

Traffic In Japan

From ISP's point of view

Norisuke Hirai

norisuke.hirai@g.softbank.co.jp

SoftBank BB Corp.

 SoftBank

Who am I?

Norisuke Hirai (平井 則輔)

SoftBank BB (2005~)

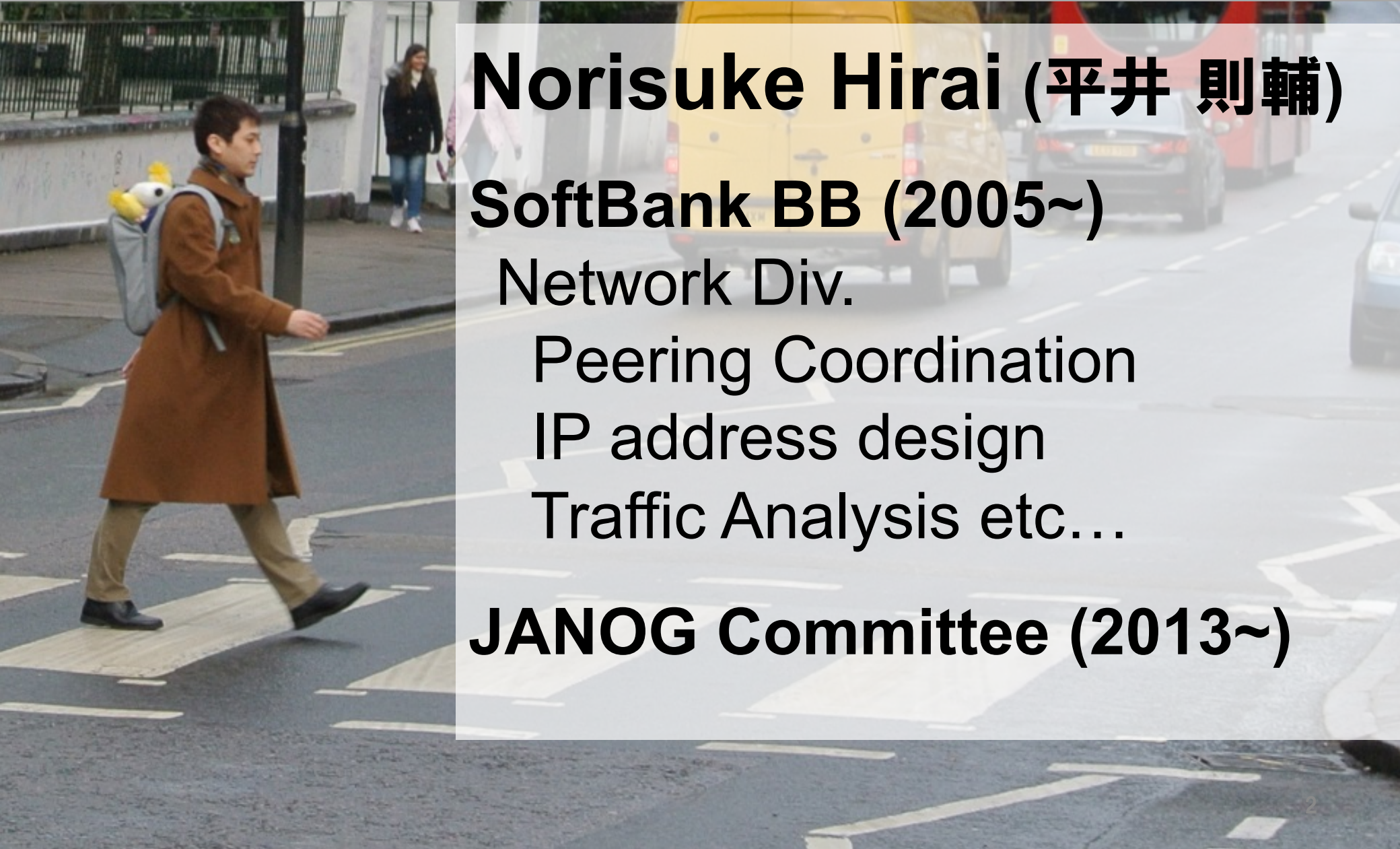
Network Div.

Peering Coordination

IP address design

Traffic Analysis etc...

JANOG Committee (2013~)



What is SoftBank BB?

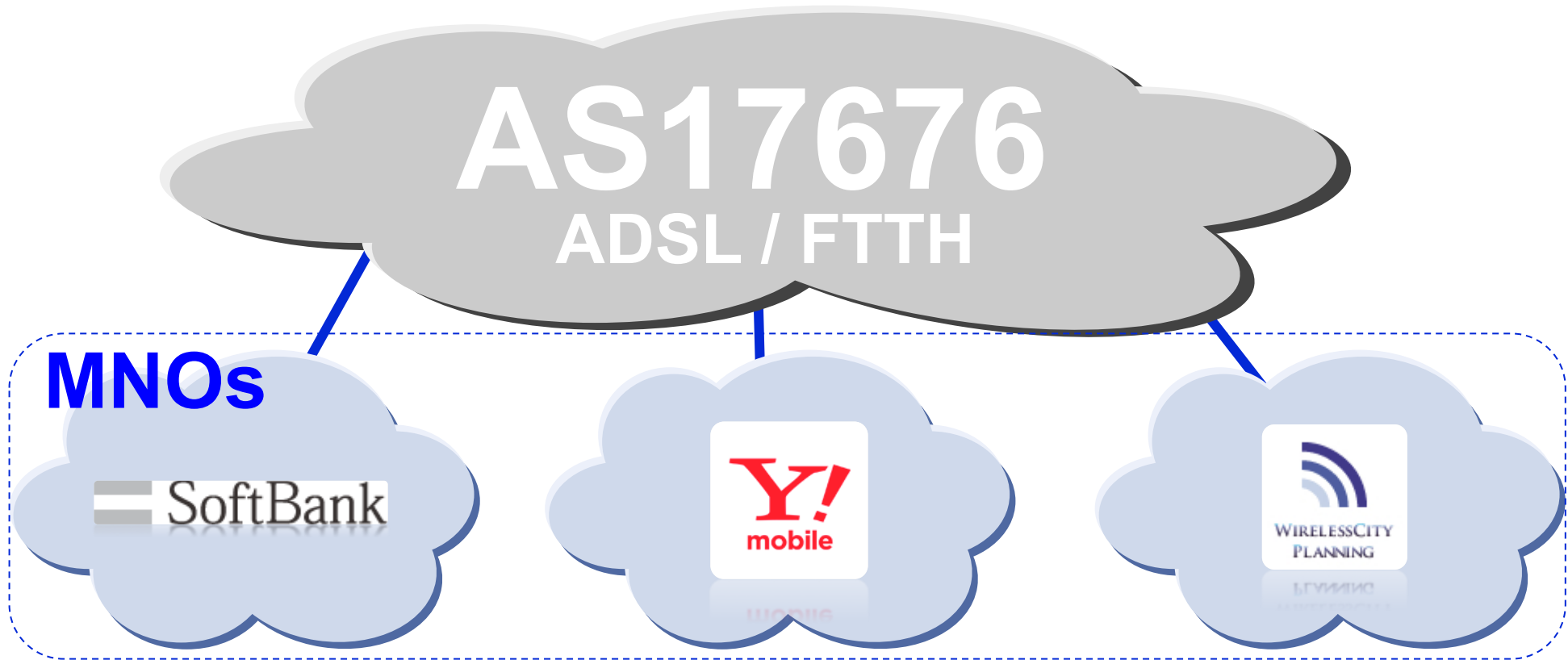
SoftBank BB provides
fixed broad band services,
known as Yahoo! BB. (AS17676)

4+ millions BB subscribers

ADSL	FTTH	AXGP
<ul style="list-style-type: none">• Yahoo!BB ADSL ~50Mbps	<ul style="list-style-type: none">• Yahoo!BB hikari<ul style="list-style-type: none">- PPPoE ~200Mbps- IPoE ~1Gbps	<ul style="list-style-type: none">• SoftBank Air ~110Mbps

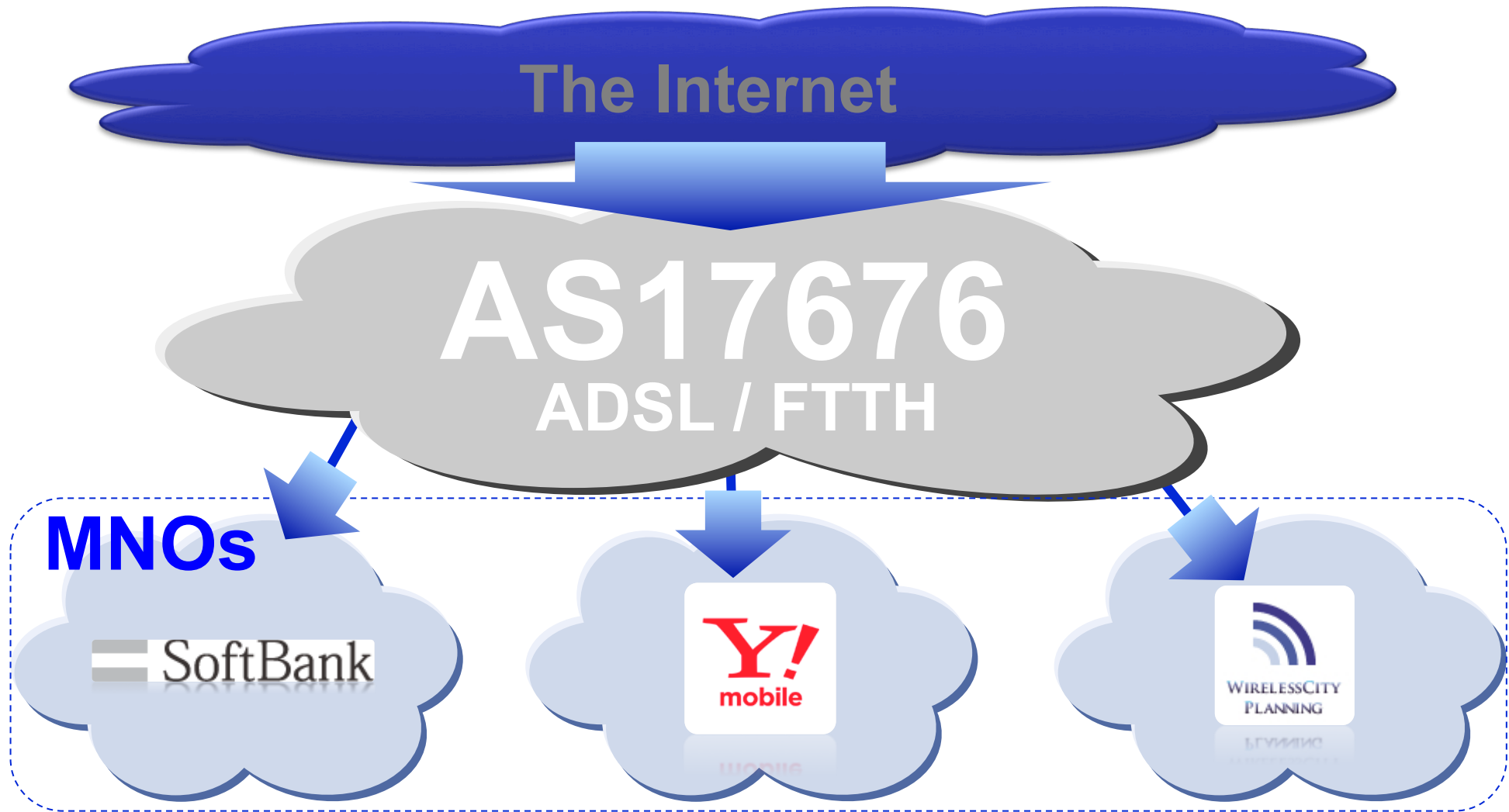
AS17676 is

Not only Fixed broad band
but also **Mobile Networks.**



42+ millions Mobile subscribers

SoftBank BB(AS17676) Traffic



SoftBank BB(AS17676) Traffic

The Internet

AS17676

Extremely Inbound!!

MNOs

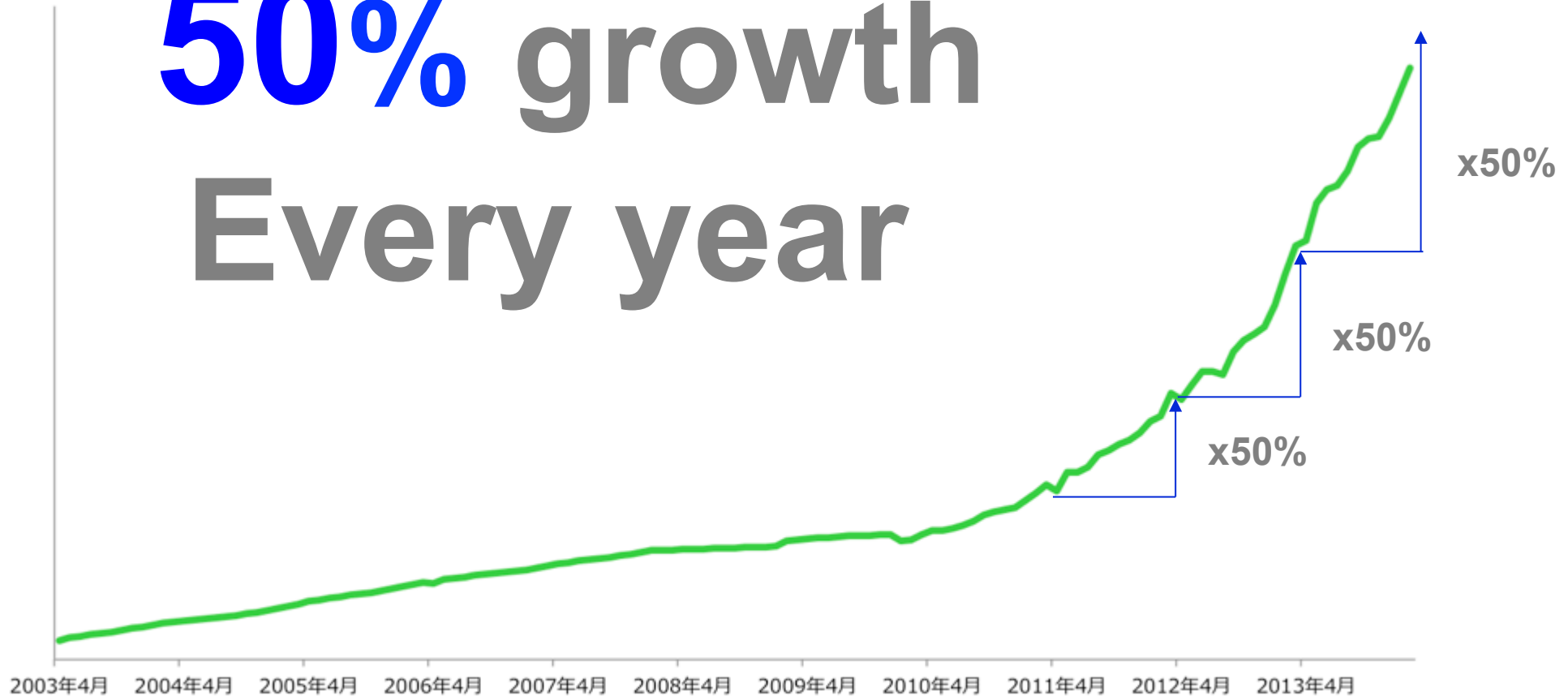
SoftBank

Y!
mobile

WIRELESSCITY
PLANNING

SBB Traffic growth

50% growth
Every year



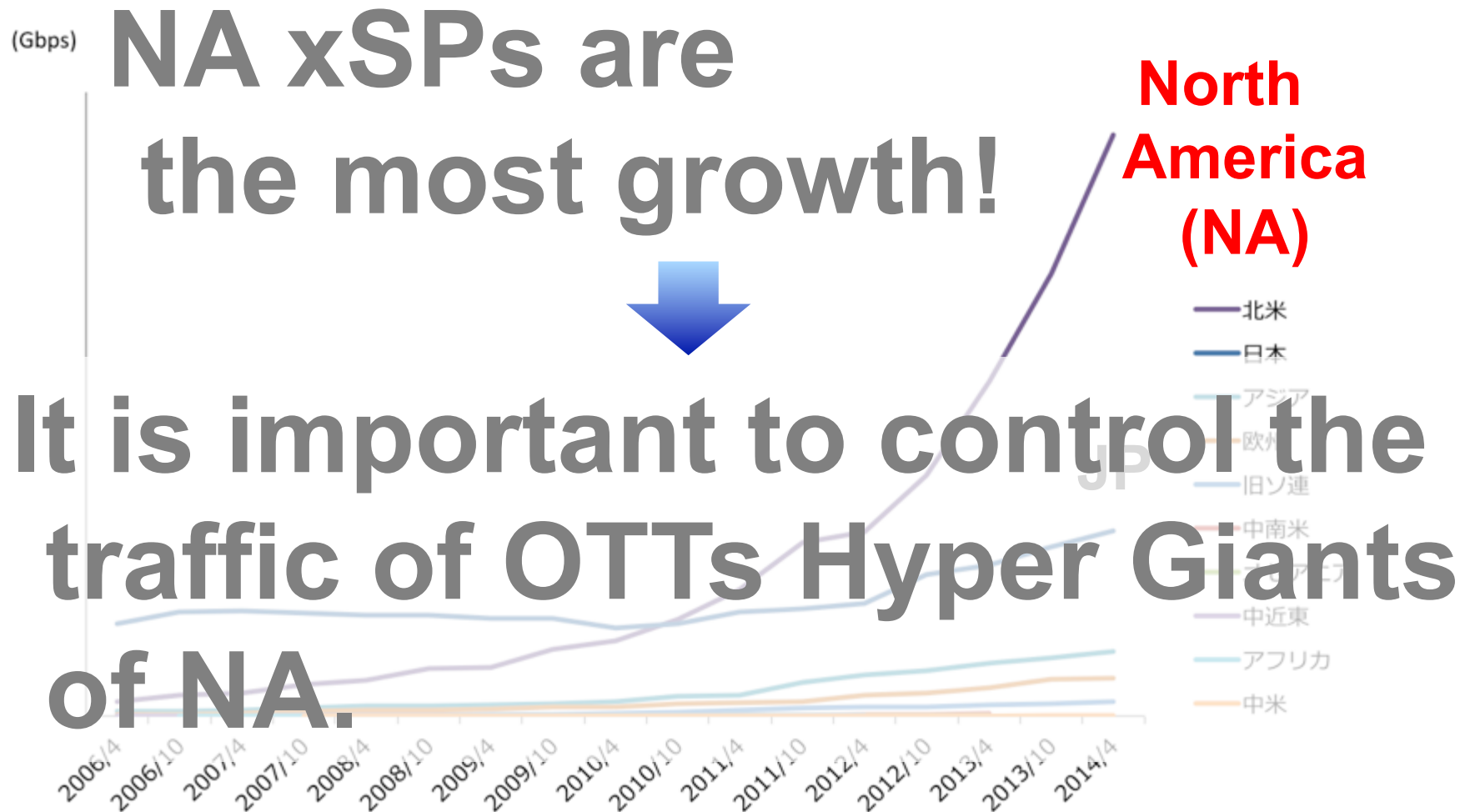
(ref.) Average of traffic growth in JP **35.6%**

From 2014/Jun MIC Broad band traffic in Japan

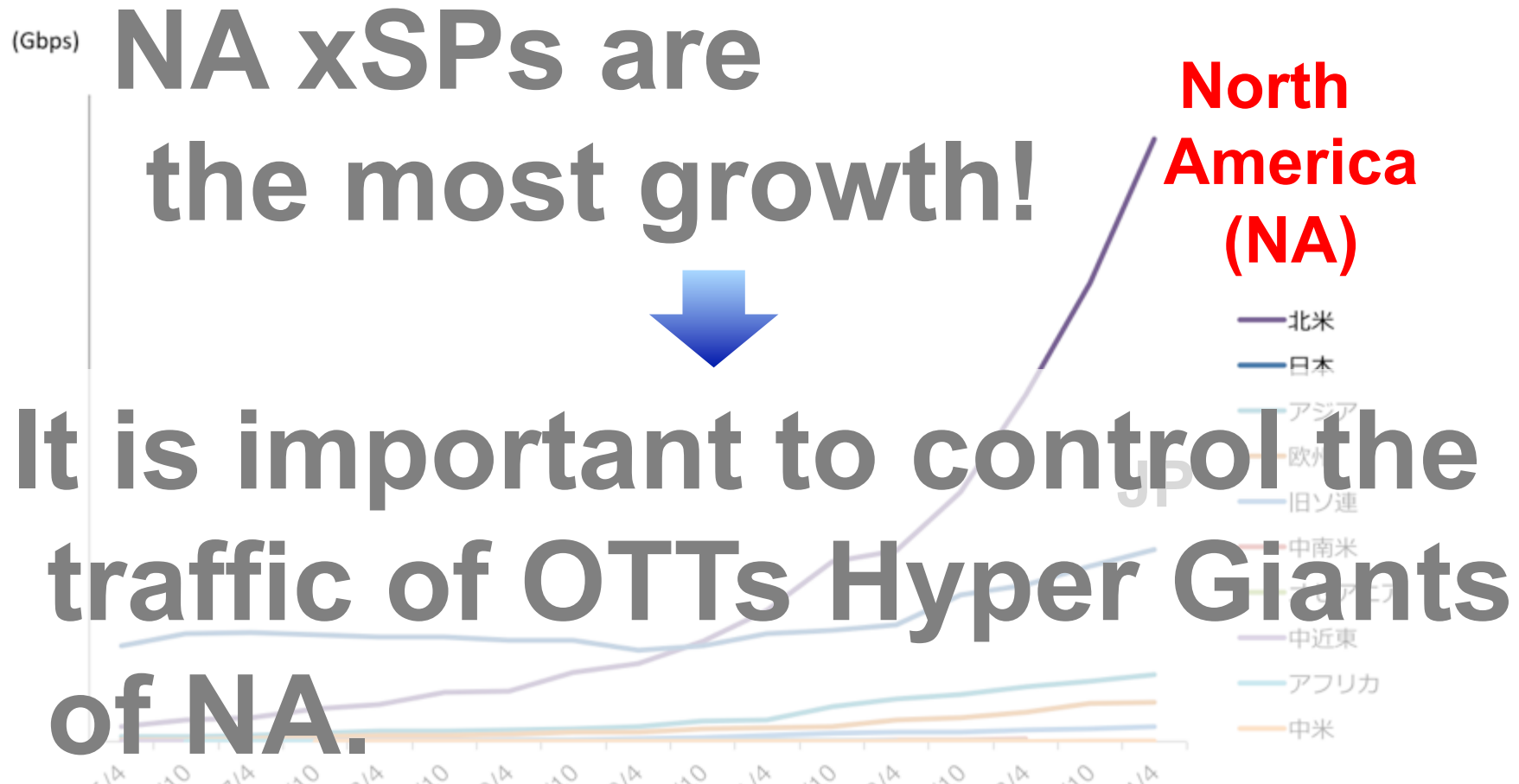
SBB Traffic growth (by location of xSP)



SBB Traffic growth (by location of xSP)



SBB Traffic growth (by location of xSP)



If No POP in JP, the traffic comes from transit.
Unfortunately, It is *out of our control.*

Mobile Traffic Trend



Time to spend with

Smartphones, Tablets win!

134mins



44mins



Radio

33mins



Magazine
Newspaper

70mins



Computers

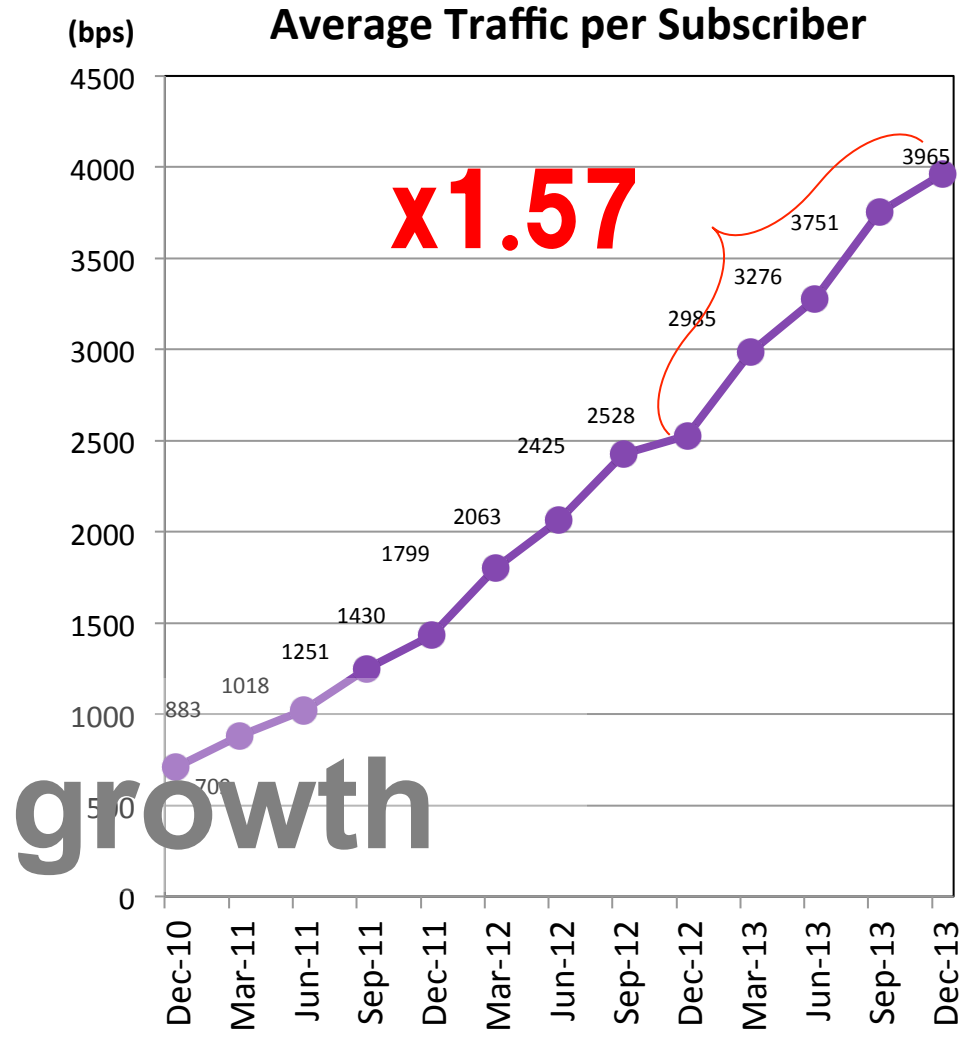
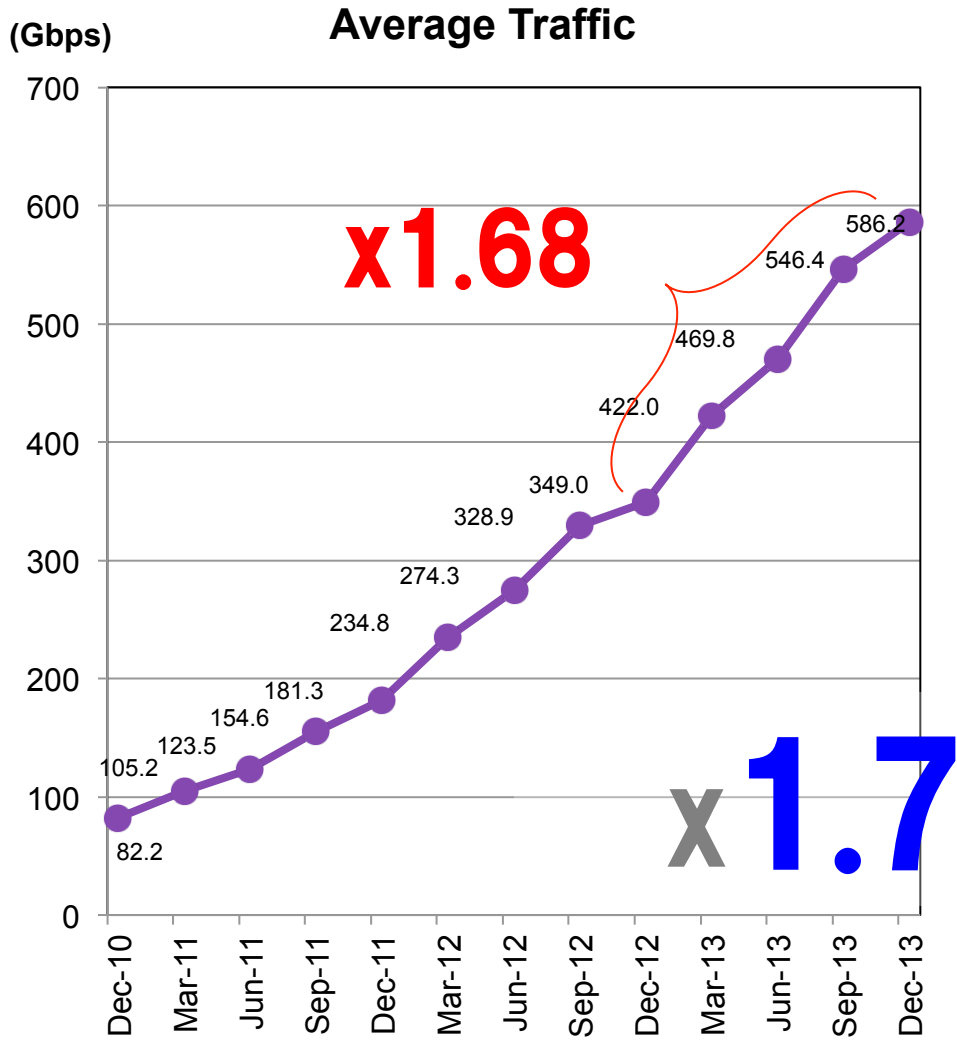
81mins



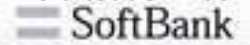
Television

Mobile & Tablet

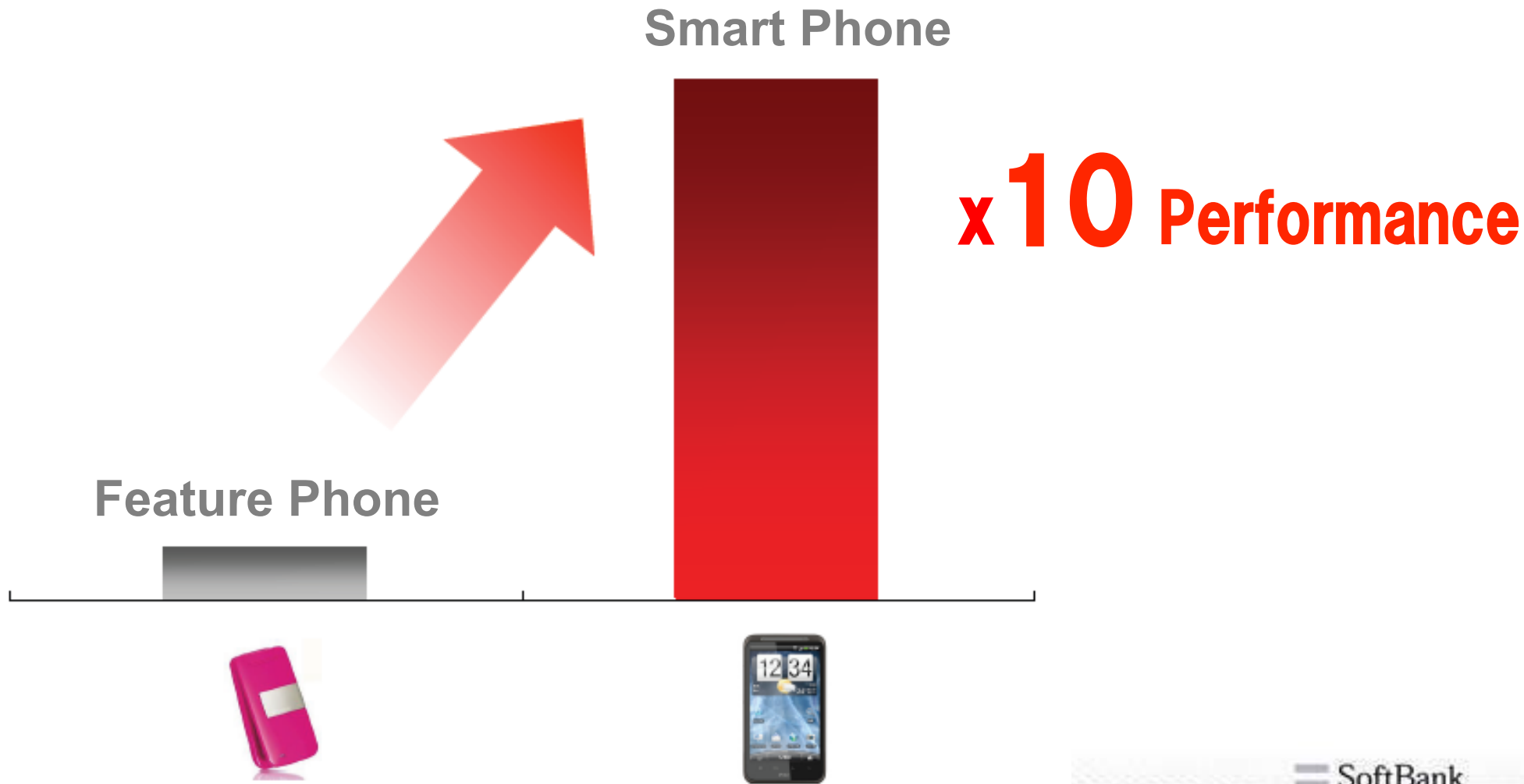
Mobile Traffic in Japan



Source: <http://www.soumu.go.jp/johotsusintokei/field/tsuushin06.html>

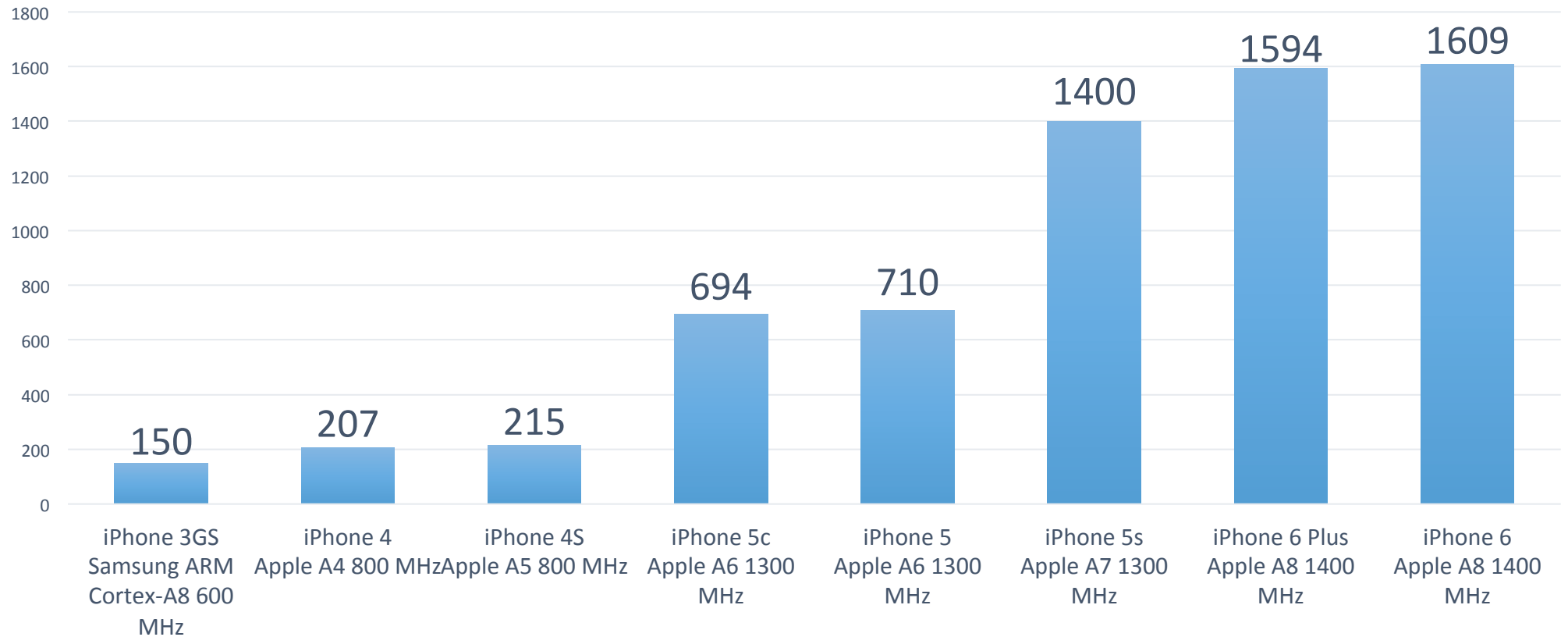


Evolution of Mobile devices



Evolution of Smart Phone

benchmark

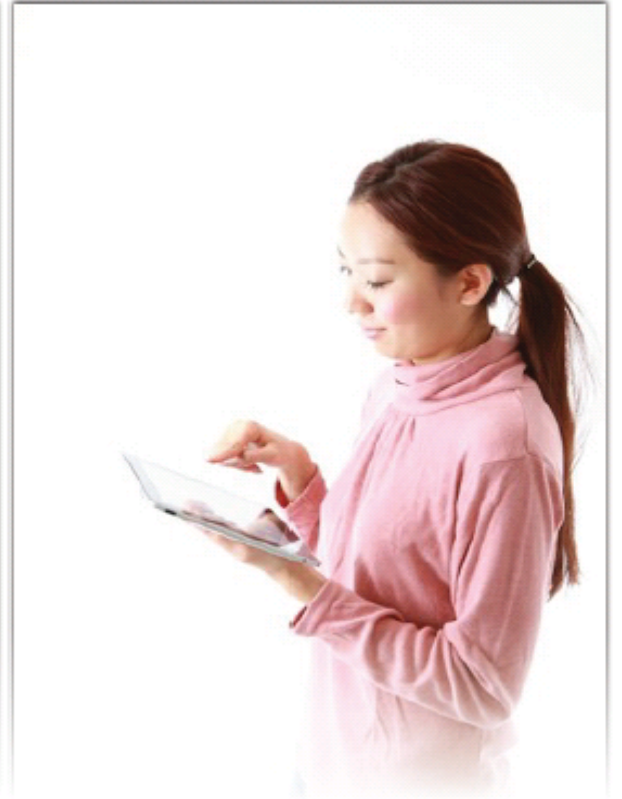


Source <http://browser.primatelabs.com/ios-benchmarks>
2014/10/9 data



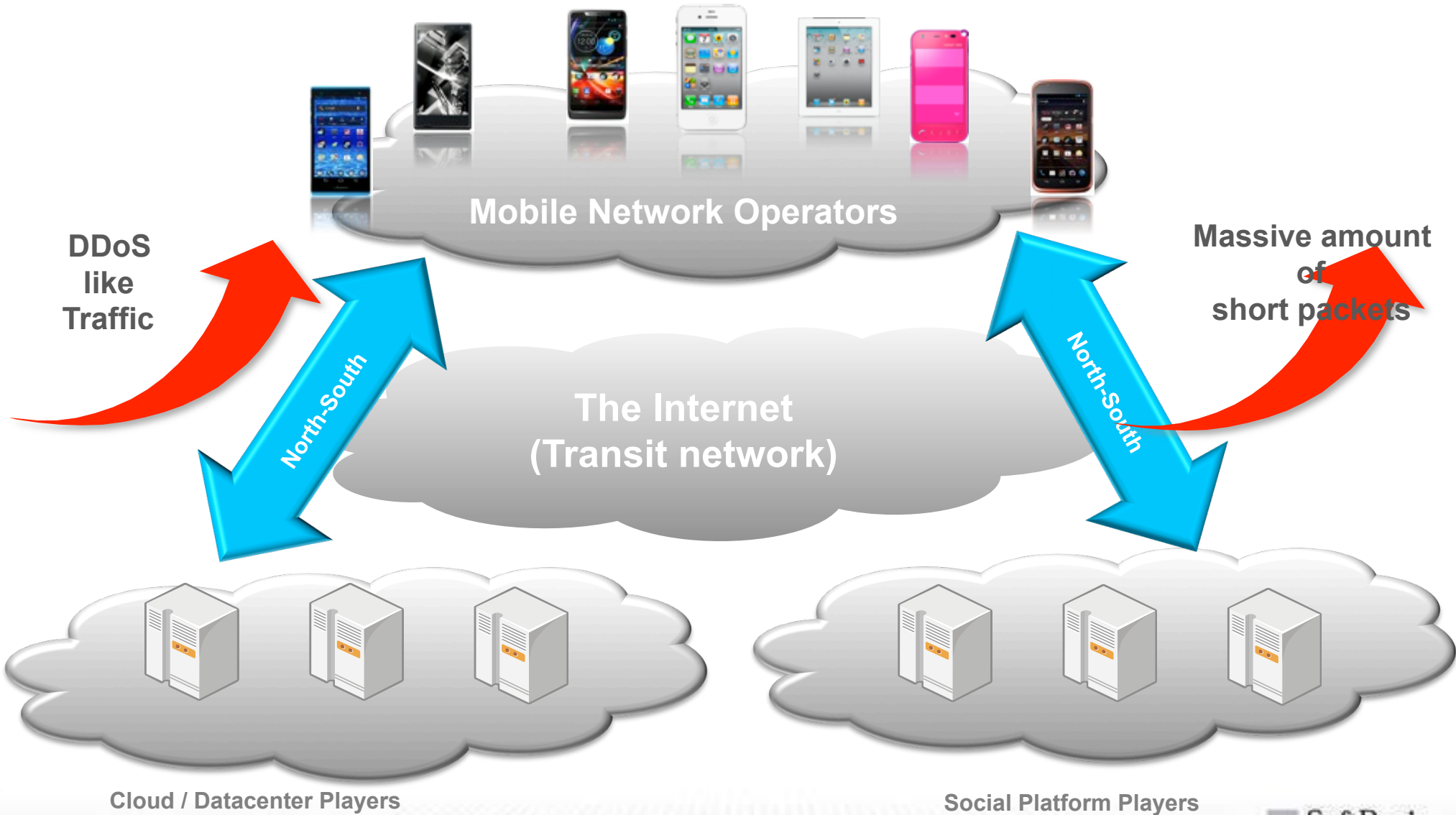
Mobile Broad Band Era





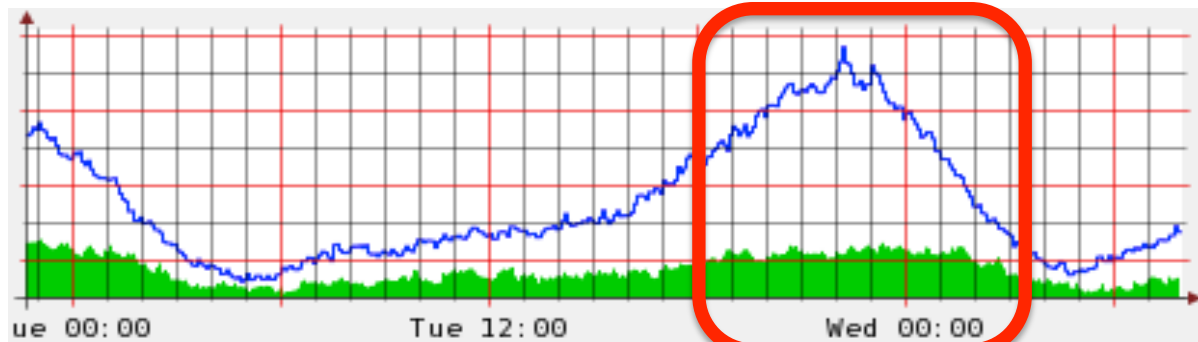
Any time! Anywhere!

Traffic seen from MNOs



Traffic Peak shifting

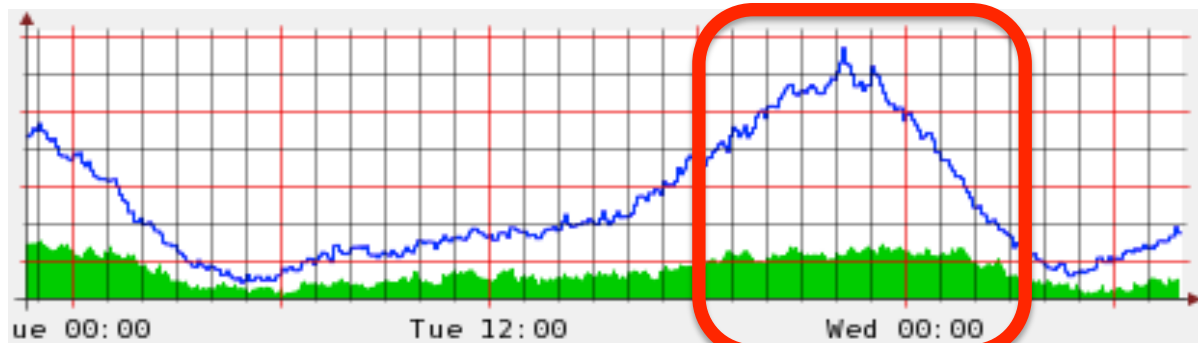
Fixed BB NW



Midnight Peak

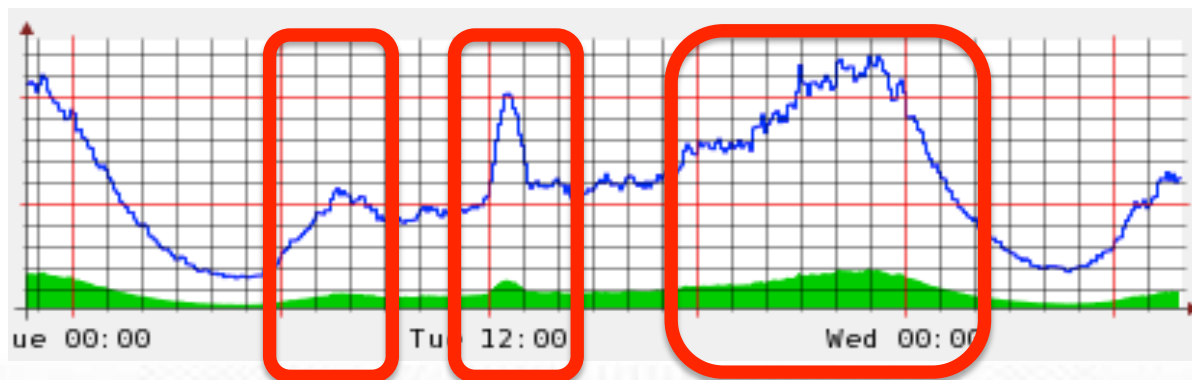
Traffic Peak shifting

Fixed BB NW



Midnight Peak

Mobile NW



Multiple Peak

Any where...



We can NOT control where they are.



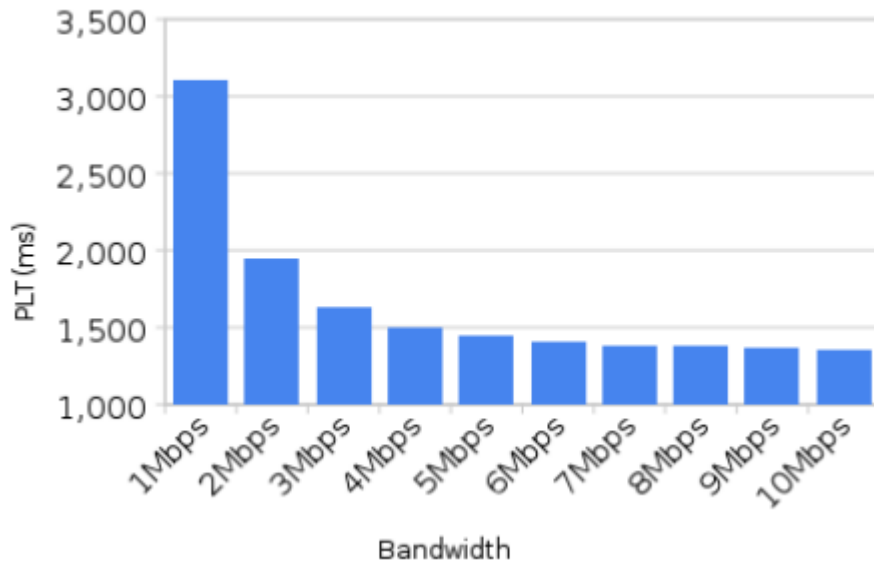
End users' environments are different.

How are users' experience?

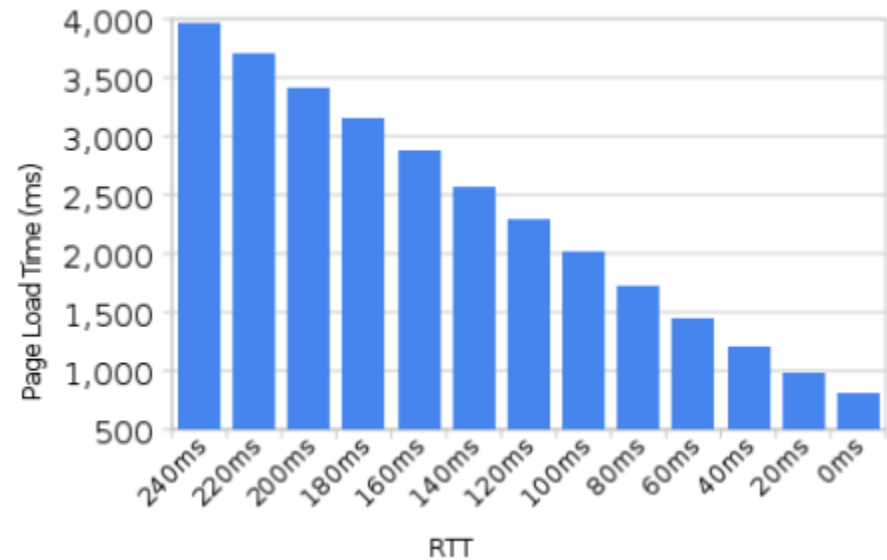
Bandwidth vs RTT

The key of user exp. is **improvement of RTT!**

Latency per Bandwidth

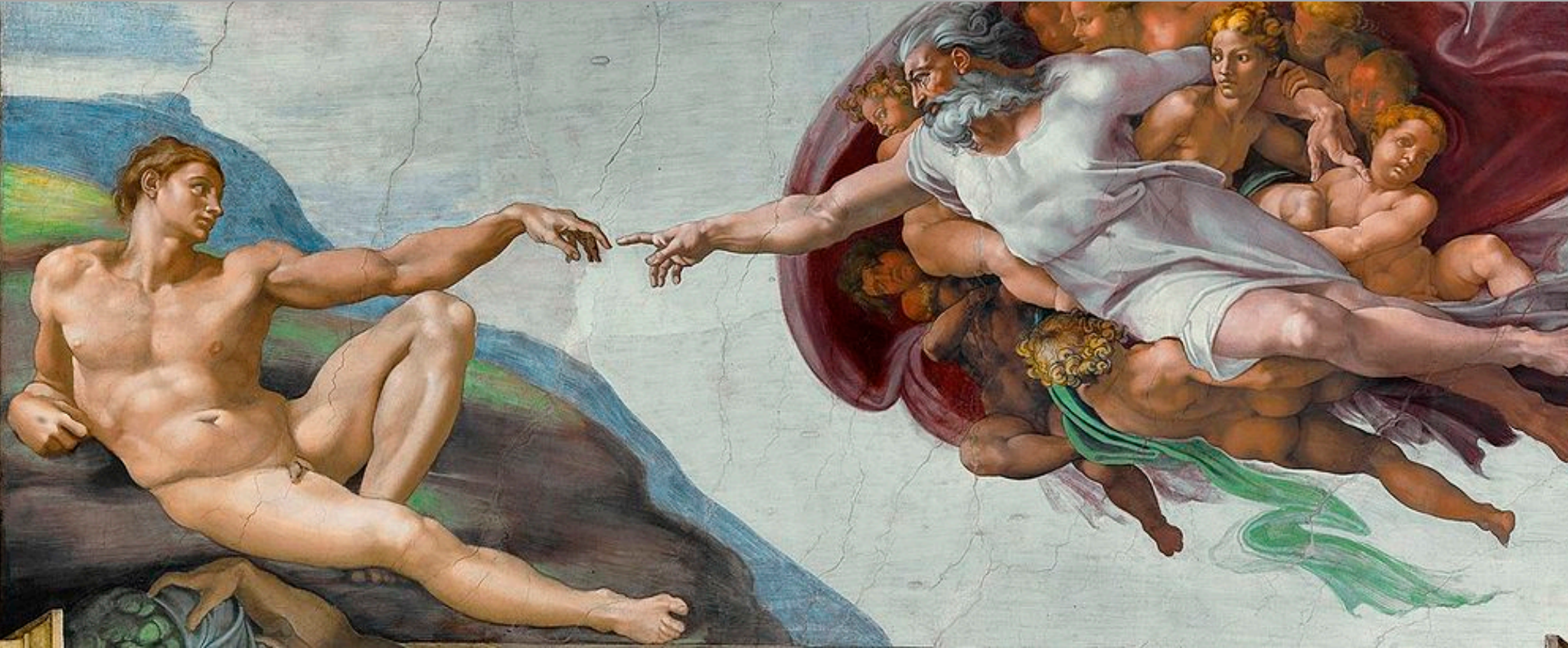


Page Load Time As RTT Decreases



From "More Bandwidth Doesn't Matter (much)" Mike Belshe – Google 04/08/10

Direct peering is



One of the way to **improve RTT**, furthermore wins **flexibility to traffic control**.

Go West Coast!



SoftBank BB(AS17676) expands the network to west coast in US.

Summary

- **SBB traffic is growing x1.5 every year**
- **North American operators' traffic is the most growth**
- **RTT is important for Mobile users' experience**



SoftBank BB(AS17676) expands the network to west coast in US.