



# **NANOG51 Peering BOF: Peering 'culture' in Japan**

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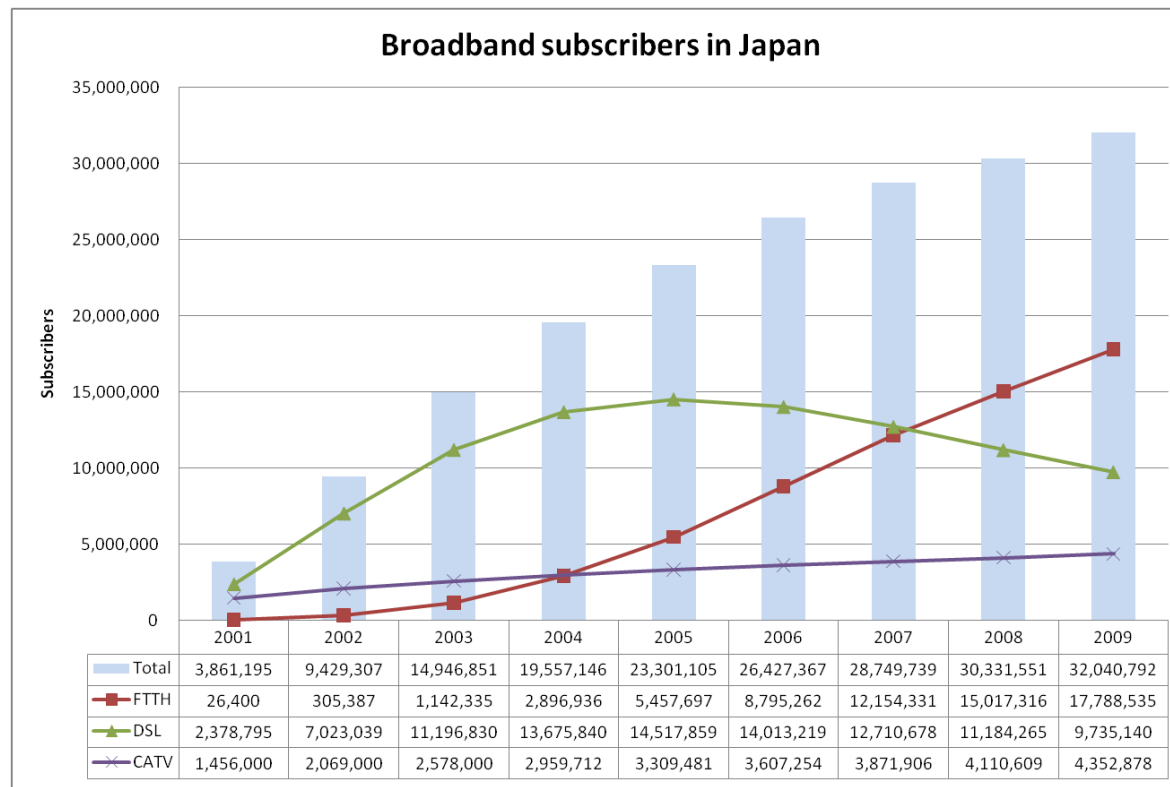
# Broadband subscribers in Japan

- **32.0 million** (FTTH=17.7M, ADSL=9.7M, CATV=4.3M)

– still increasing

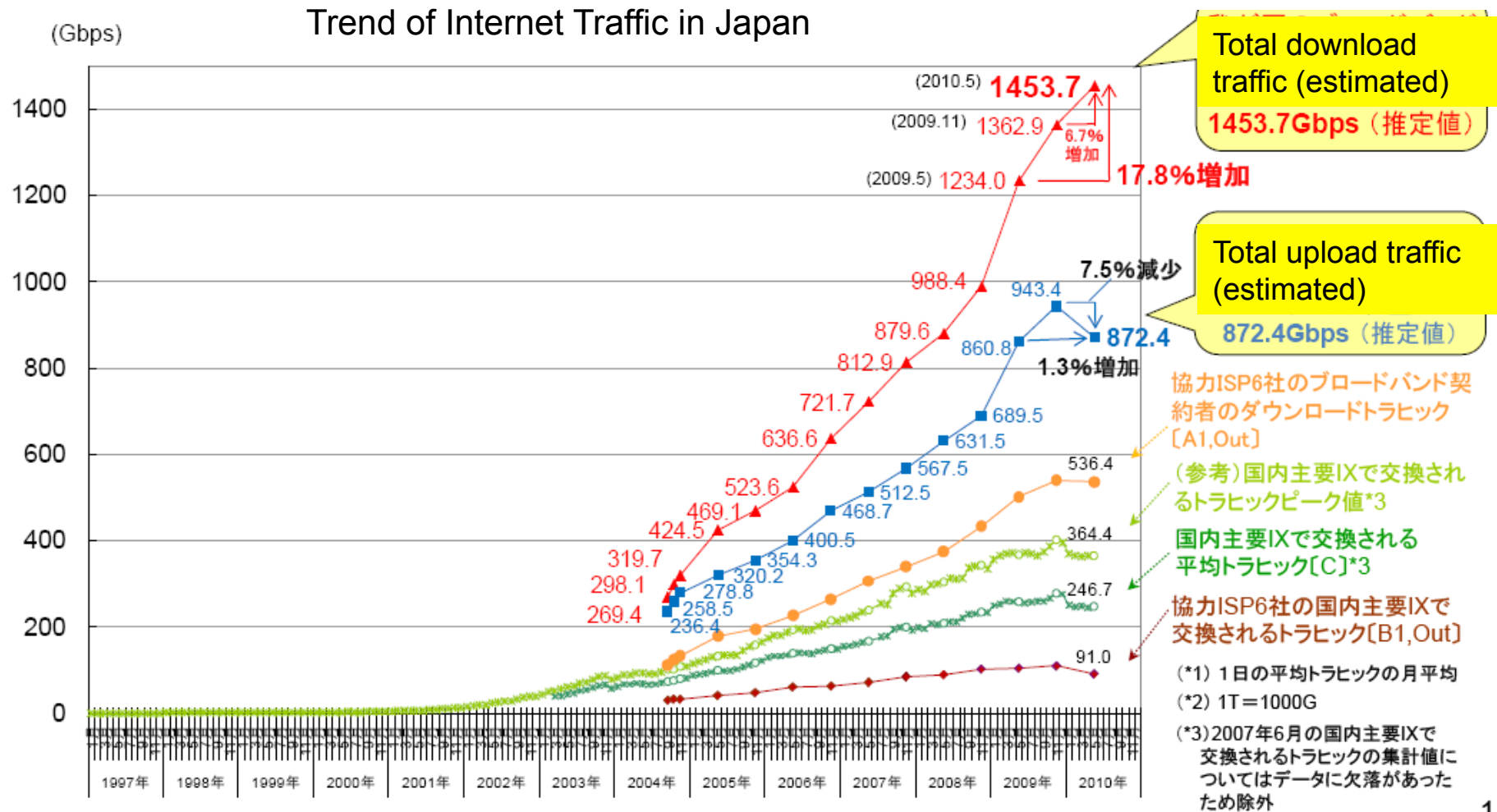
Dec. 2009

– Shifting from ADSL to FTTH



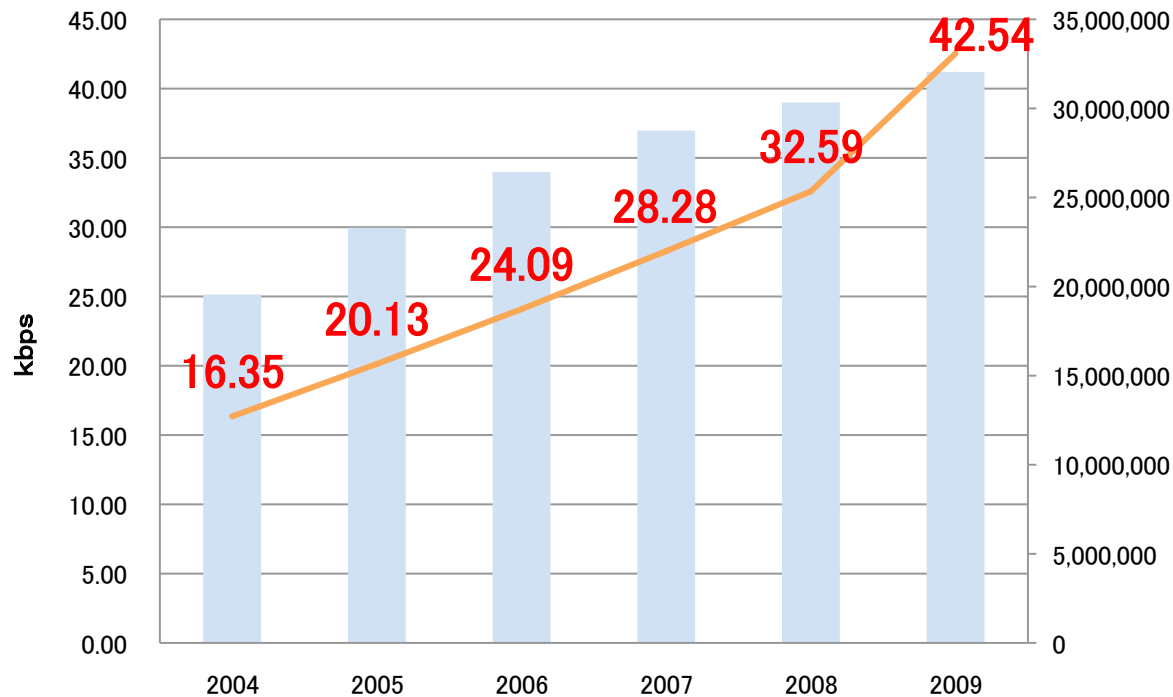
Based on the statistics by MIC: Ministry of Internal Affairs and Communications

# Internet Traffic in Japan



# Traffic per subscriber

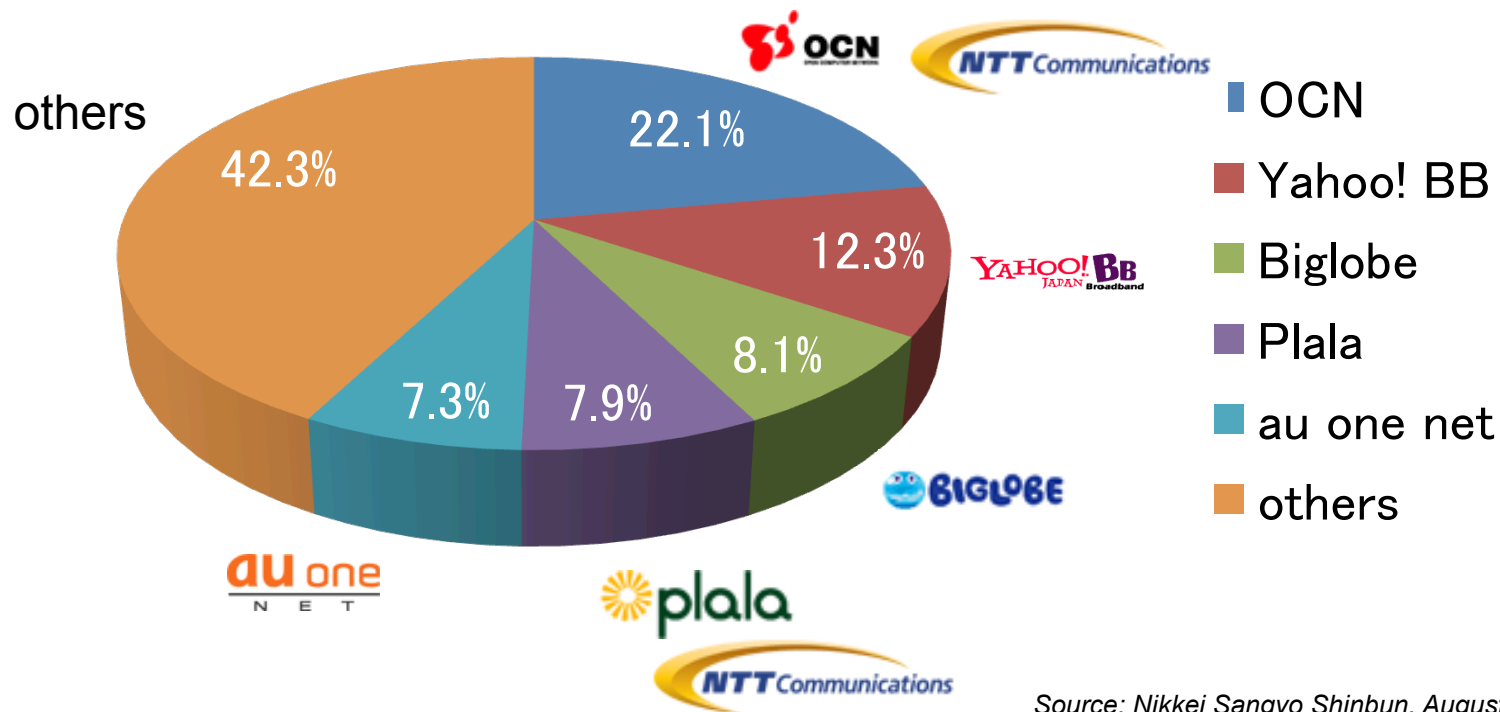
- Traffic per broadband subscriber is also increasing
  - 16kbps (2004) to 42kbps (2009)
  - Mainly video traffic (YouTube, Nico nico video, etc.)



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



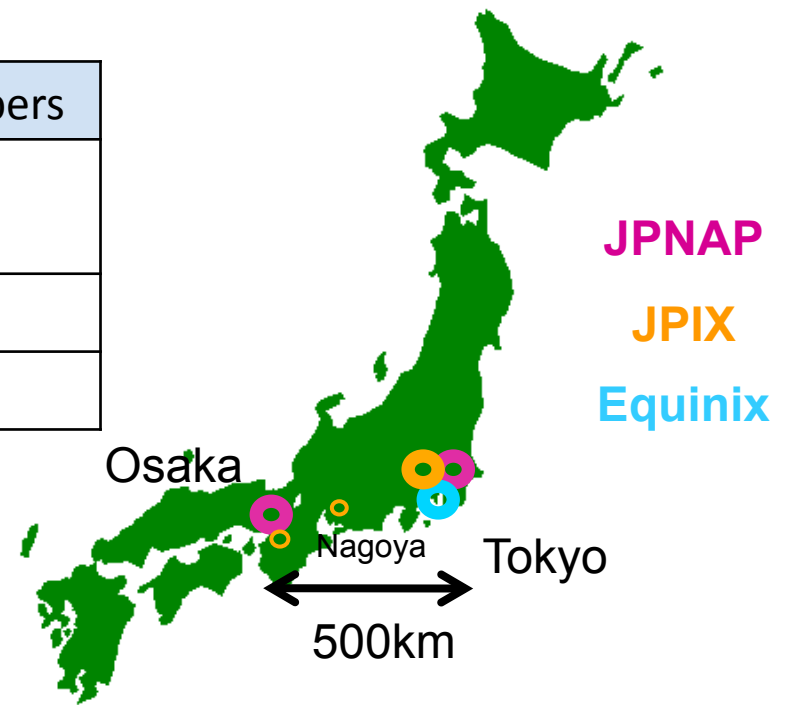
Source: Nikkei Sangyo Shinbun, August 16, 2010



# Major exchange points in Japan

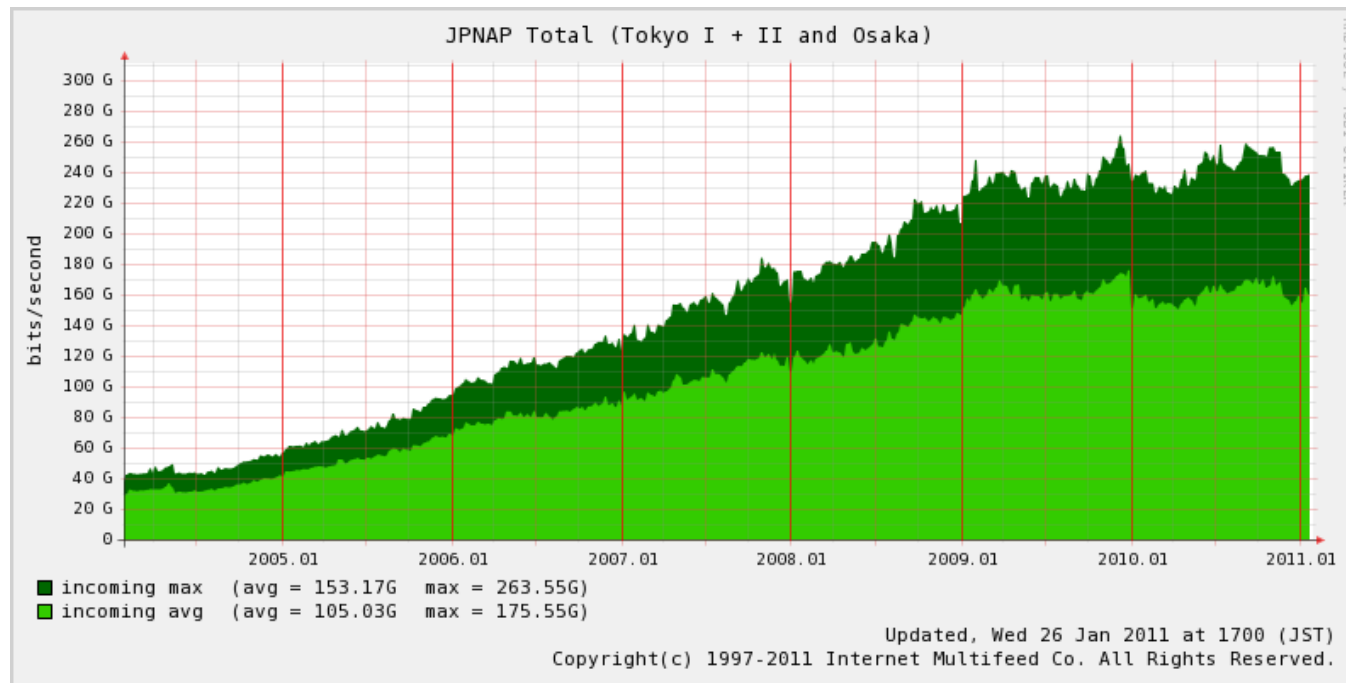
- JPNAP Tokyo, Osaka
- JPIX Tokyo, Osaka, Nagoya
- Equinix Tokyo

|         | Start | Traffic                              | Members |
|---------|-------|--------------------------------------|---------|
| JPNAP   | 2001  | 180G (Tokyo)<br>260G (Tokyo + Osaka) | 80      |
| JPIX    | 1997  | 140G                                 | 120?    |
| EQUINIX | 2007? | 40G ?                                | ?       |



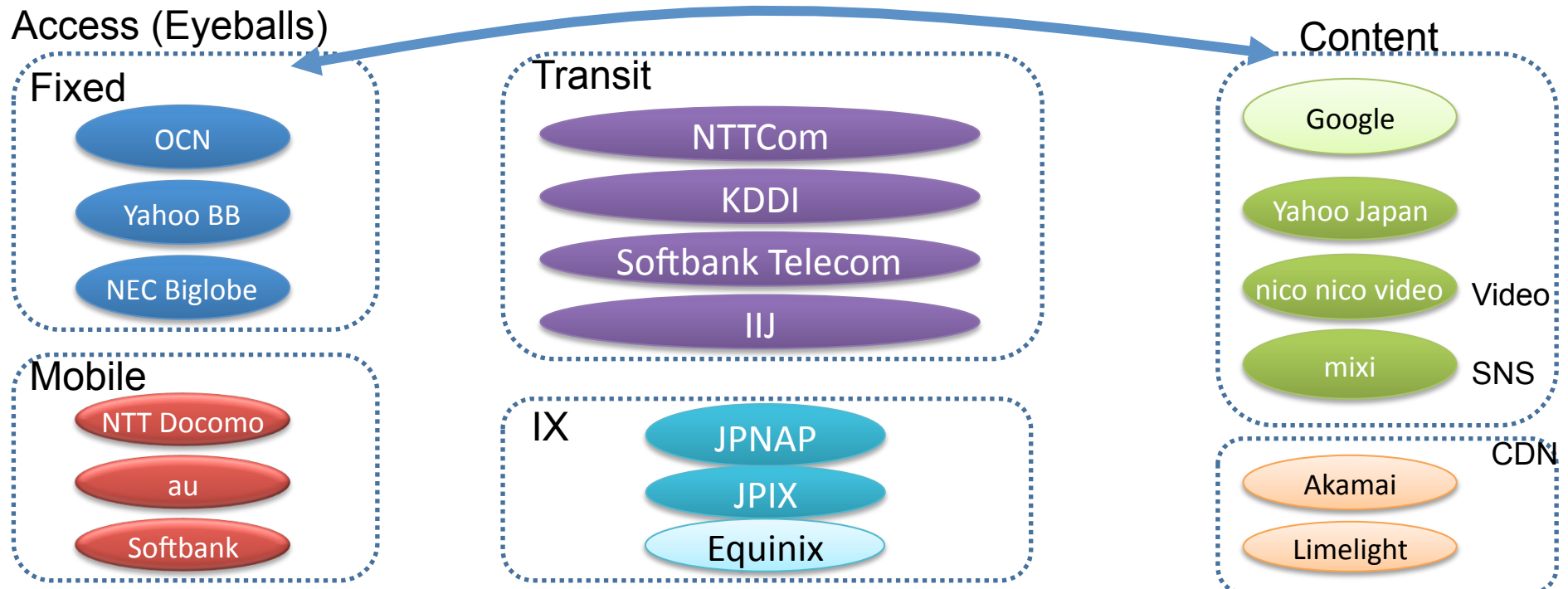
# Traffic trend (JP NAP)

- 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”)





# Summary

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- 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!

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- Any questions and comments?
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