LIRNE.NET & IDRC Meeting

Tools for effective regulation using benchmarks & indicators

Ottawa
23 June 2008

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Goals of Good Regulation
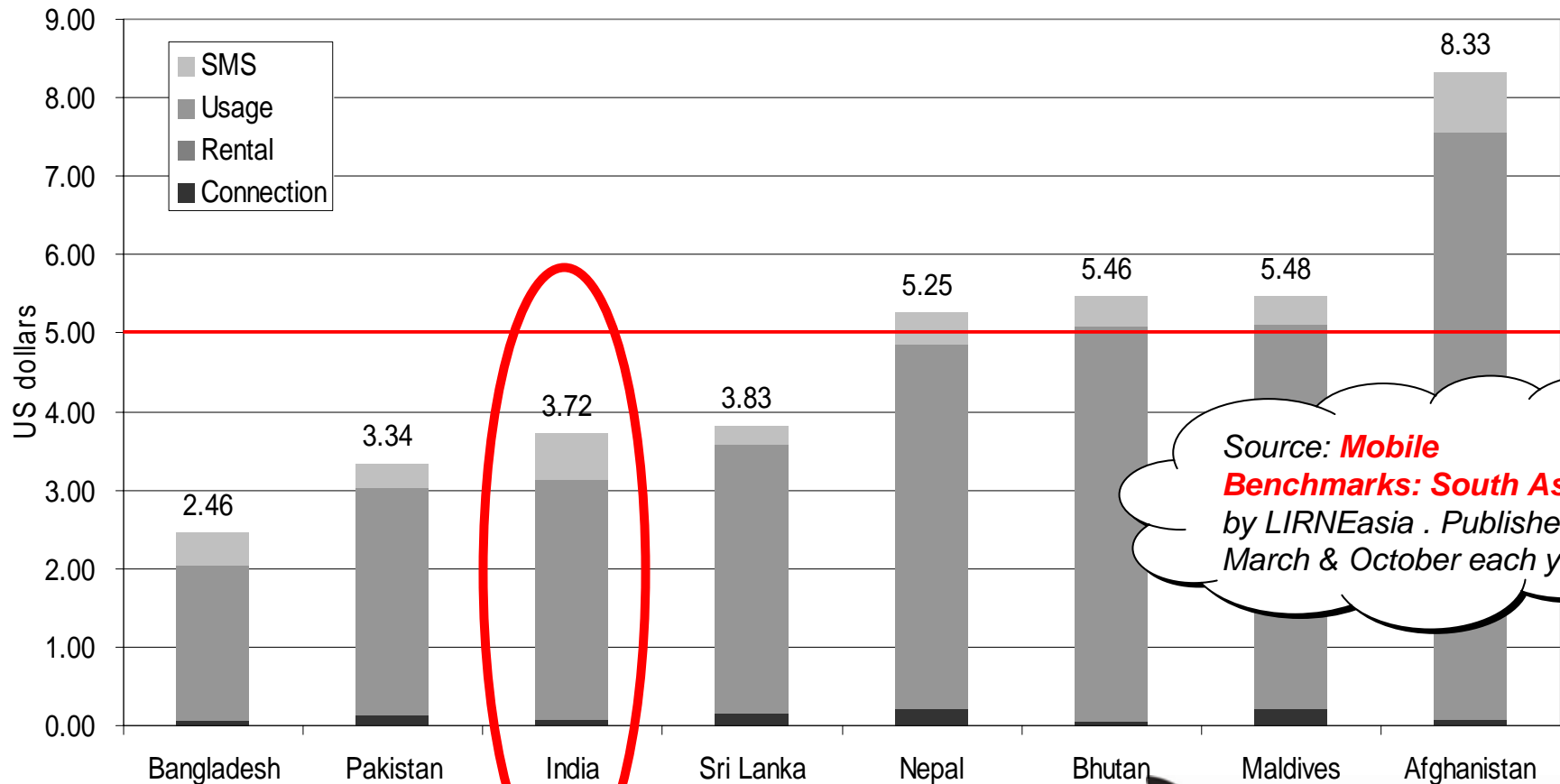
▸ Increased Access/Usage

▸ Decreased Price

▸ Increased Quality

▸ Increased Choice
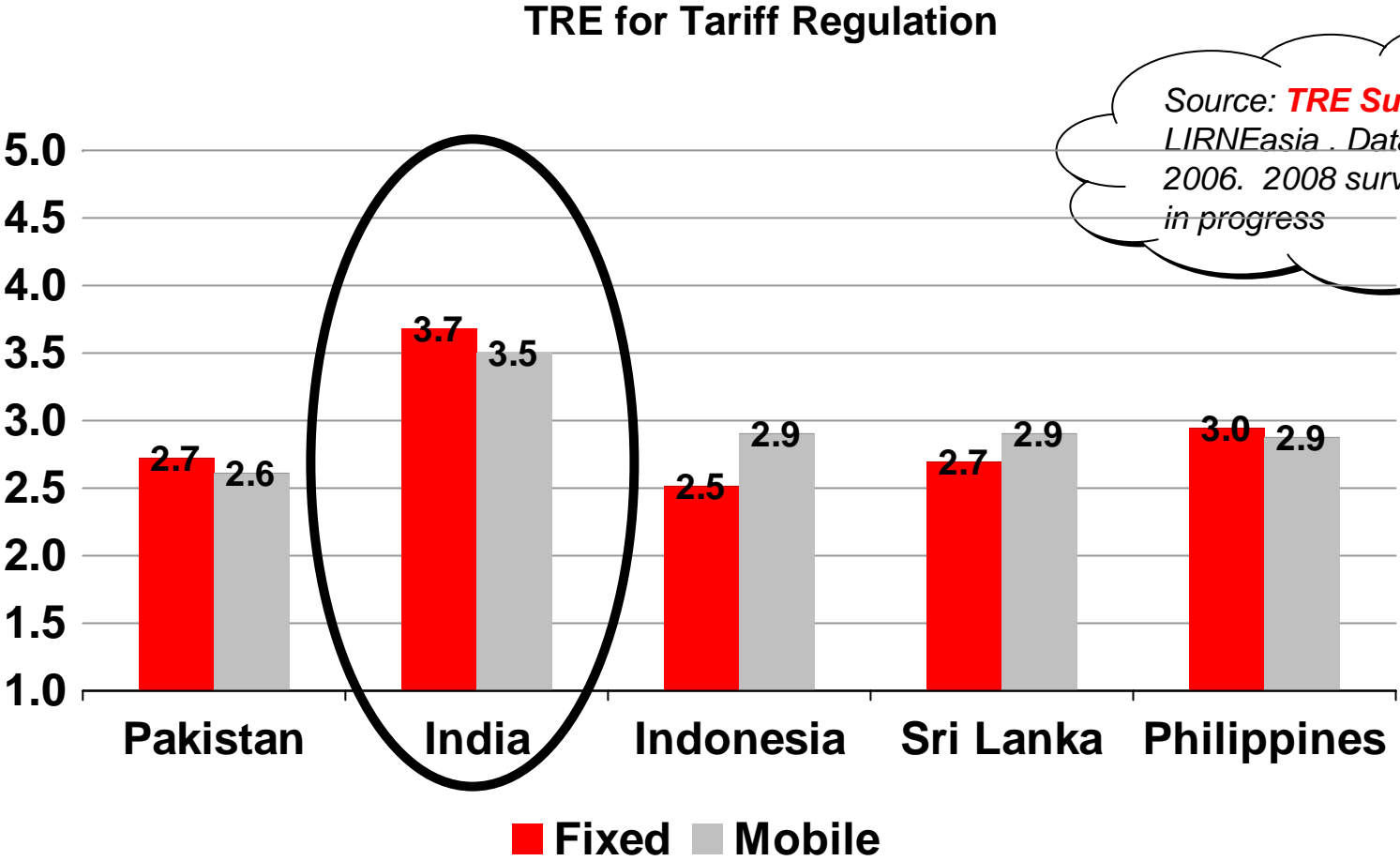
(Not) Regulating Price: Banded Forbearance

India has very low prices. Indians believe prices are lowest in Asia

Average monthly prepaid mobile cost for a Low User

Source: **Mobile Benchmarks: South Asia**, by LIRNEasia . Published March & October each year

India doesn't regulate tariffs. Stakeholders like TRAI's forbearance from Tariff Regulation. Give highest TRE Score

TRE for Tariff Regulation

*Source: **TRE Survey** by LIRNEasia . Data shown for 2006. 2008 survey currently in progress*

	Pakistan	India	Indonesia	Sri Lanka	Philippines
Fixed	2.7	3.7	2.5	2.7	3.0
Mobile	2.6	3.5	2.9	2.9	2.9

■ **Fixed** ■ **Mobile**

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But India can practice forbearance. Market conditions are right. High & increasing competition even at circle (regional) level

Comparison of Circle-wise HHI 2003-2007
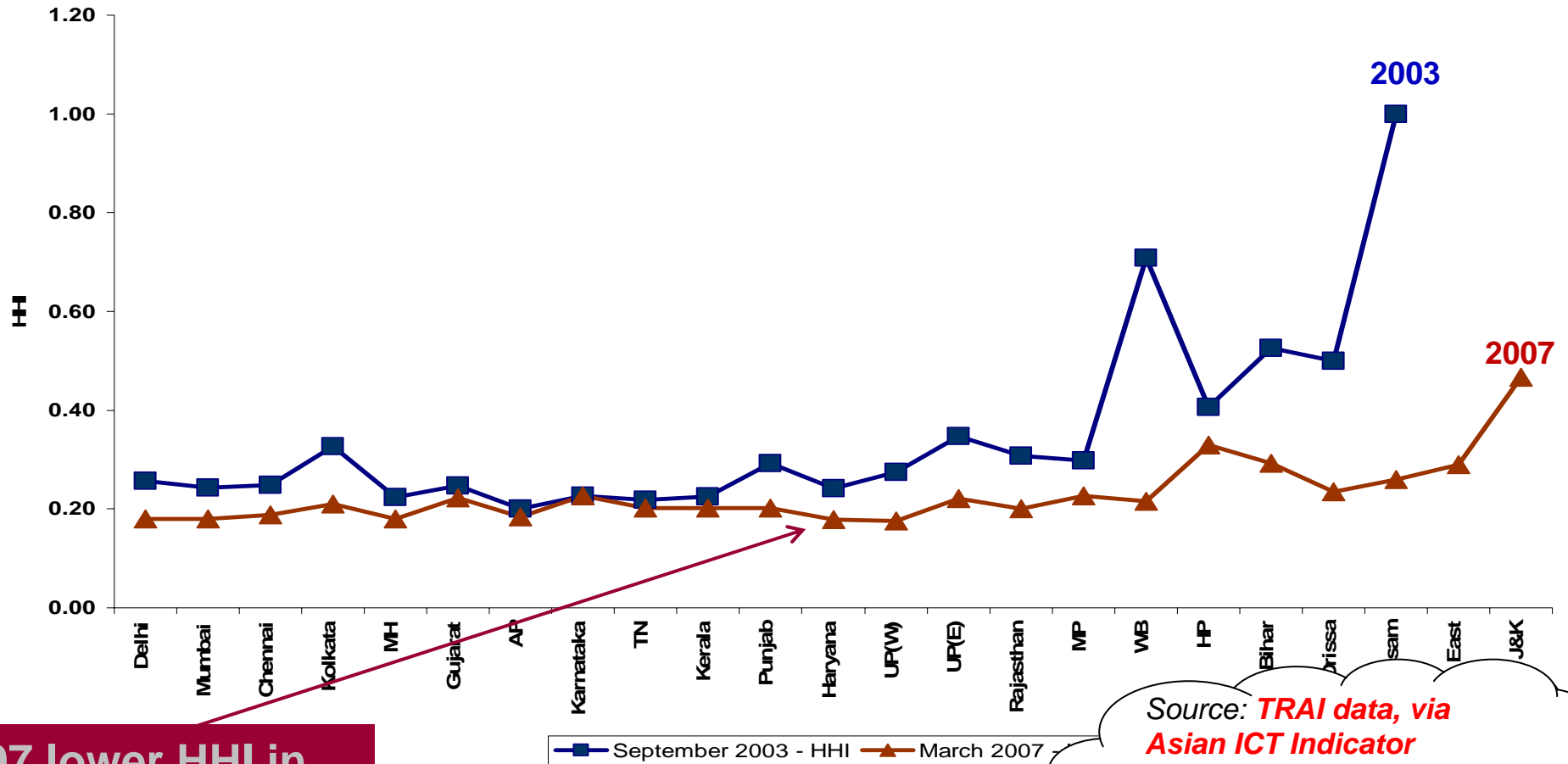
2007 lower HHI in all circles

Source: **TRAI data, via Asian ICT Indicator Database**, *hosted by LIRNEasia .*
www.asianictindicators.org

But South Asian countries with even less competition are engaging in de facto forbearance

HHI as at December 2007

Country	HHI
Sri Lanka	▸ 0.36
Maldives	▸ 0.66*
Bangladesh	▸ 0.31
Pakistan	▸ 0.27

India	▸ 0.16

"we look at newly tariff plans and file it, put it aside"

"occasionally ask for more information"

"we haven't rejected any tariffs plans"

*Source: **Asian ICT Indicator Database**, LIRNEasia .*
www.asianictindicators.org

* Note: Maldives HHI is for Sep 2007

Why not put an upper & lower limit, practice forbearance within the band, and announce it?

- Upper and Lower Limits to avoid
  - Predatory Pricing
  - Price Squeeze

- Give operators regulatory certainty

- Use resources at regulatory agency for other important things
  - Issuing more licenses
  - Ensuring reasonable interconnection
  - Spectrum management
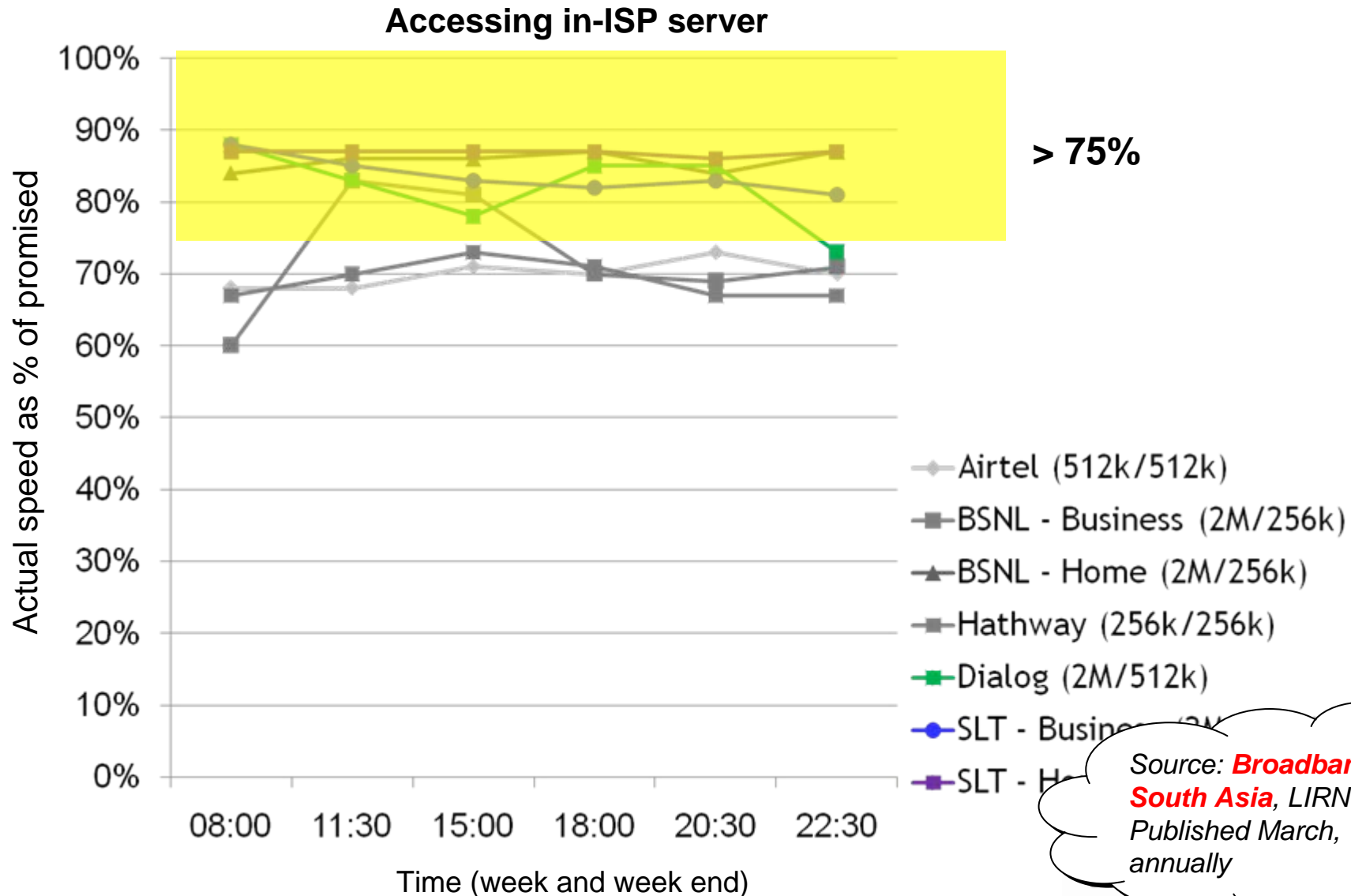 - Quality of Service
  - Etc..

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Can the regulator step back from QoS too?

Many dimensions of BB Quality. What's "good" depends on what its been used for

Service	Throughput		Delay		
	Down	Up	RTT	Jitter	Loss
Browse (text)	++	-	++	-	-
Browse (media)	+++	-	+	+	+
Download file	+++	-	-	-	-
Transactions	-	-	++	+	-
Streaming media	+	-	+	++	++
VOIP	+	+	+++		
Games	+	+	+++		

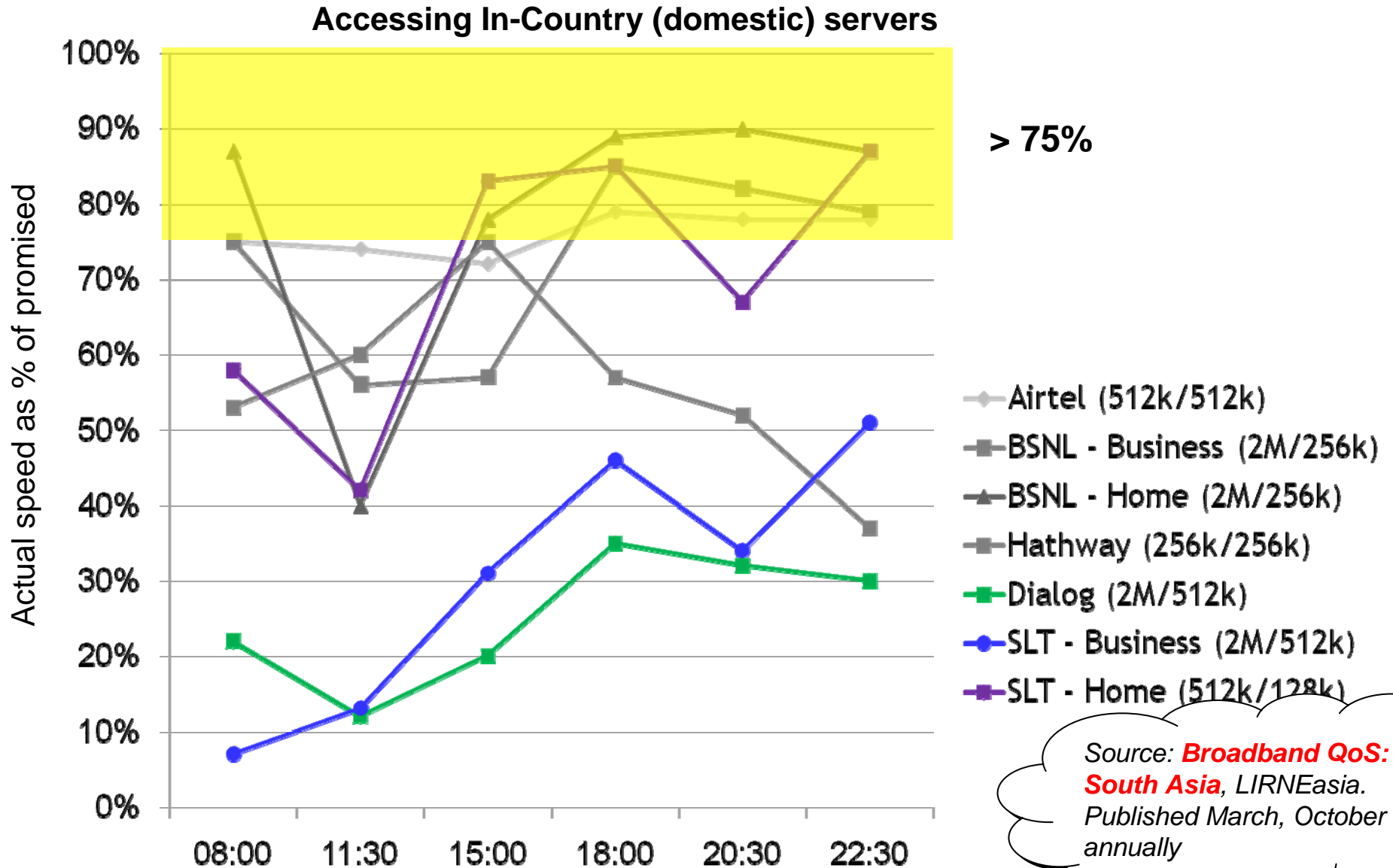+++ highly relevant, ++ very relevant, + relevant, - not relevant

*Source: **Ashoka-Tissa BB QoS Methodology**, LIRNEasia & the Indian Institute of Technology, Madras (Chennai)*

Tests in India & Sri Lanka show content hosted on the users own ISP accessible at speeds close to those promised

Accessing in-ISP server

> 75%

Actual speed as % of promised

100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%

08:00 11:30 15:00 18:00 20:30 22:30

Time (week and week end)

Airtel (512k/512k)
BSNL - Business (2M/256k)
BSNL - Home (2M/256k)
Hathway (256k/256k)
Dialog (2M/512k)
SLT - Busines...
SLT - H...

Performance deteriorates when accessing domestic (in-country) content

Accessing In-Country (domestic) servers

> **> 75%**

Y-axis: Actual speed as % of promised (0% to 100%)

X-axis: 08:00, 11:30, 15:00, 18:00, 20:30, 22:30

Legend:
- Airtel (512k/512k)
- BSNL - Business (2M/256k)
- BSNL - Home (2M/256k)
- Hathway (256k/256k)
- Dialog (2M/512k)
- SLT - Business (2M/512k)
- SLT - Home (512k/128k)

But majority of content is hosted overseas (USA). Users rarely get promised throughput when accessing these

Accessing International Servers

> 75%

Actual speed as % of promised

Time (week and week end)

Legend:
- Airtel (512k/512k)
- BSNL - Business (2M/256k)
- BSNL - Home (2M/256k)
- Hathway (256k/256k)
- Dialog (2M/512k)
- SLT - Business (2M/512k)
- SLT - Home (512k/128k)
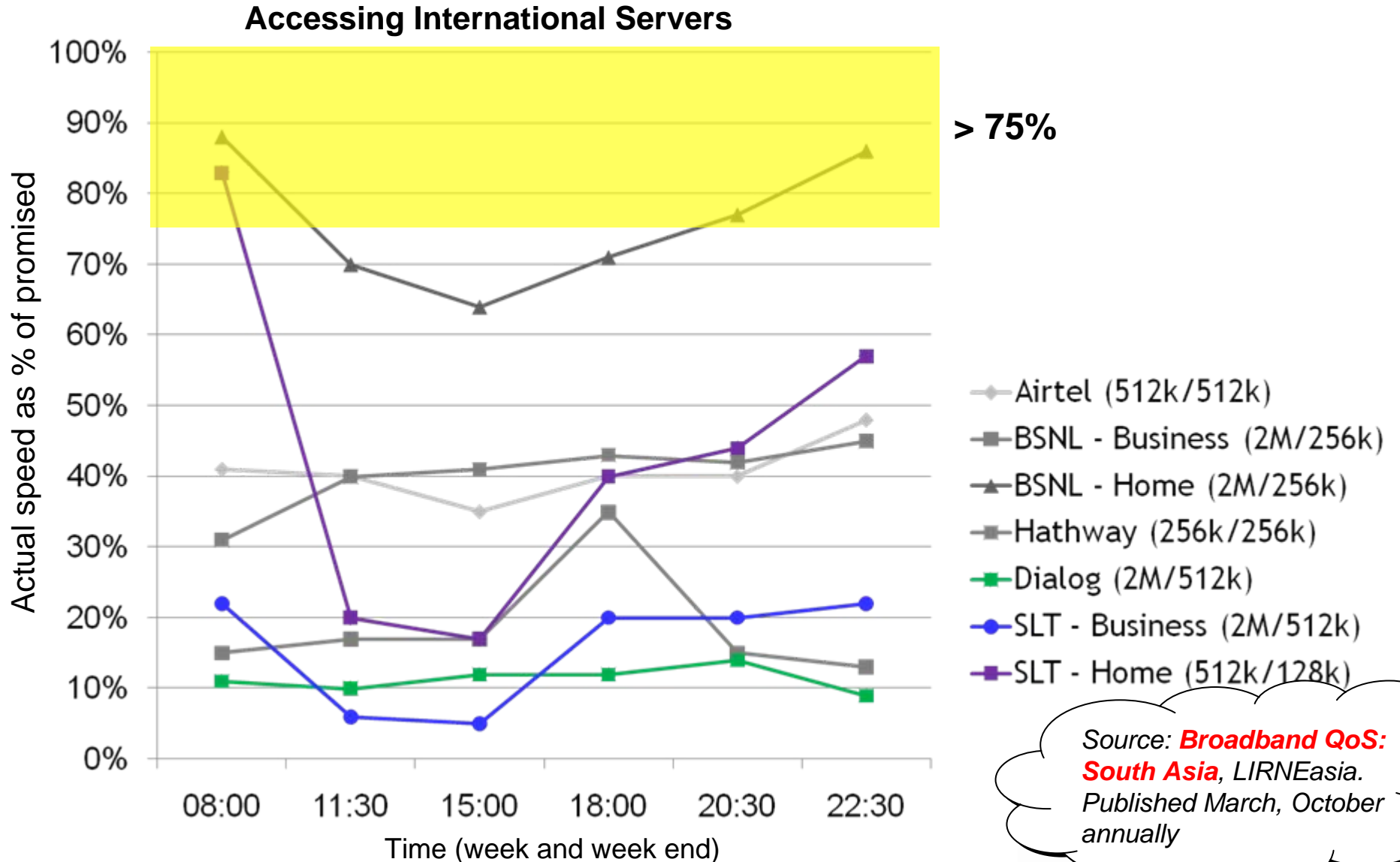
*Source: **Broadband QoS: South Asia**, LIRNEasia. Published March, October annually*

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What if many more users ran the tests? And the performance data was made available to all

▸ App running in background of hundreds/thousands of user machines

▸ Data uploaded and displayed on popular web-site

▸ Data for benchmarking, decision making
  – compare performance of various operators
  – compare countries against each other

▸ Consumer: Vote with your feet
  – As long as there is an alternative provider

File   Edit   View   History   Bookmarks   Tools   Help

http://lirneasia.net/2008/05/request-for-comment-broadband-qos-testing-phase-2

Google

Norton   Phishing Protection on   Identity Safe ▾   Log-ins ▾

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Request For Comment: Broadband QoS testing Phase 2

by Chanuka Wattegama on May 23, 2008 .

LIRNEasia is ready to start Phase 2 of its Broadband QoS testing methodology development.

In Phase 1 we developed AshokaTissa methodology and tested broadband performance of key players in India, Sri Lanka and (partially) Singapore. We used tools like Bandwidth Monitor, Ping and Tracert. The tests were done manually. Each link was tested for two weekdays and two weekend days. Since it was essential to take the averages of three readings it took 2-3 hours to take one set of readings – so only one link could be tested in a day.

Our tests measured six metrics. Throughput (download and upload), RTT, jitter, packet loss and availability. We tested these while downloading/uploading from (a) ISP server (b) local server other than ISP's and (c) international server. The parameters were recorded six times per day from 08:00 hrs to 20:30 hrs. (More details of methodology and Test Results)

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Related Posts
Why not 'Times of India' suggest a better broadband QoS testing methodology to its readers?
LIRNEasia releases 'AshokaTissa' methodology and preliminary results of broadband QoS testing
Broadband QoS Benchmarking
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*Source: **LIRNEasia blog** www.lirneasia.net*

Done

Thank you