

# Hastening broadband access: What policy can do

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# What is broadband?

- The Broadband Commission sought to focus on considering some of the core concepts of broadband as an ***always-on service (not needing to make a new connection to a server each time a user wants to go online)***, and ***high-capacity: able to carry lots of data per second, rather than the particular*** arrival speed of the data. The practical result is that broadband enables the ***combined provision of voice, data and video at the*** same time.

ITU-UNESCO Broadband Commission

## Broadband is different

- In old style PSTN, most calls local, few national, fewer international
  - Local switching possible
- In mobile voice networks, need to interrogate databases
  - More signaling traffic going longer distances, but actual calls still mostly local
- With broadband
  - Most traffic is international
    - Even local websites hosted abroad
    - Even email intended for local persons requires international traffic



## **A chain is as strong as its weakest link**

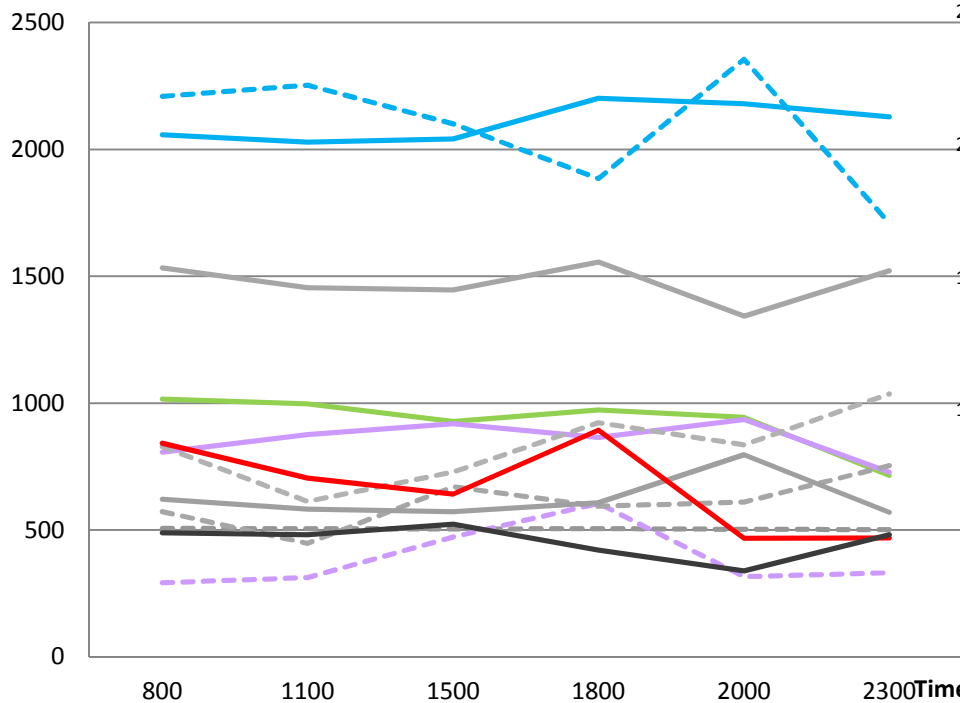
Broadband performance is defined by performance over the weakest link

One cannot focus on local access alone . . .

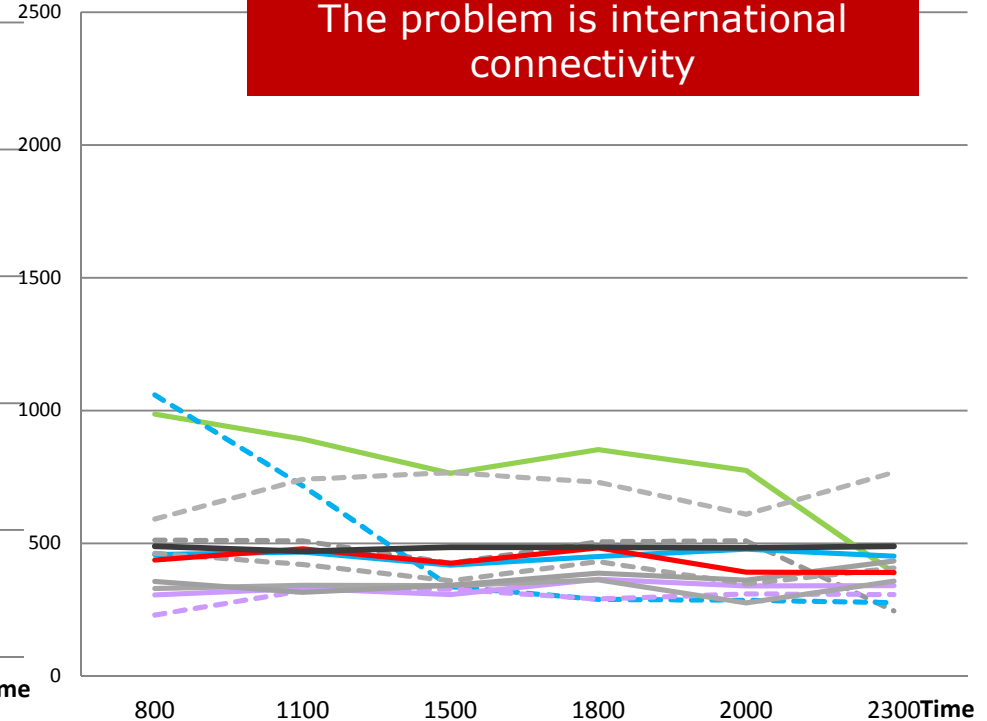
**Is the international segment the  
weakest link?**

# Identifying the weak link (Fixed download)

Download from ISP Server (kbps)



Download from International Server (kbps)



- Qubee (1 Mbps) Dhaka, BD
- Airtel (256 kbps) Bangalore, IN
- Airtel (2 Mbps) Chennai, IN
- Airtel (2 Mbps) Mumbai, IN
- Airtel (2 Mbps) New Delhi, IN
- SLT (2 Mbps) Colombo, LK

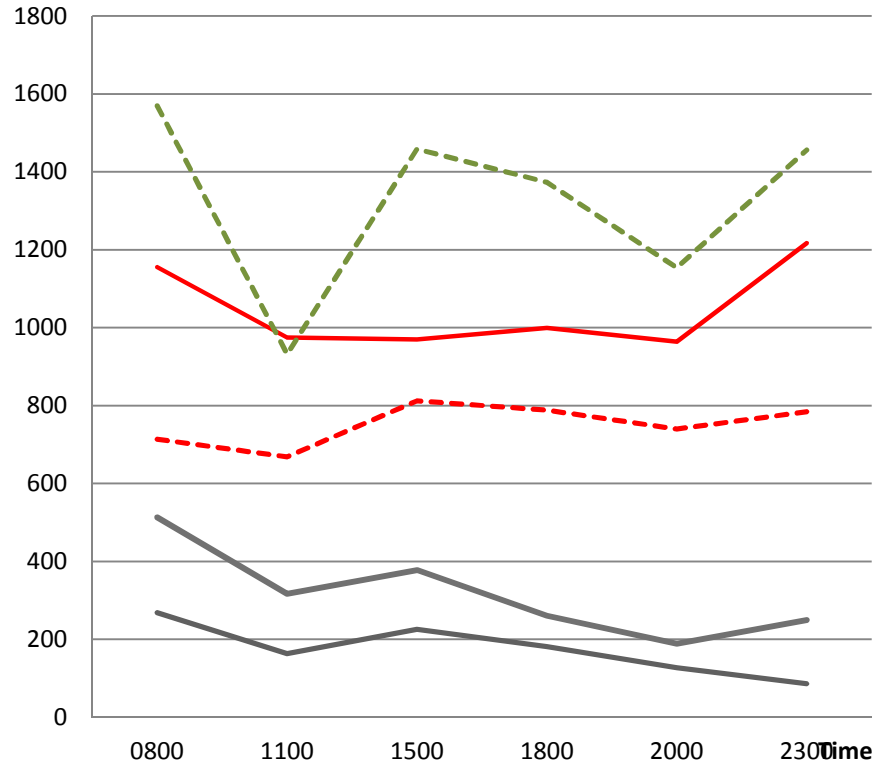
- - - Banglalion (512 kbps) Dhaka, BD
- - - BSNL (256 kbps) Bangalore, IN
- - - BSNL (256 kbps) Chennai, IN
- - - MTNL (320 kbps) Mumbai, IN
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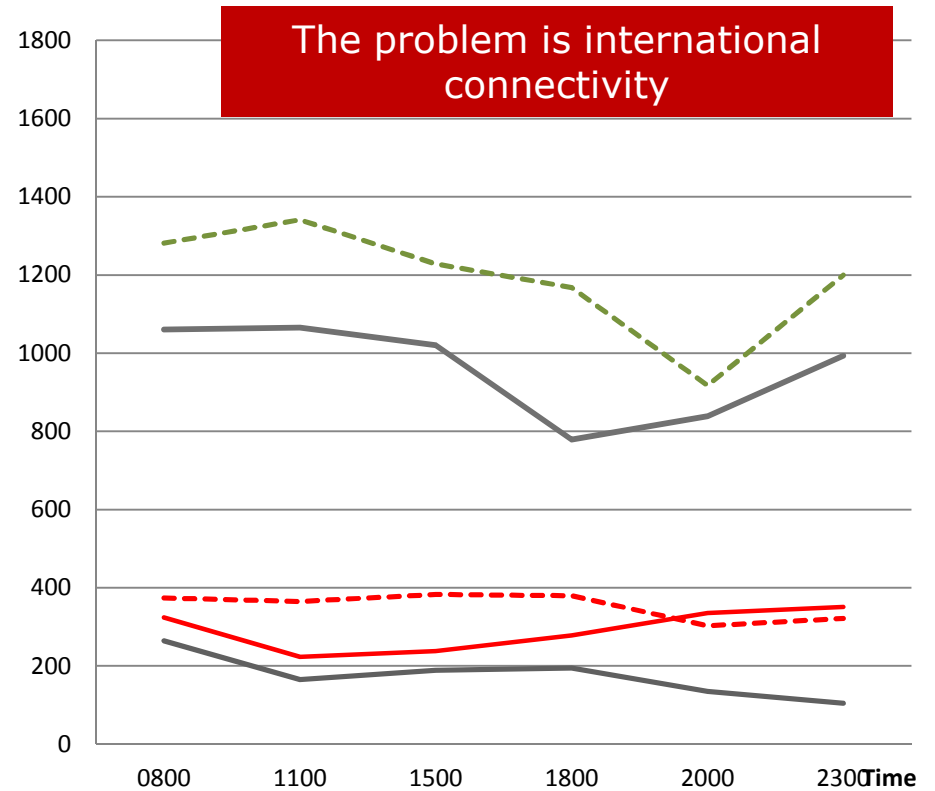
# USB Dongle download (3G networks)

Download from ISP Server (kbps)



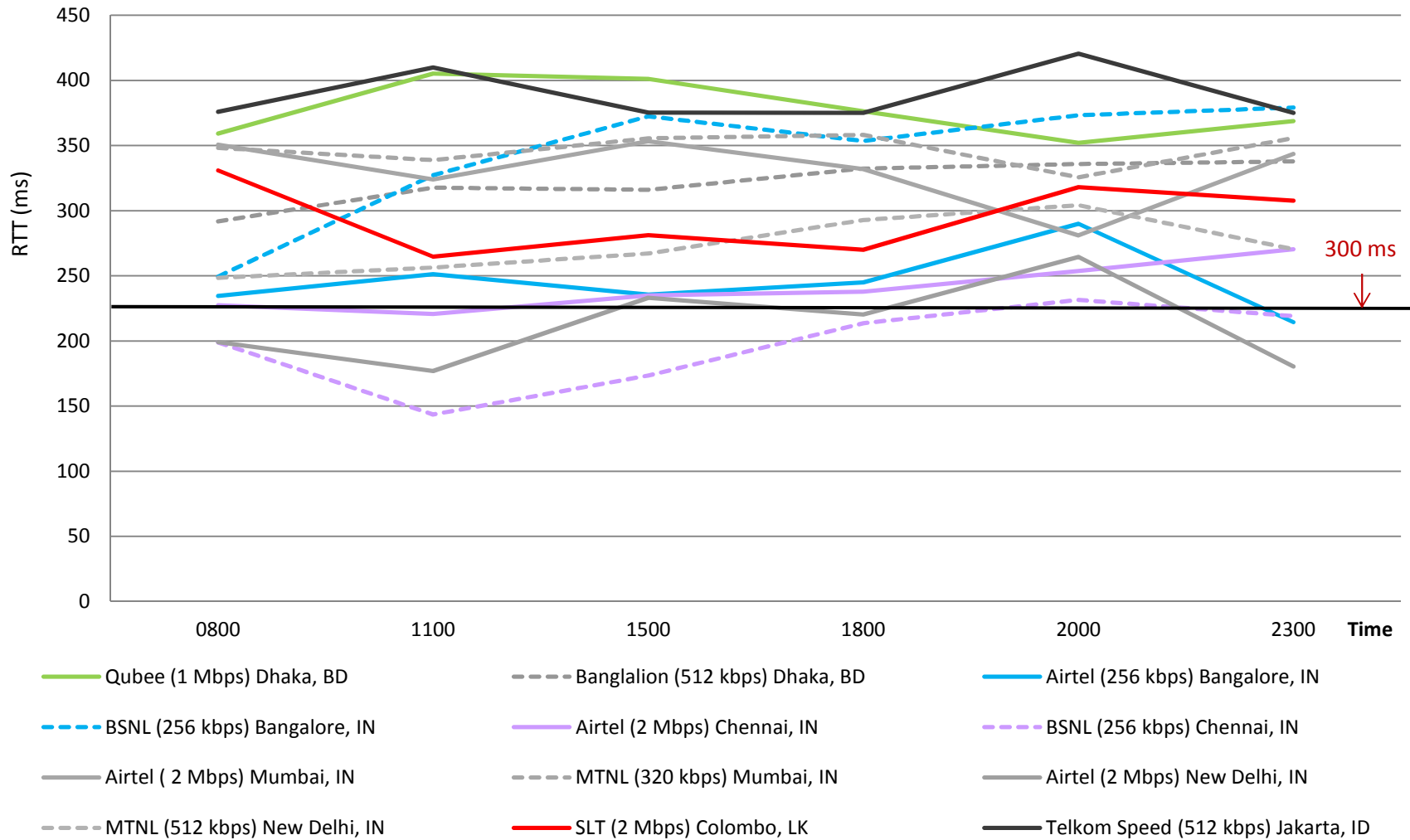
- Dialog (upto 3.6 Mbps) Colombo, LK
- - - Mobitel (upto 1 Mbps) Colombo, LK
- Three (upto 3 Mbps) Jakarta, ID
- Globe Tattoo (upto 3.6 Mbps) Manila, PH

Download from International Server (kbps)

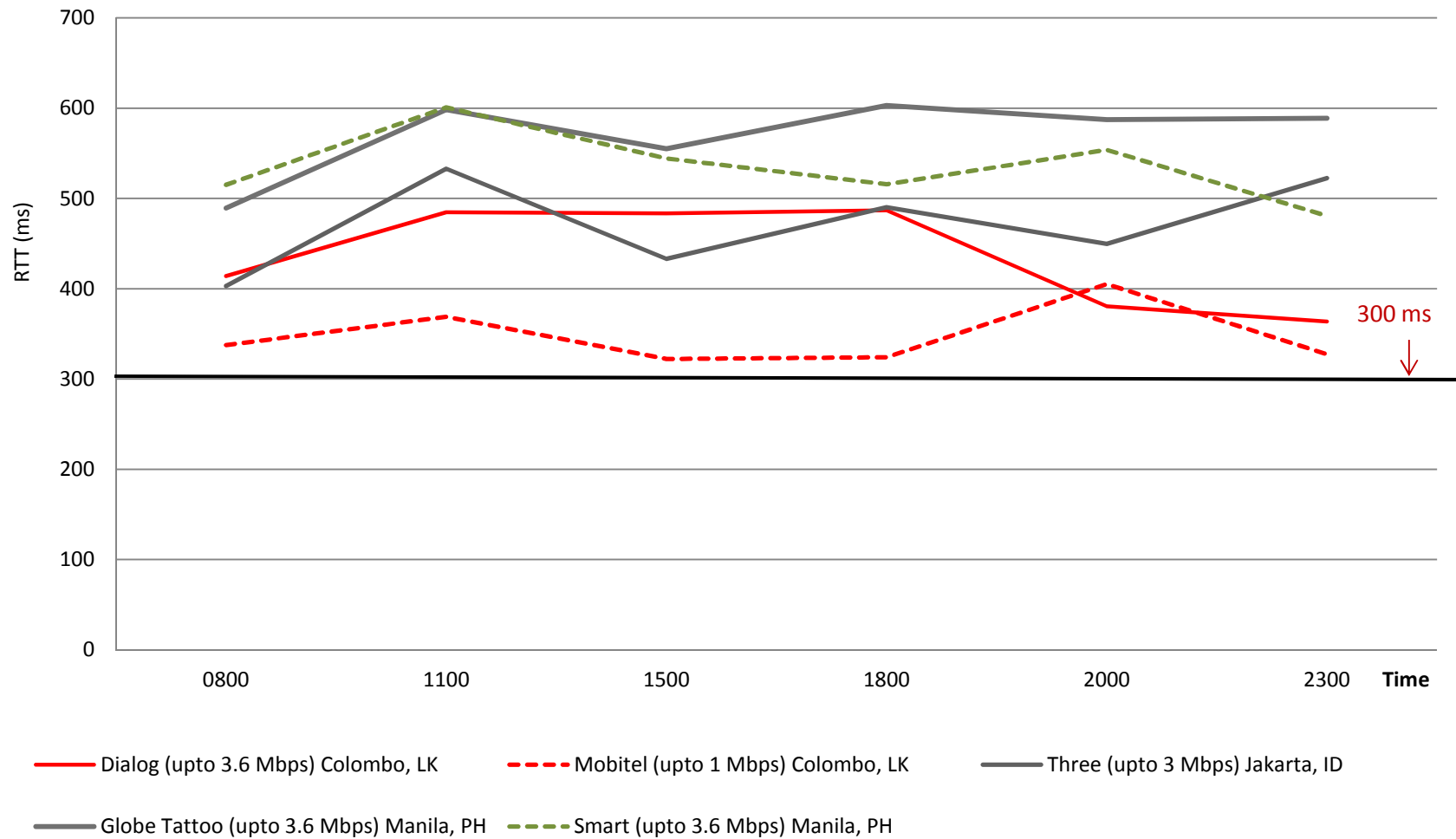


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# Latency (RTT) – Fixed: Mostly unsatisfactory



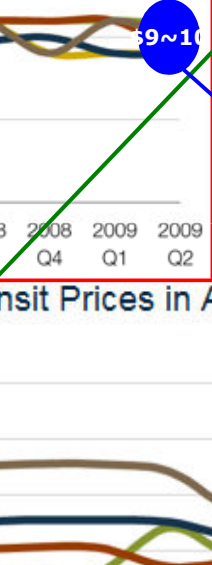
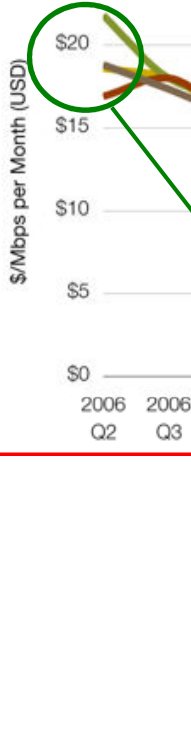
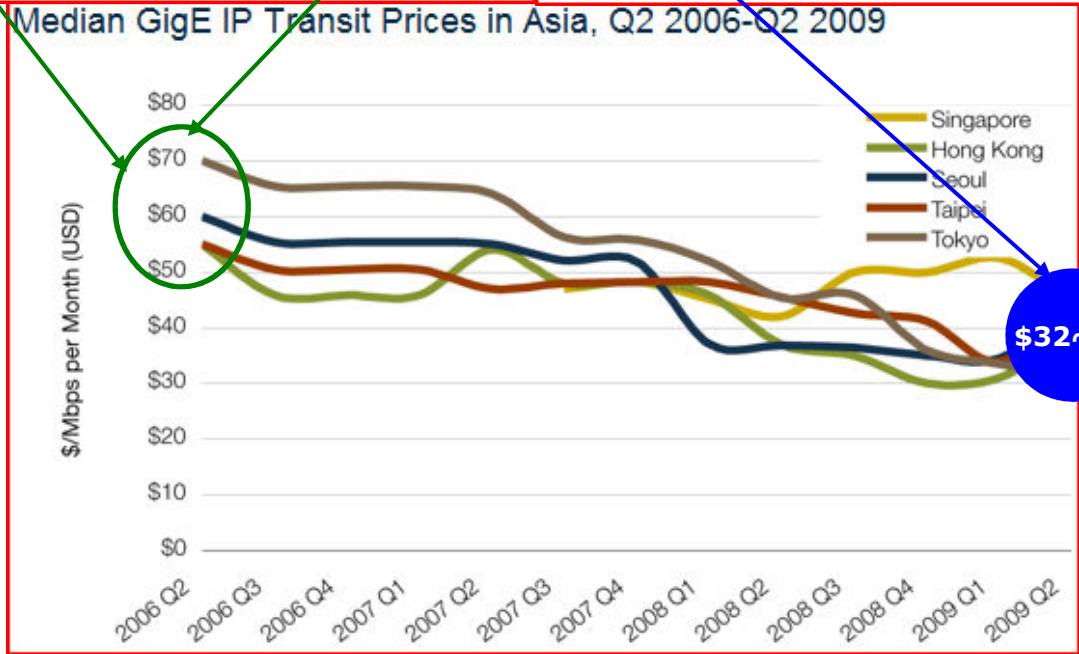
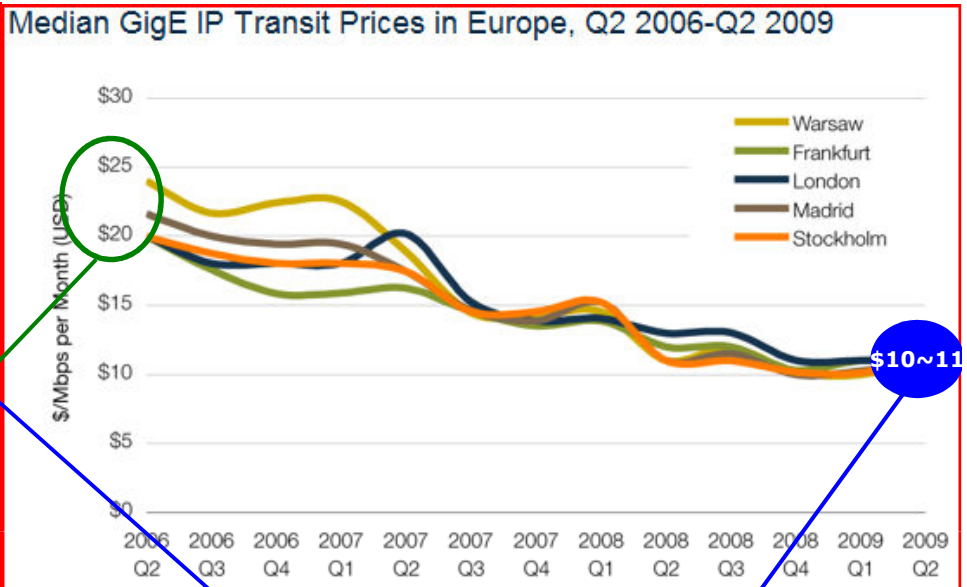
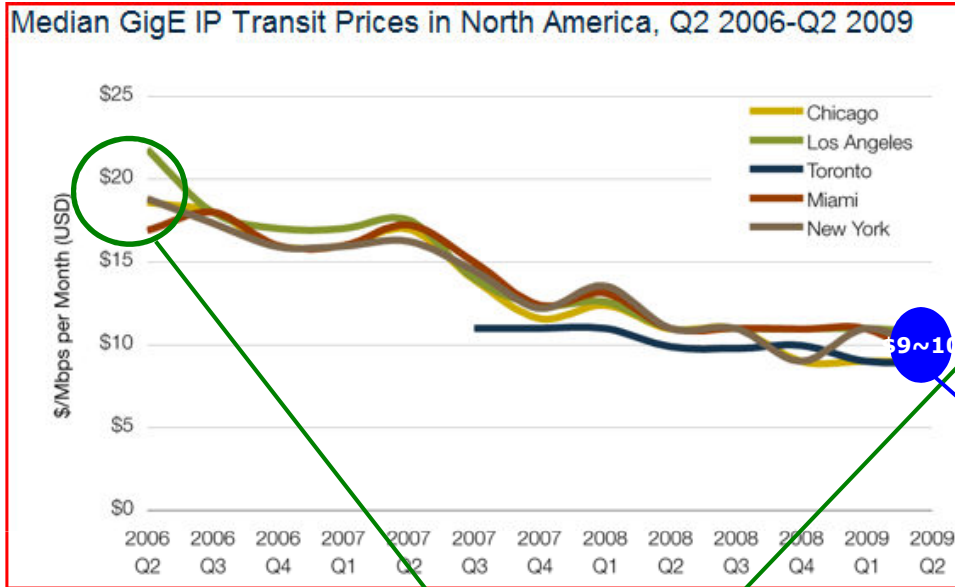
# Latency (RTT) – USB Dongle: All above 300 ms



# Why?

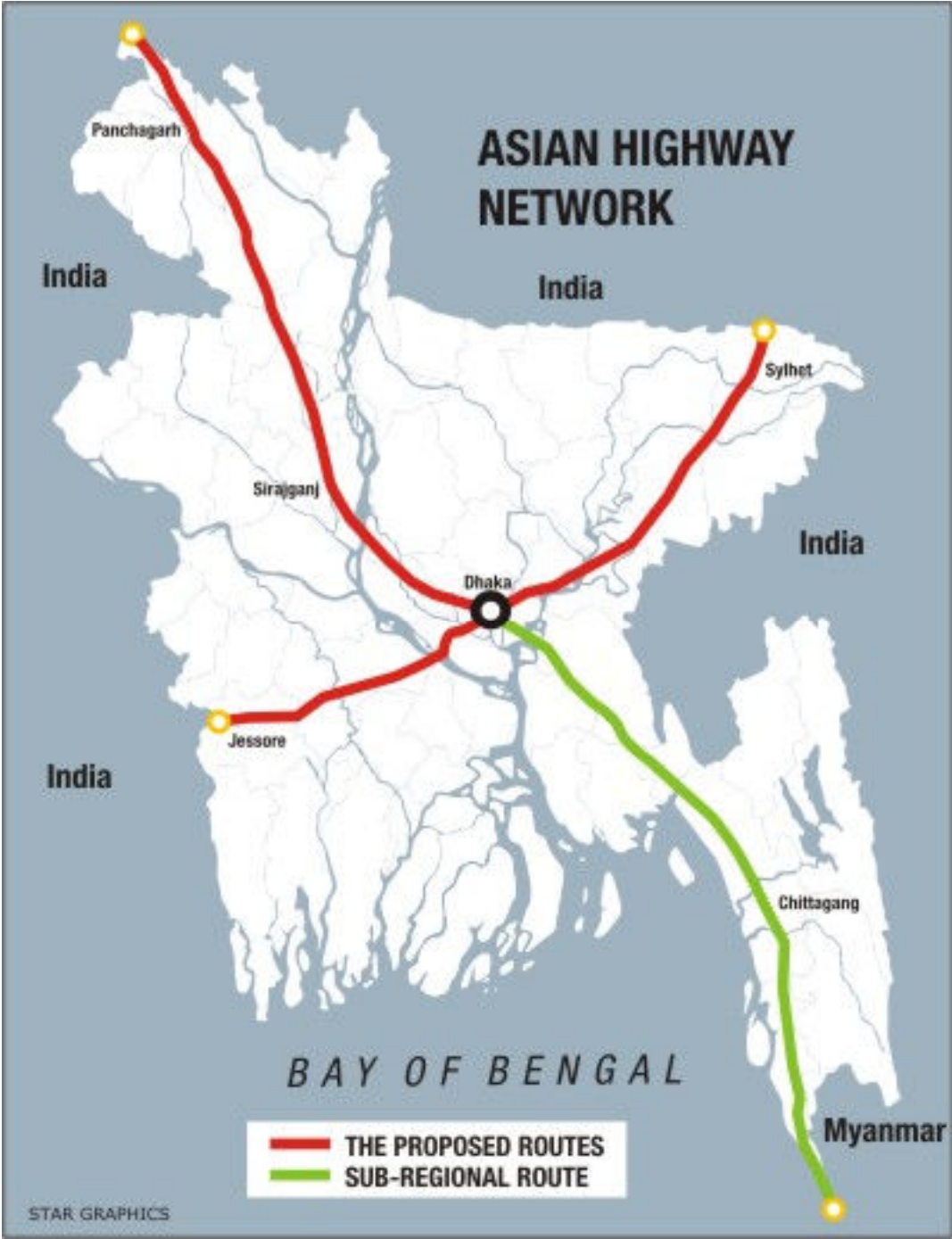
- Connectivity to the Internet Cloud is a costly input
- Understandably, operators economize on international segment → lower performance
  - Because overall performance is determined by performance of the weakest link

# Cause: Asian backhaul prices = 3x N. Am. & European prices



# What policymakers can do: Asian Highway → Asian Information Highway

- Take the lead at UNESCAP to promote the laying of cables along the Asian Highway
  - Bangladesh is in a pivotal position
  - Must be an OPEN network, unlike the SASEC network project which has disbursed only 2% of USD 9 million since Dec 2007 start
- Encourage more PPPs in undersea cables
- Pay special attention to domestic leased line prices
- Give “build or buy” option to all users
  - If there are economic advantages to a single supplier, there is no reason to have legal barriers to others doing “foolish” things



# **Access network (the last mile)**

## Fiber or wireless?

- Some are passionate about FTTH, arguing that anything less is second-class
- Others see no alternative to wireless access given
  - Purchasing power of consumers in most countries
  - Cost of laying wire (copper or fiber) to homes

# Middle ground

- Everyone, rich and poor, will access the Internet wirelessly
  - Those in developed market economies and those with wealth living in densely populated cities of developing countries, over a few meters
  - The rest of us, over a few kilometers
- Fiber should be pushed out as far as possible
- Access should be open
- As many operators as possible should be permitted to link to the fiber, using multiple technologies, wire and wireless
  - If wire is superior in meeting people's needs, it will win over time
- Government intervention should be
  - Technology neutral
  - Focused on ensuring that all settlements have fiber within a reasonable distance
  - Access is open to all operators