Country Report

“Internet Access”
On Internet Accessibility in Asia-Pacific Region
4th - 6th September 2013, Seoul, Republic Korea

Current Lao ICT

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Lao National Internet Center (LANIC)
Ministry of Posts and Telecommunications
## About Laos

<table>
<thead>
<tr>
<th>Information</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Country Name</strong></td>
<td>Lao People's Democratic Republic</td>
</tr>
<tr>
<td><strong>Area</strong></td>
<td>236,800 KM2</td>
</tr>
<tr>
<td><strong>Capital City</strong></td>
<td>Vientiane Capital</td>
</tr>
<tr>
<td><strong>Population</strong></td>
<td>6.5 Millions</td>
</tr>
<tr>
<td><strong>Official language</strong></td>
<td>Lao language</td>
</tr>
<tr>
<td><strong>GDP per capital</strong></td>
<td>US$ 1,319.6; GDP growth 8.3% (2012 est)</td>
</tr>
<tr>
<td><strong>Currency</strong></td>
<td>Kip (1 US$ = 7820 Kip)</td>
</tr>
<tr>
<td><strong>Time Zone</strong></td>
<td>UTC +7</td>
</tr>
<tr>
<td><strong>Calling code</strong></td>
<td>+856</td>
</tr>
<tr>
<td><strong>ccTLD</strong></td>
<td>.la</td>
</tr>
<tr>
<td><strong>PSTN</strong></td>
<td>3 Operators (LTC, ETL, STL)</td>
</tr>
<tr>
<td><strong>Mobile</strong></td>
<td>4 Operators (LTC, ETL, STL, VCL)</td>
</tr>
<tr>
<td><strong>ISPs</strong></td>
<td>6 ISPs</td>
</tr>
</tbody>
</table>
Ministry of Posts and Telecommunications

- In October 2007, National Authority of Posts and Telecommunications (NAPT) devised from Ministry of Communication, Transportation, Post and Construction (MCTPC)
- In June 2011, in the new government of Lao PDR, National Authority of Posts and Telecommunications becomes Ministry of Posts and Telecommunications (MPT)
LANIC is a department under Ministry of Posts and Telecommunications (MPT) and manage as Carrier neutral and Not-for-profit organization.

Centralize and National Gateway policy via LANIC.

LANIC will be telecom facility for domestic carrier-carrier interconnect and national gateway for connecting with oversea carriers for Voice transit and IP transit.

LANIC will be a registry for dot LA ccTLD.
LANIC Function

- National Voice Exchange (NVX)
- International Voice Gateway (IVG)
- National Internet Exchange (NIX)
- International Internet Gateway (IIG)
- ccTLD dot LA Shared Registry System (DNS)
- National Data Center (NDC)
- Security Emergency Respond Team (SERT)
## Operators and ISPs in Laos

<table>
<thead>
<tr>
<th>Name</th>
<th>Describe</th>
</tr>
</thead>
</table>
| Lao Telecom Co (LTC)                   | Established in 1996  
Lao Government 51% and Thaicom (Thailand) 49%  
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)                | 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) |
## Internet Service Providers in Laos

<table>
<thead>
<tr>
<th>Name</th>
<th>Wire</th>
<th>Wireless</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lao Telecom Co (LTC)</td>
<td>ADSL</td>
<td>3.5G (HSDPA), 4G</td>
</tr>
<tr>
<td>Enterprise Telecom Lao (ETL)</td>
<td>ADSL</td>
<td>3.5G (HSDPA)</td>
</tr>
<tr>
<td>Star Telecom Lao (Unitel)</td>
<td>ADSL</td>
<td>3.5G (HSDPA)</td>
</tr>
<tr>
<td>VimpelCom Lao (Beeline)</td>
<td>No</td>
<td>3.5G (HSDPA), WiMAX</td>
</tr>
<tr>
<td>Planet Online</td>
<td>No</td>
<td>WiMAX</td>
</tr>
<tr>
<td>Sky Telecom</td>
<td>ADSL, Fiber</td>
<td>(Restructuring)</td>
</tr>
</tbody>
</table>
Like other developing countries, the mobile penetration is growing rapidly. Mobile phone penetration is about 83% of Lao population.
Mobile Market Share

- LTC: 40%
- STL: 35%
- ETL: 10%
- VCL: 15%

Total 5.4 millions mobile subscribers (2012)
# Internet Usage Statistic

<table>
<thead>
<tr>
<th>Network Operators</th>
<th>Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lao Telecom Co (LTC)</td>
<td>ADSL, HSPA, Lease Line, Dial up, Fiber, Wireless, Web hosting</td>
</tr>
<tr>
<td>Enterprise Telecom Lao (ETL)</td>
<td>ADSL, HSPA, Lease Line, Web hosting</td>
</tr>
<tr>
<td>Star Telecom Lao (Unitel)</td>
<td>ADSL, HSPA, Lease Line</td>
</tr>
<tr>
<td>Beeline Lao</td>
<td>HSPA</td>
</tr>
<tr>
<td>Planet Online</td>
<td>WiMax, WiFi</td>
</tr>
<tr>
<td>Sky Telecom</td>
<td>ADSL, Fiber</td>
</tr>
<tr>
<td>E-gov</td>
<td>Video Conference, Wimax, Web hosting, Web portal, RTX, E-Archive, E-leaning, E-Household book, etc...</td>
</tr>
</tbody>
</table>

592,764 Internet users on June 30, 2012, 9.0% penetration, per IWS.

255,880 Facebook subscribers on Dec 31, 2012, 3.9% penetration.
Domestic ISPs has to purchase IP transit with the neighboring ISPs.
Lao National Transmission System

China: 3 points of connection
Vietnam: 9 points of connection
Myanmar: 3 points of connection
Thailand: 5 points of connection
Cambodia: 2 points of connection
Various interface: E1, STM1, 2.5G, 10G, GE, 10GE, etc.
Some of information security threat in Laos

Lao PDR has experienced similar kinds of cyber-attacks affecting other countries in the region and other parts of the world. These include:

- Malicious software
- DDoS attacks, port scanning, huge spamming attacks, phishing scams, web defacement, web server hacking...
- Attack against DNS server
- Attack against websites
- Attack against mail server
- Internal threat when using USB
• In Lao PDR, spam email is a common way to distribute malware as attachments or via links to malware hosting sites.

• This has led to malware infection of many computers owned by users, businesses and government.

• Most of these malwares are obtained from infected foreign websites as “drive-by downloads” and by opening infected email attachments.
National Policy & Law on Information Security

- The country under draft National Cyber Security policy for enforcement on Cyber Security development
- We under restructuring regulations or cyber laws in order to monitor and prevent Internet and Government network system
- Cybercrime law under consideration by of Ministry of Justice.
- Plan to create cyber security awareness for the public from small area to large.
- Plan to study the use of International security standards & best practices
More information

- Ministry of Posts and Telecommunications (MPT)
  http://www.mpt.gov.la/
- Lao National Internet Center (LANIC)
  http://www.lanic.la/
- Operators’ and ISPs’ websites
  http://www.laotel.com/
  http://www.etllao.com.la/
  http://www.unitel.com.la/
  http://www.beeline.la/
  http://www.laopdr.com/
  http://www.laosky.com/
Thank you very much for your attention
Gam samida