NANOG51 Peering BOF: Peering ‘culture’ in Japan

Katsuyasu Toyama

JPNAP
Broadband subscribers in Japan

- **32.0 million** (FTTH=17.7M, ADSL=9.7M, CATV=4.3M)
  - still increasing
  - Shifting from ADSL to FTTH

Based on the statistics by MIC: Ministry of Internal Affairs and Communications Dec. 2009
Internet Traffic in Japan

Trend of Internet Traffic in Japan

Total download traffic (estimated)
1453.7 Gbps (推定値)

Total upload traffic (estimated)
872.4 Gbps (推定値)

Based on the statistics by MIC: Ministry of Internal Affairs and Communications
Traffic per subscriber

- Traffic per broadband subscriber is also increasing
  - Mainly video traffic (YouTube, Nico nico video, etc.)

Based on the statistics by MIC: Ministry of Internal Affairs and Communications
Top 5 Eyeball ISPs in Japan

- Total number of broadband Internet users in Dec 2009: 32 million

Source: Nikkei Sangyo Shinbun, August 16, 2010
Major exchange points in Japan

- JPNAP  Tokyo, Osaka
- JPIX   Tokyo, Osaka, Nagoya
- Equinix Tokyo

<table>
<thead>
<tr>
<th></th>
<th>Start</th>
<th>Traffic</th>
<th>Members</th>
</tr>
</thead>
<tbody>
<tr>
<td>JPNAP</td>
<td>2001</td>
<td>180G (Tokyo)</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td></td>
<td>260G (Tokyo + Osaka)</td>
<td></td>
</tr>
<tr>
<td>JPIX</td>
<td>1997</td>
<td>140G</td>
<td>120?</td>
</tr>
<tr>
<td>EQUINIX</td>
<td>2007?</td>
<td>40G ?</td>
<td>?</td>
</tr>
</tbody>
</table>
Traffic trend (JPNAP)

- Seems saturated. This trend is almost same as exchange points in Japan.
  - When two big ISPs start private peer, traffic is down.
- Due to:
  - Decreased transit cost.
  - No bigger pipe (100GE) available.
Peering

- Just like ‘Hyper-giants’ in global stage
  - Big content providers
    - bypassing transit provider, sometimes IXes as well
  - Broadband access network
    - Some big providers demanding paid-peer to content providers
    - Mobile operators now facing steep increase of traffic (Smart phones called “Sumaho”)

Access (Eyeballs)

Fixed
- OCN
- Yahoo BB
- NEC Biglobe

Mobile
- NTT Docomo
- au
- Softbank

Content

- Google
- Yahoo Japan
- nico nico video
- mixi
- SNS
- Video
- CDN

Transit

- NTTCom
- KDDI
- Softbank Telecom
- IIJ

IX

- JPNAP
- JPIX
- Equinix

Copyright (c) 2011 JPNAP by INTERNET MULTIFEED CO.
Summary

• Broadband subscribers in Japan are still increasing.
• IX is a very good place for content providers in North America and Europe to distribute their content directly to Japanese Broadband subscribers.

• Peering culture is almost same as global
  – Transit providers are selective
  – Content providers are open
    • startup content providers like route servers.
  – Big broadband access providers sometimes demand paid-peer
  – Mobile carriers seem open now but unclear in future
Thank you!

• Any questions and comments?

• Contact:
  – toyama[at]mfeed.ad.jp
  – Katsuyasu Toyama
  – JPNAP by INTERNET MULTIFEED CO.