to the DOST. The ICTO is tasked to be the lead implementing agency of Government in all most of its ICT related efforts such as industry development, policy formulation, ICT infrastructure development, R&D, ICT capacity building for the public sector and administration of the E-Governance Fund. The ICTO's primary thrusts for 2011 – 2016 are in the areas of ICT Industry Development, E-Government, ICT Policy Development, ICT Infrastructure and Cybersecurity. Much of these directions are in line with the Philippine Digital Strategy, the Philippine Government's master plan on how to actively use information and communications technology in promoting economic and social growth, and in promoting efficiency in the delivery of public service. The Office is currently headed by Executive Director Louis Napoleon C. Casambre.



# ICT research chief named top exec for e-gov

👤 Melvin Calimag • 📅 October 17, 2014 • ⌚ 11:30 am



In an effort to accelerate the adoption and roll-out of e-government initiatives, the government has appointed Denis F. Villorente as deputy executive director for e-government at the Information and Communications Technology (ICT) Office.



Villorente will assume the newly created post alongside his role as director of the Advanced Science and Technology Institute (ASTI) of the Department of Science and Technology (DOST).

DOST-ASTI chief Denis Villorente (center) is congratulated by DOST sec. Mario Montejo after his oath-taking as deputy executive director for e-government at the ICT Office. At right is ICT head Louis Casambre





The Philippines participates in a summit on information in Geneva | Official Gazette of the Republic of the Philippines

Bisitahin



# Cybersecurity - policy

## DICT kicks off series of consultations for new 5-year cybersecurity plan

 Edu Lopez •  February 1, 2023 •  8:58 am



The Department of Information and Communications Technology (DICT) is drawing up a new five-year national cybersecurity plan with the participation of all stakeholders in various sectors through a series of consultations.



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PHILS, INC.

### LATEST POSTS



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# Policy (at large - stakeholder)

- ISOC-Ph (volunteers)
  - Promotes local internet development, thru technical assistance and legislative lobbying
- PhNOG (volunteers)
  - Promotes best practices on internet operations
  - Thru PHNOG, the Philippines was able to get a seat in the 6 member APNIC Executive Council (EC)
- Foundation for Media Alternatives (FMA)
  - Promotes equal rights for all (human rights)
- Better Internet PH
  - Lobbies for internet development at the legislative level

**Technical**



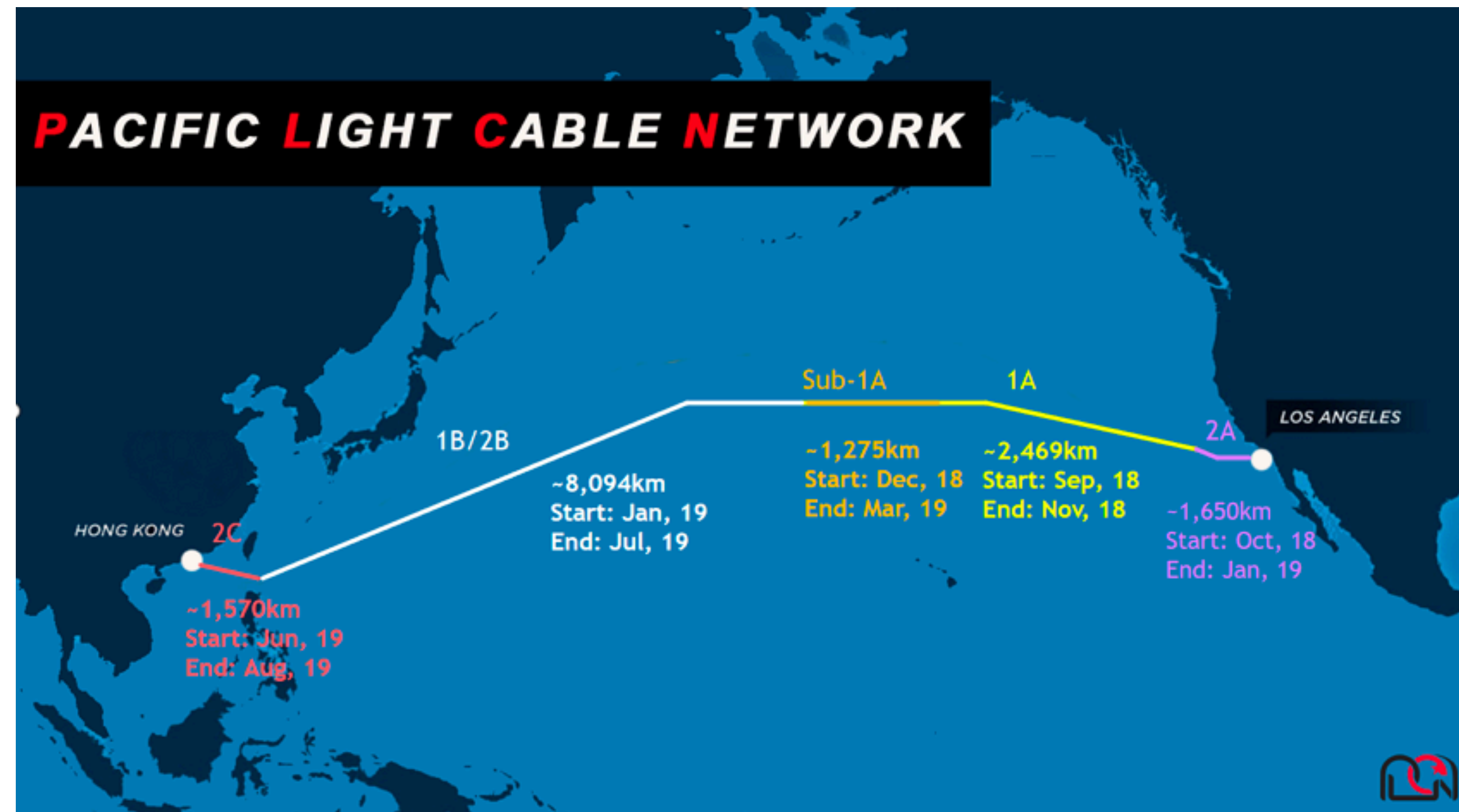
# IP addresses

- There is no country level network information center (i.e. phNIC) entity to centrally manage IP address delegation, allocation and assignments
- Most entities that need BGP resources would need to get it from the local registry (APNIC)

# Network Links - transit

- Three licensed carriers provide physical links for international connectivity
- These 3 carriers are licensed by the regulator to provide domestic nationwide connectivity
- Around ~200 smaller ISPs are licensed to provide domestic provincial connectivity





<https://newsbytes.ph/2020/10/06/natl-broadband-program-to-save-govt-p720m-in-2021-says-dict/>

<https://www.submarinenetworks.com/en/stations/asia/philippines/san-femendo>

# Network Links - peering

- Several internet exchanges are operating in the country
- ASTI is operating the Philippine Open Internet Exchange (PhOpenIX)





# MAY FOREVER!

IP Peering MOA Signing | September 7, 2015

..... #SlowInternet #PHInternet #Pabilisin .....

Designation of the Philippine Open Internet Exchange as the official Government Internet Protocol Exchange

## PHOpenIX

MOA Signing between the PLDT & ASTI as operator of the PHOpenIX wherein PLDT will become 3rd physical connection point of PHOpenIX.



THESE TWO EVENTS WILL ENSURE THAT INTERNET TRAFFIC TO AND FROM GOVERNMENT NETWORKS WILL BE TRANSMITTED EFFICIENTLY AND SECURELY.



DEPARTMENT OF  
SCIENCE AND  
TECHNOLOGY

OFFICE OF  
SENATOR  
BAM AQUINO  
*Bida Ang Mamamayan*



<https://www.yugatech.com/telecoms/pldt-finally-signs-ip-peering-agreement-with-phopenix/>





<https://asti.dost.gov.ph/communications/news-articles/dict-dost-asti-host-ceremonial-turn-over-of-equipment-for-phopenix/>



# Network Links - access



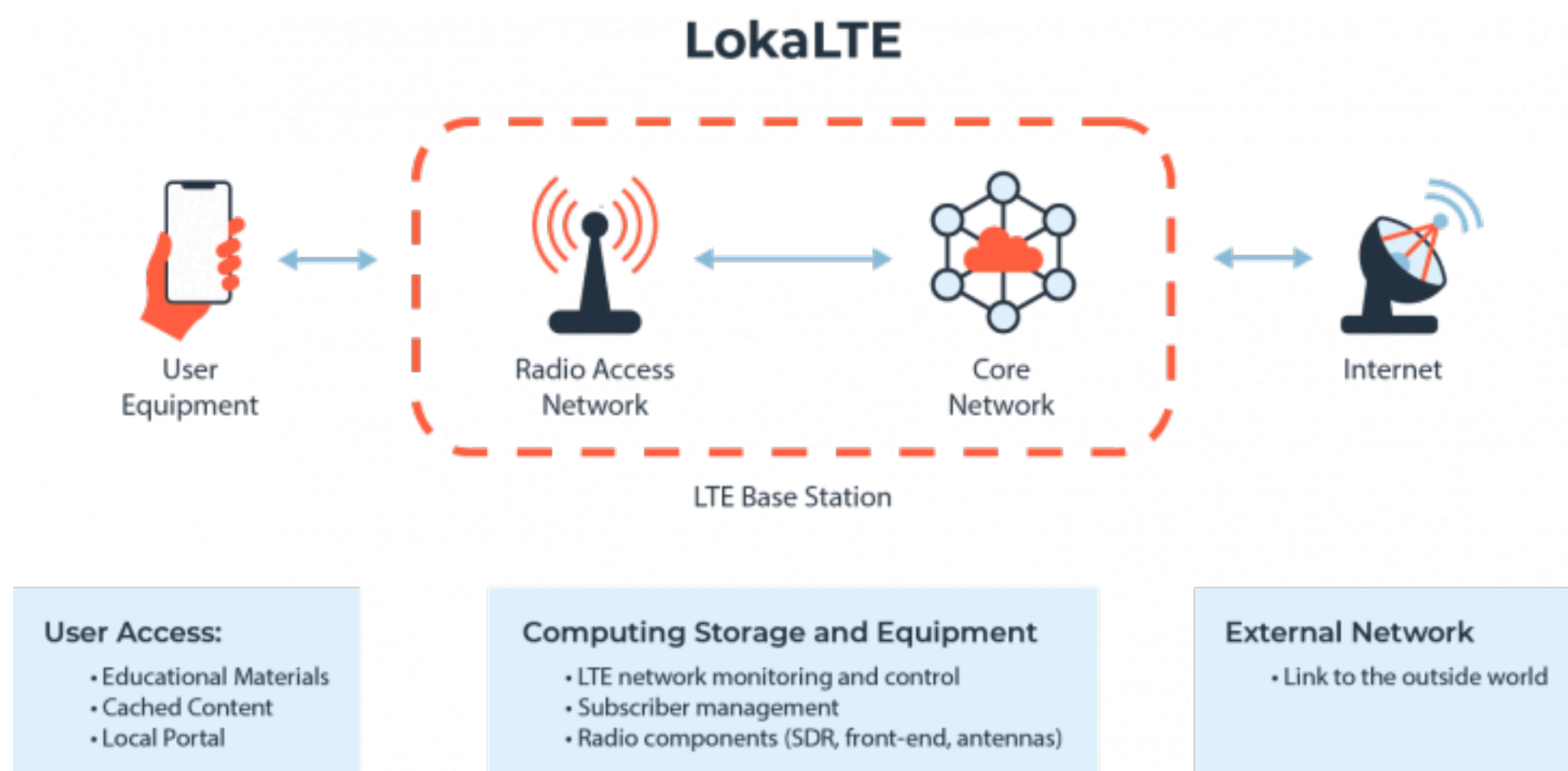


# Network Links - access

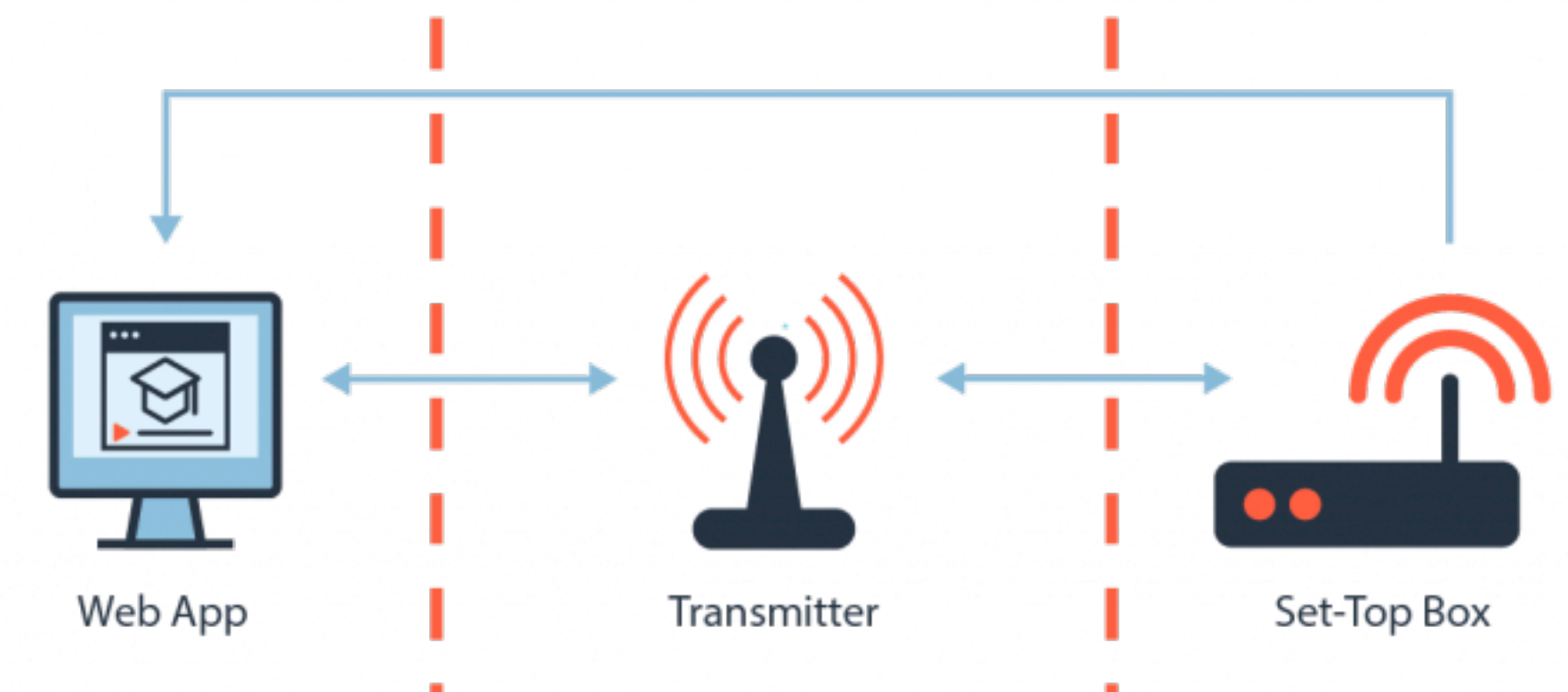


# REIINN

Resilient Education Information Infrastructure  
for the New Normal



## RuralCasting



### Content Creator:

- Modules/Quizzes
- Videos
- Others

### Setups:

- TV Station
- Mini-Transmitter

### User Access:

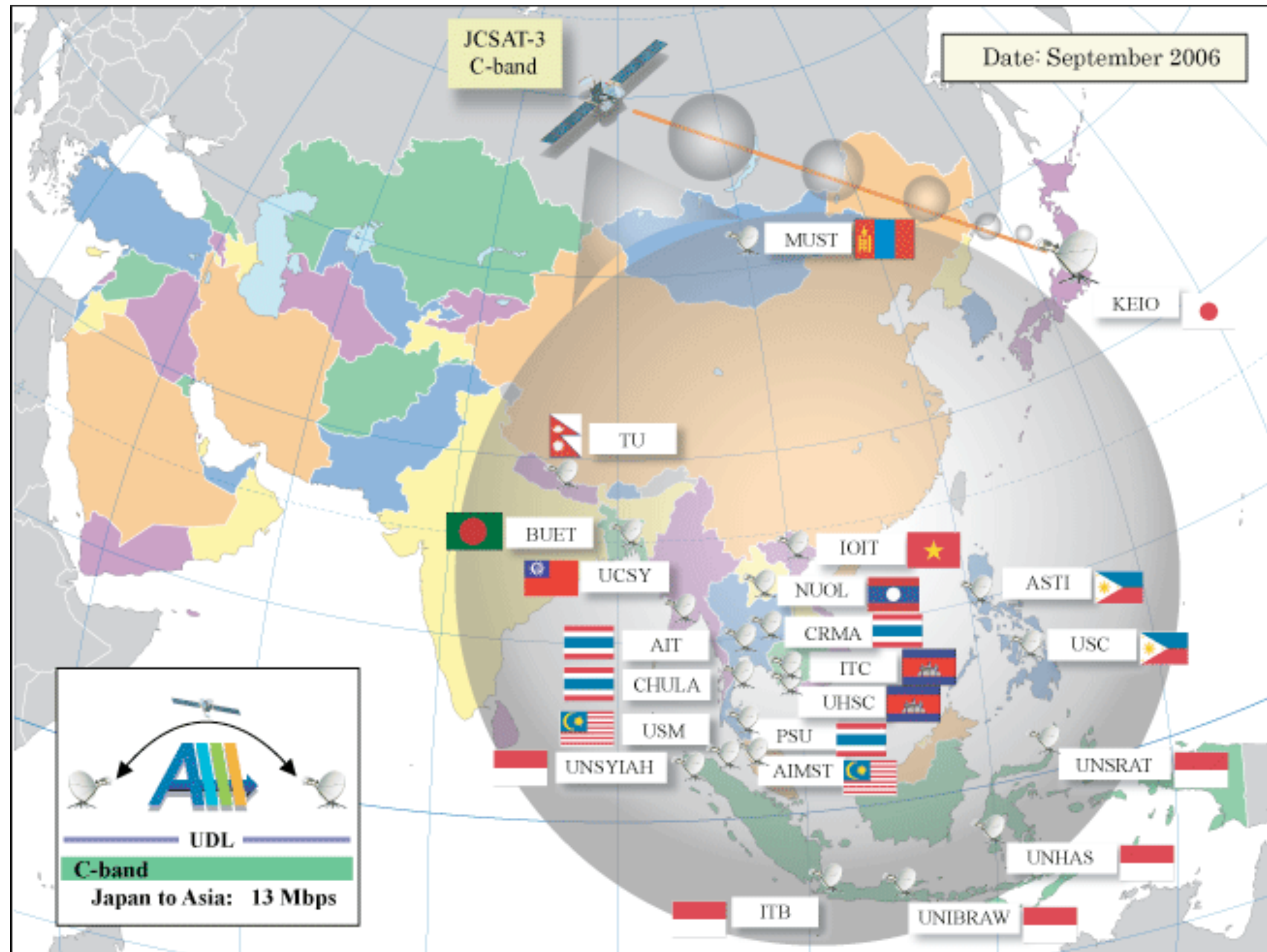
- Wi-Fi
- Stand-Alone Device

### Educational Content:

- Platform
- Others



# Network Links - access





# Domain

- ASTI used to run the gov.ph domain for the Philippine government, until its turn over to the ministry of ICT (DICT) last Feb 3, 2020
- ASTI runs the dost.gov.ph domain for the science ministry





# M-Root deployment to expand under new collaboration agreement

By [Che-Hoo Cheng](#) on 31 Aug 2020

Categories: [Tech matters](#)  
[Development](#)

Tags: [DNS](#), [root servers](#)

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The WIDE Project, Japan Registry Services (JPRS) and APNIC will work together to expand M-Root DNS services in the Asia Pacific and beyond after [signing](#) a Memorandum of Understanding (MoU).

The [WIDE Project](#), which has served as the Root Server Operator (RSO) for [M-Root](#) since 1997, is one of just 12 operators globally and the only one based in the Asia Pacific. There are currently nine M-Root instances located in Japan, South Korea, France and the United States.

[JPRS](#), jointly with the WIDE Project, has operated and deployed M-Root instances since December 2005. By acting as a part of the RSO, JPRS tries to give a better experience of both the Root DNS and .jp DNS to the Internet community.



# .ph



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## Joel Disini

**Joel Disini** is the CEO of [DotPH](#), the domain [registry](#) for the Philippines.<sup>[1]</sup>

### Background

Mr. Disini is a member of the Tau Beta Pi Honor Society/Caltech, and of Mensa. He has a BS in Electrical Engineering from the California Institute of Technology.<sup>[2]</sup>

Joel Disini was previously involved in Silicon Valley in different networking and communications-related fields.<sup>[3]</sup> He worked for five years in the late 80s writing Macintosh Software for **Tri-Data Systems** in Sunnyvale, CA. After 9 years in the US, he moved to the Philippines in 1989.<sup>[4]</sup>

In 1990, he formed the Philippines' first Internet Service Provider. His product - The Netway 1000 SNA/Bisyn Gateway - was named MacUser Editor's Choice for best Networking and Communications Product. He has been selected as one of "The Internet's 10 Most Influential Filipinos" by The **Web Philippines**.<sup>[5]</sup>



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Website: <http://jed.i.ph/>

Facebook: [f Joel Disini](#)

Twitter: [t @joeldisini](#)

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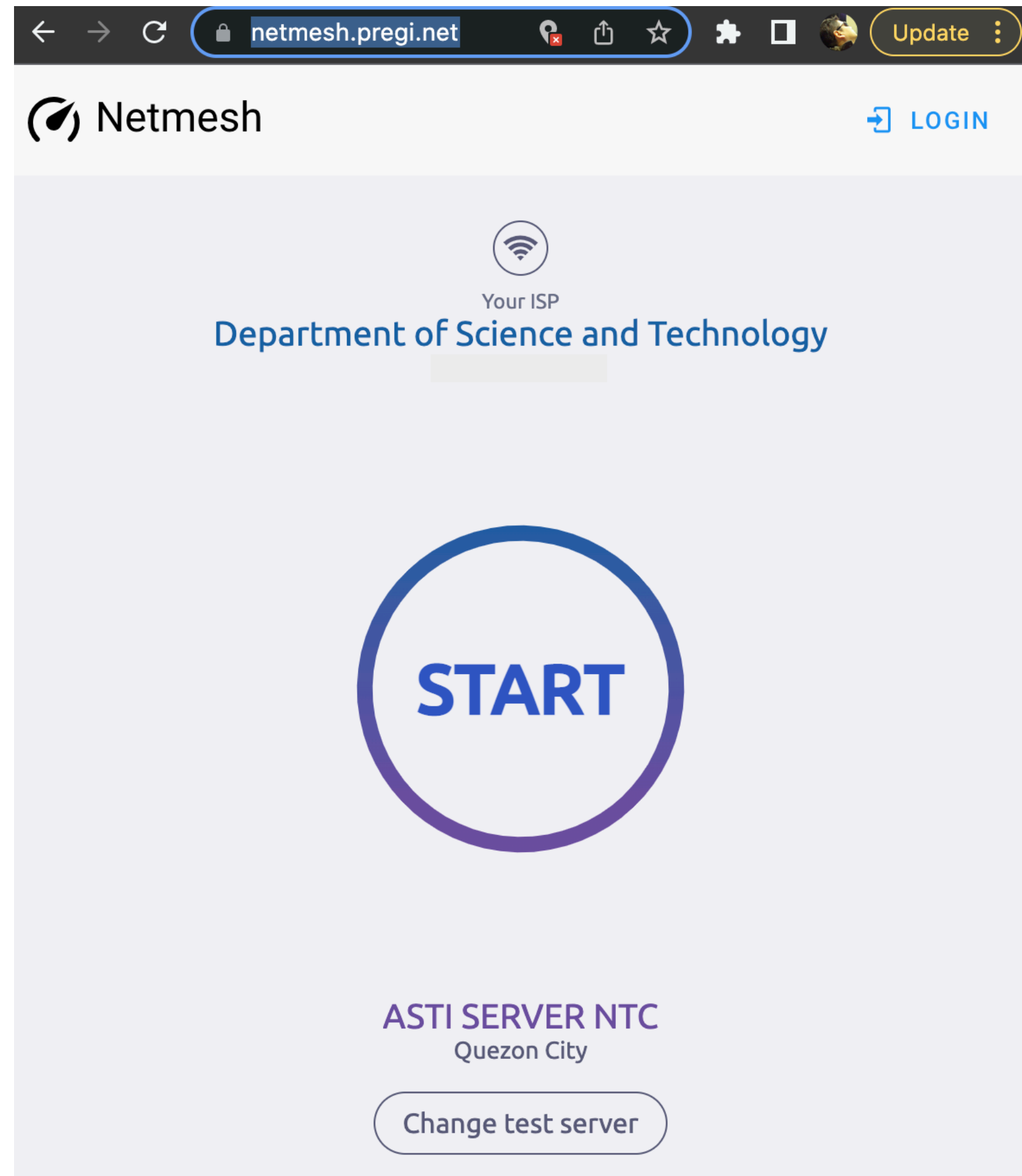
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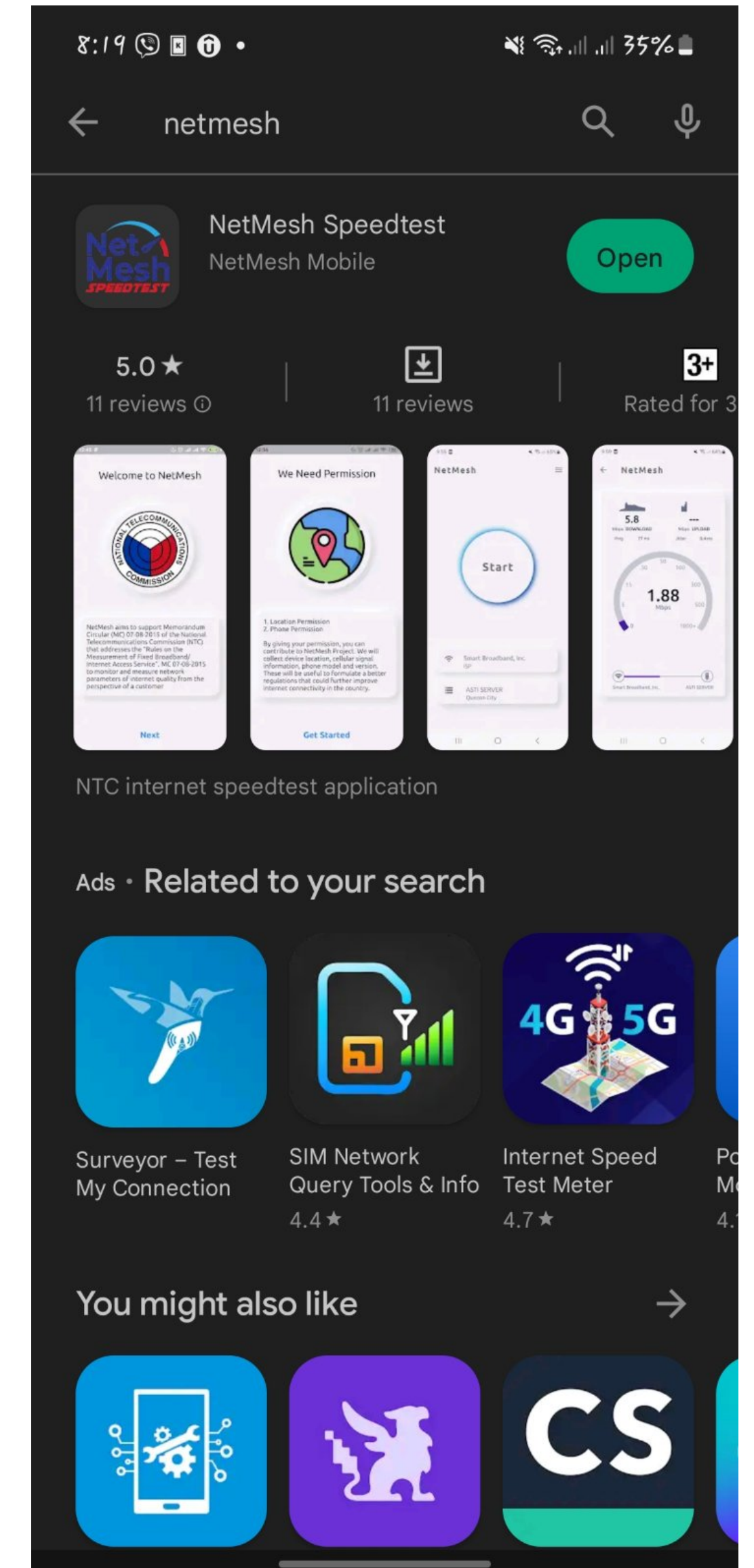


# Internet Measurement



**Local Regulator**

<https://netmesh.pregi.net/>



# Summary

- ASTI impacts the internet governance of the Philippines, directly, thru its technical projects, and indirectly, thru its policy comments that is echoed back into the legislative chambers of government.
- ASTI implements projects and provides services that directly contribute and have an impact on the Philippines' internet governance. These projects include network measurement (NetMesh), community-based networks (REINN), and satellite-based networks (SARwAIS).
- ASTI likewise operates a research and education network through which we are able to conduct research and deployment of technologies such as IPv6. We also maintain a neutral exchange called the Philippine Open IX.
- Through our capabilities in implementing these projects and running PREGINET for over 2 decades, ASTI also provides inputs and is actively involved in policy development and advocacy. An example is the IPv6 first policy which was crafted together with then CICT