

Current status for establishing Lao Education & Research Network (LERNET)

Prepared By: Kheuangkham Phothisan

IT Center, NUOL

Agenda

- About Laos
- About NUOL / LERNET
- Current Situation for establishing connection from LERNET to TEIN (via UniNET)

About Laos

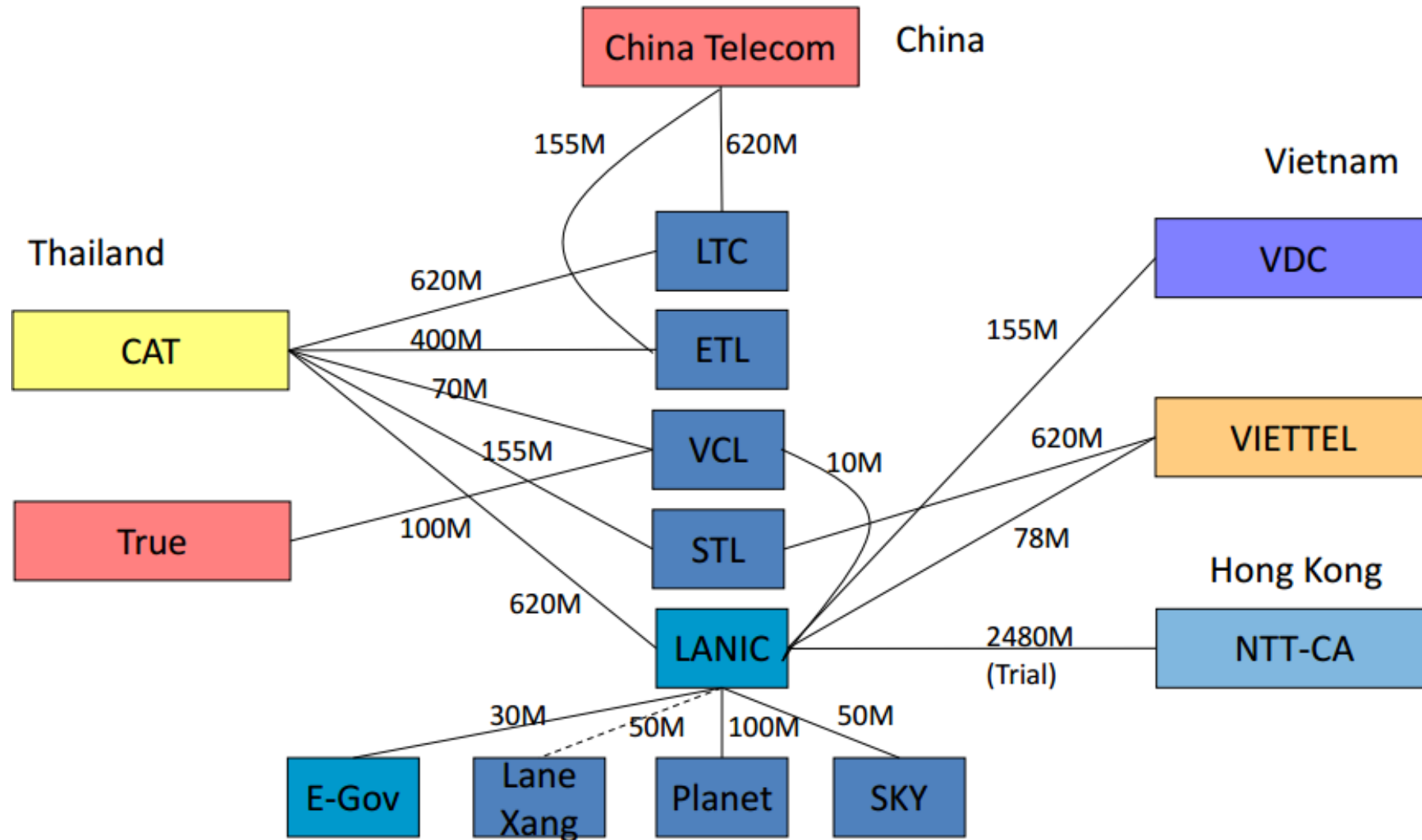
- Country Name Lao People's Democratic Republic
- Area 236,800 Km²
- Capital City Vientiane Capital
- Population 6.5 Millions
- Official language Lao language
- Currency LAK / Kip (1 US\$ = 7820 Kip)
- Time Zone UTC +7
- Calling code +856
- ccTLD la
- PSTN 3 Operators (LTC, ETL, STL)
- Mobile 4 Operators (LTC, ETL, STL, VCL)
- ISPs 6 ISPs
(ETL,LTC,STL,VCL,SkyTel,Planet)



Operator and ISPs in Laos

Name	Describe
Lao Telecom Co (LTC)	Established in 1996 Lao Government 51% and Thaicom (Thailand) 49%
ETL Public Company (Enterprise Telecom Lao)	Re-established in 2000 State-owned company, Lao Government 100% ETL will sell first 30% IPO on November 2011 (delay), Government will continue to hold 70%.
Star Telecom Lao (STL)	Established in 2008 Lao Asia Telecom 51% and Viettel Global (Vietnam) 49% Started the new brand "Unitel" on October 2009.
VimpelCom Lao (Beeline) (VCL)	Established in 2003, (re-established in 2011) Lao Government 22% and VimpelCom 78% VimpelCom (Russia) bought 78% shares from Millicom International Cellular (MIC) on March 2011
Planet Online	Established in 1997, Lao Private Company
Sky Telecom	Established in 2005 Lao Government 30% and Sky Telecom Thailand 70% Sky Telecom Thailand withdraw the investment in beginning of 2011, and now restructuring under Ministry of Defense (MOD)

Current Laos internet Connection

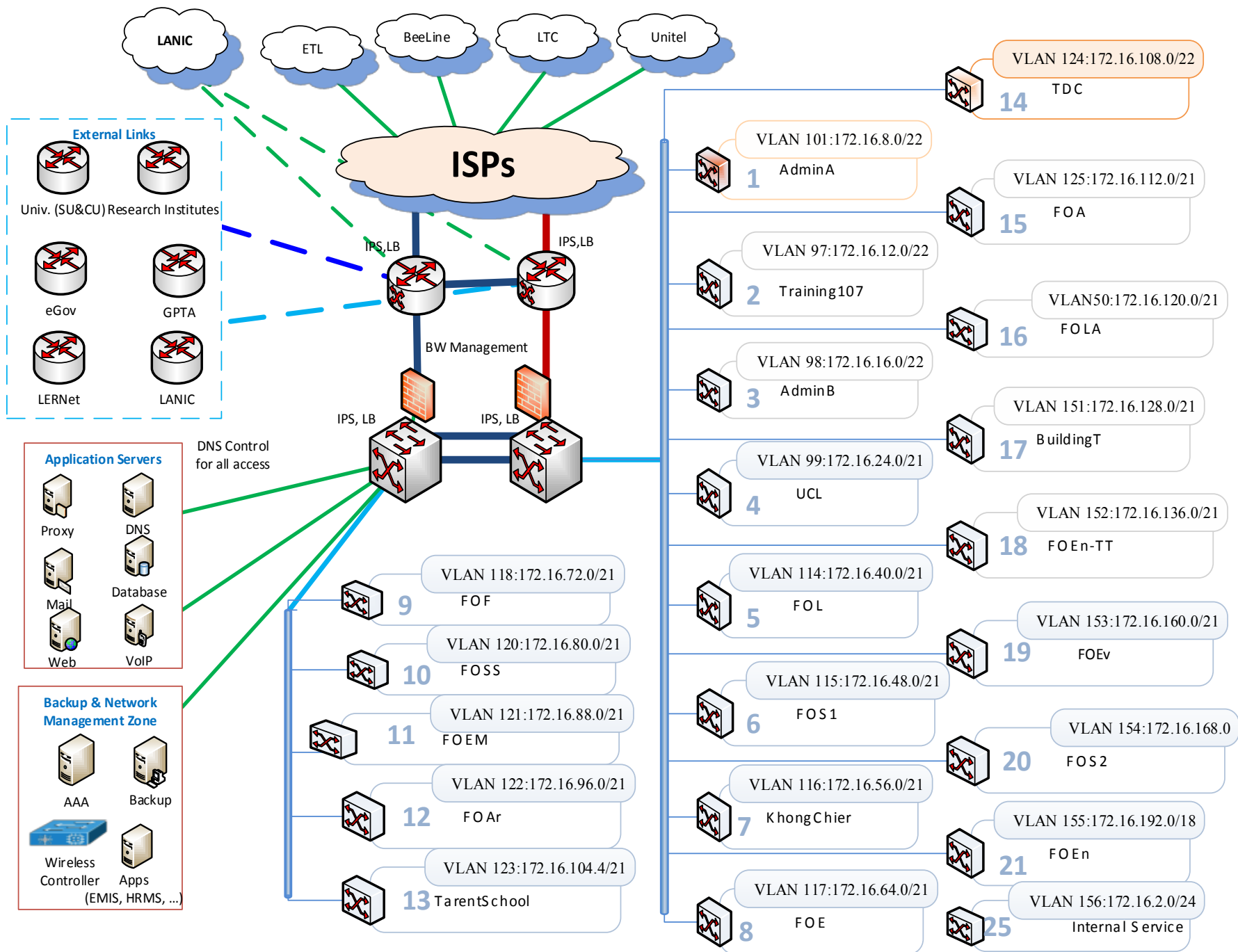


Ref.: LANIC, Lao National Internet Center, lanic.la

About NUOL

NUOL, National University Of Laos provides the internet connection, network infrastructure and application services.

- IP Block: **180.131.148.0 - 180.131.151.255 (/22)** - APNIC
- AS Number: **AS45906** - APNIC
- Current Connections: **4 ISPs**
 - ETL- 2mbps
 - LTC- 2mbps
 - BeeLine- 2mbps
 - Unitel – 4 mbps
- Plan to establish LERNET
- Plan to connect the LERNET to TEIN with bandwidth 10 mbps



NUOL's Network Diagram

Current Status about Connection Plan

There are two options:

1. Option1: CAT- LANIC – NUOL

From KKU in Nongkhai to Thanaleng, Vientiane, they have fiber belong to Thai Rail Way Ministry that CAT uses to connect to LANIC and then LANIC has their own connection from Thanaleng to LANIC office. So from LANIC to NUOL we will use Sky Tel to connect it

2. Option2: CAT – SkyTel – NUOL

CAT has connection to Skytel with 2.5 GB but Sky Tel suggest to use new 2 core fiber from middle bridge to LANIC and LANIC to NUOL.

We have setup the technical team to work with NSRC for the network equipment/design and connections.

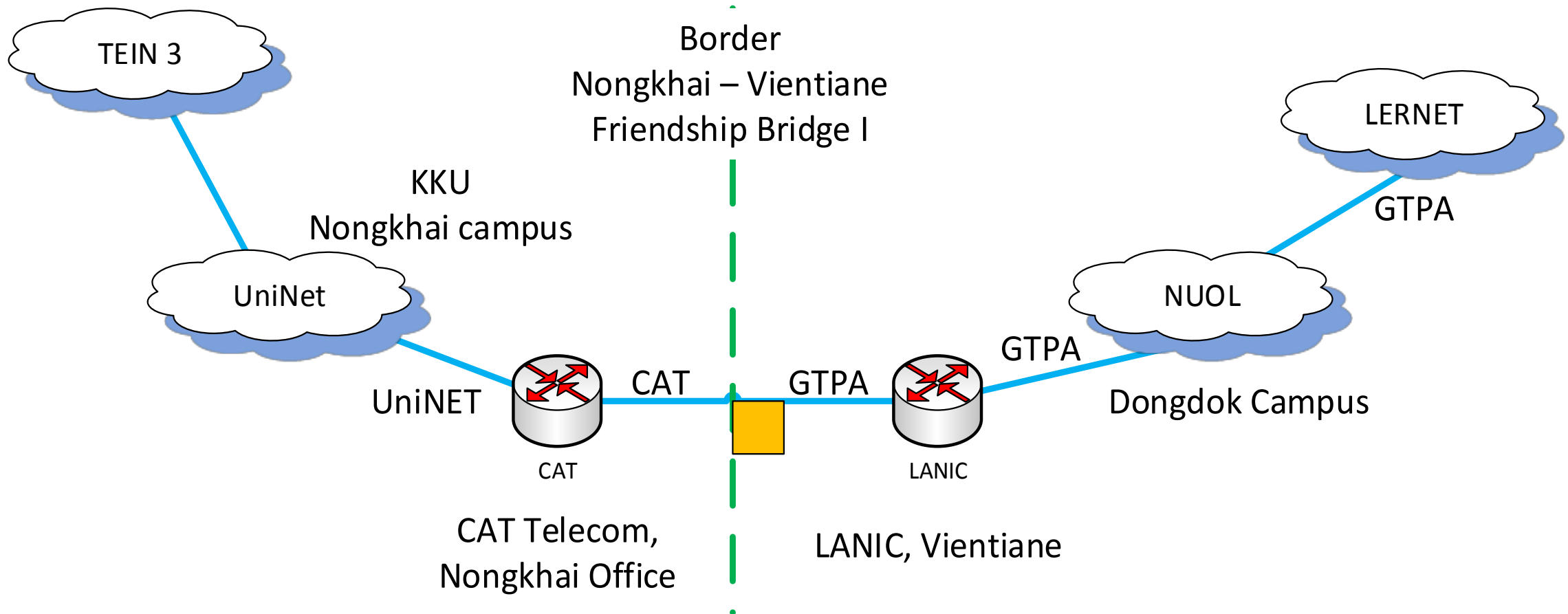
Mailing list: lernetechteam@nuol.edu.la

LERNET to TEIN via uninet

- UniNET at Khon Kaen University (Nongkhai Campus) installs the transmission link to CAT Telecom (Nongkhai Office)
- From CAT Telecom (Nongkhai Office), UniNET leases the transmission link from CAT Telecom to connect with LANIC.
- LANIC and GTPA provides the transmission link for NUOL to connect with UniNET .
- LERNET will connect with TEIN3 via UniNET.

GTPA = Government Telecommunication Project Agency, Sky Telecom

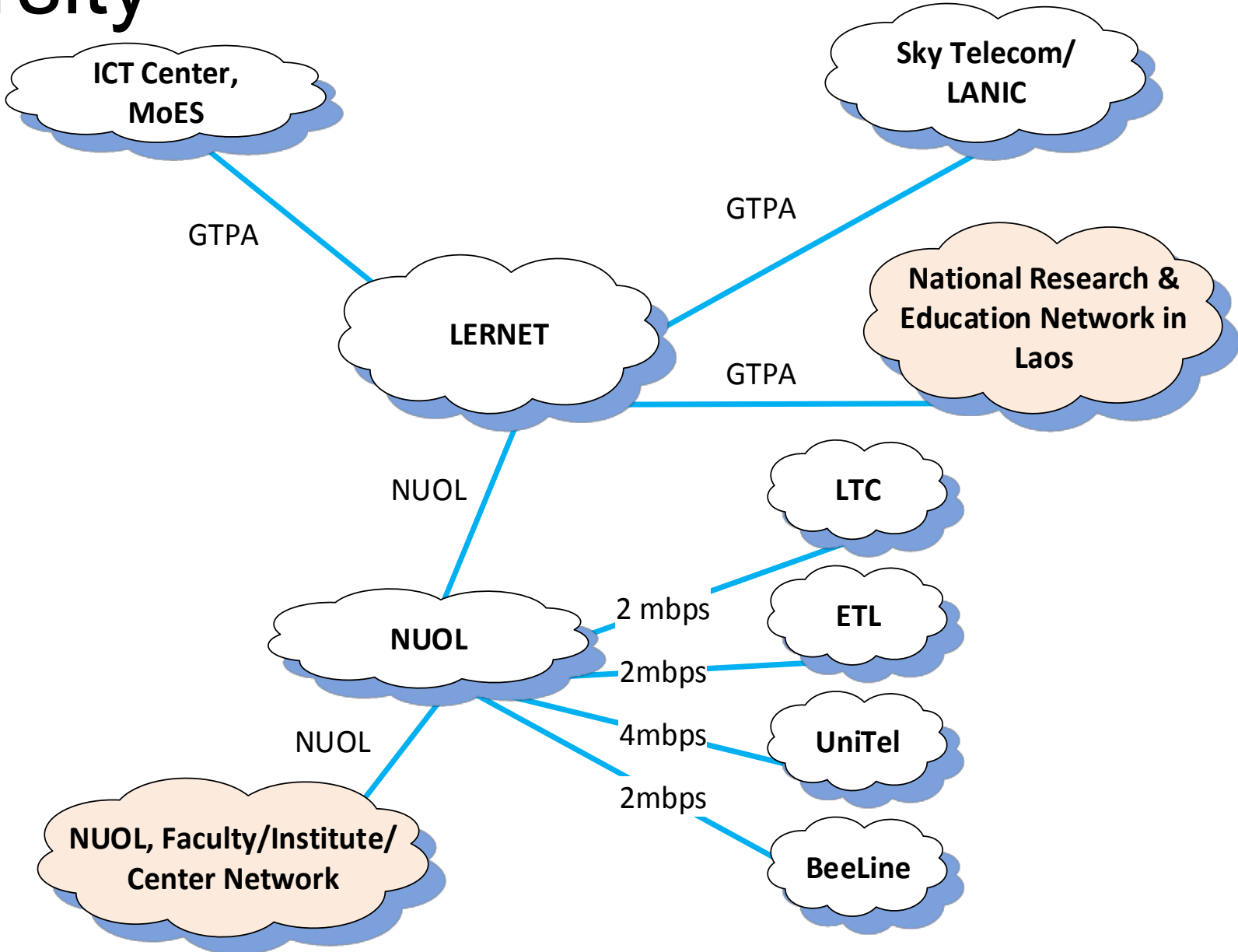
Network Connection Plan - Overview



Connection Plan

- LERNET plans to connect to TEIN via UniNET (10 mbps)
- LERNET establishes the links to
 - Ministry of Education and Sport (MoES) by using the GTPA fiber optic
 - UniNET via Sky Telecom which ISP is connected to LANIC
 - NUOL (National University of Laos)
 - Other research and education institutions

New Network Diagram Expected at University



Thank you for your attention
Have a nice day !