



Group Internet Related Topics (IRT)

Source: Survey Results

Title: **Broadband Survey Report**

Introduction

In the 11th ASTAP held in Bangkok on 13-16 June 2006, the IRT members had agreed that a survey should be conducted to collate some information on the broadband status within the APT country members to enable benchmarking to be done to facilitate understanding of the existing progress on broadband and the future ASTAP IRT activities priorities.

Objectives

The objective of this questionnaire is to gather information on definition of broadband within the APT region; preferred technology and speed offered for broadband; broadband subscribers statistics; benchmark subscription cost for broadband in the APT; technology roll-out challenges and focus area

Questionnaire

The distributed questionnaire (Appendix 1) was finalized and approved in ASTAP 12 (12 – 15 March 2007)

Survey Duration

The survey was conducted on 16 May 2007 – 22 June 2007.

Results

1. Contributions

- Eleven (11) contributions received from Fiji, India, Japan, Malaysia, Pakistan, Sri Lanka, Thailand, Tonga and Vietnam.
- Five contributions were from members (administrators) and six (6) contributions were from the affiliate members (service providers).
- Evaluation was based on all contributions. Remark : The information

provided may not represent the country situation.

- Most of the received contributions were incomplete ie most respondents did not answer all the questions.

2. Broadband Policy

All the respondents indicated that there is a national/organizational broadband policy except Tonga and Vietnam (under consideration).

3. Speed

Table 1. Summary Findings on the Definition of Broadband Speed

Country	Speed
Japan	No specific definition for broadband
Tonga	64kbps
Fiji, Thailand, Pakistan	128kbps and beyond Remark : Pakistan provides guaranteed speed at 128kbps.
India, Malaysia	256kbps and beyond
Sri Lanka	1Mbps (Definition based on organization)

4. Performance Guarantee

All the respondents indicated that the expected performance of the network is based on best effort. In Fiji, the commitment of guaranteed speed is given to business sector.

5. Connectivity

Majority of the respondents indicated that the connectivity is expected to be always-on, except for Thailand.

6. Speed, Subscription Cost and No. of Subscribers

The prices for broadband vary between technologies and speed offered to the subscribers. Listed below are the tables of broadband technologies provided, speed, subscription cost and number of subscribers per country.

- **Japan**

Japan Broadband Data

Technology	Uplink/Downlink Speed	Subscription Cost	No. of Subscribers
2G mobile network (PDC)	9.6kbps/28.8kbps	Dependent on each operator's tariff.	26,212,000
2.5G mobile network (cdmaOne)	14.4kbps/64kbps	Dependent on each operator's tariff.	597,000
3G mobile network (e.g., W-CDMA, EV-DO, HSDPA)	W-CDMA: 384kbps/384kbps EV-DO(Rev.A): 1.8Mbps/3.1Mbps HSDPA: 384kbps/3.6Mbps	Dependent on each operator's tariff.	69,909,000
ISDN (BRI/PRI)	64kbps/64kbps	2,940yen (fixed monthly fee described in NTT's tariff.)	6,996,000
Broadband Internet Access (ADSL, VDSL, GE-PON, Metro-ethernet)	100Mbps/100Mbps	Dependent on each operator's tariff.	14,013,000

- **Malaysia**

In Malaysia there are 1456 hotspot locations as of Q1'07. There are 52,554 ISDN subscriptions.

REDtone Broadband Data

Technology	Uplink/Downlink Speed	Subscription Cost (RM)	No. of Subscribers
Fixed WiMAX	512Kbps/512Kbps	RM 27k / year	

Technology	Uplink/Downlink Speed	Subscription Cost (RM)	No. of Subscribers
(802.16d)	1Mbps/1Mbps 1.5Mbps/1.5Mbps 2Mbps/2Mbps	RM 42k / year RM 56k / year RM 66k / year	
Broadband Internet Access (ADSL, VDSL, GE-PON, Metro-ethernet)	512 Kbps 1 Mbps 2 Mbps	RM 288/month RM 588/month RM 1088/month	

TIME Broadband Data

Technology	Uplink/Downlink Speed	Subscription Cost	No. of Subscribers
WiFi (802.11)	512/256	Free Surf	12,000
Broadband Internet Access (ADSL, VDSL, GE-PON, Metro-ethernet)	BizNET512/512 (SDSL) BizNET1M/1M (SDSL) BizNET2M/2M (SDSL) BizNET3M/2M (ADSL2+) BizNET5M/5M (Metro-E) BizNET10M/10M (Metro-E)	RM328 RM618 RM1199 RM999 RM799 RM1299	250 400 250 5 25 25
Others (Please specify)	HomeNET 384/256(SCDMA) BizNET 512/256 (SCDMA)	RM69 RM259	450 100

- **Pakistan**

Pakistan Broadband Data

Technology	Uplink/Downlink Speed	Subscription Cost	No. of Subscribers
2G mobile network (GPRS)	40kbps / 40kbps	Rs 15 per MB	50,000 Approx
2.5G mobile network (EDGE)	120kbps / 240kbps	Rs. 15 per MB	50,000 Approx
WiFi (802.11)	Depends on the equipment i.e 802.11b or 802.11g	None	Private Hotels and Companies are using this service
ISDN (BRI/PRI)	128kbps / 128kbps	Rs 261 per	

Technology	Uplink/Downlink Speed	Subscription Cost	No. of Subscribers
		month for BRI Rs 1740 for PRI	
Broadband Internet Access (ADSL, VDSL, GE-PON, Metro-ethernet)	384kbps / 1.5mbps	Varies on the type of package. Generally it is Rs 1000 per GB of Data And Rs 80000 for unlimited 2Mbps circuit	60,000 Approx

- **Sri Lanka**

Dialog Broadband Networks Broadband Data

Technology	Uplink/Downlink Speed	Subscription Cost	No. of Subscribers
Fixed WiMAX (802.16d)	1Mbps /256Kbps	SLR . 4000/-	

- **Thailand**

CAT Broadband Data

Technology	Uplink/Downlink Speed	Subscription Cost	No. of Subscribers
2.5G mobile network (EDGE) (1x)	80 – 153 kbps / 80 – 153 kbps	2,500 – 9,000 Baht	25,000
3G mobile network(EV-DO)	80 – 153 kbps / 300 – 700 kbps	12,000 Baht	1,500
Broadband Internet Access (ADSL, VDSL, GE-PON, Metro-ethernet)	128k – 1024k /256k – 2048k	590 – 7,000 Baht (fixed monthly fee)	9,000

- **Tonga**

Tonga Broadband Data

Technology	Uplink/Downlink Speed	Subscription Cost	No. of Subscribers
Fixed WiMAX (802.16d)	64-2,000kbps	On Plan from TOP99 pcm to TOP 1000	400
ISDN (BRI/PRI)	64/128kbps	On Plan from TOP99 pcm to TOP 1000	
Broadband Internet Access (ADSL, VDSL, GE-PON, Metro-ethernet)	64-512 kbps	On Plan from TOP99 pcm to TOP 1000	200

7. Network

In most countries, the broadband is predominantly provided through the fixed network (except Sri Lanka). Below is the breakdown of broadband provided through the fixed network and mobile network.

Table 2. Percentage of Broadband Services Provided Using Fixed and Mobile Network

Country	Fixed Network	Mobile Network
Malaysia	80%	20%
Pakistan	90.3%	9.7%
Sri Lanka	40%	60%
Thailand	80%	20%
Tonga	100%	

Challenges

The top four (4) key common challenges in rolling out new technologies are rated in priority order as listed below.

- No guarantee of QOS

- Limited Devices
- Lack of spectrum
- Interference

Spectrum

Table 3. Status of Spectrum Allocation for Broadband

Country	Existing Spectrum Allocated	Additional Spectrum in 5 years
Japan (Administrator)	1813MHz	
Malaysia (Administrator)	>400MHz	
Pakistan (Administrator)	160MHz	
Sri Lanka (Service Provider)	21 MHz	
Thailand (Service Provider)	10MHz	

Future IRT Focus

70% of the respondents highlighted that the key focus area for IRT is IP Mobility and Multi-homing.

Conclusions:

1. Broadband policy is available in most countries.
2. Majority of the countries define broadband at a minimum speed of 128kbps (always on and based on best effort).
3. The need for broadband is emerging in many countries. However, it was not possible to conclude the correlation on the subscribers take up rate against requirement (speed and connectivity) versus the subscription fee.
4. Most countries offer broadband predominantly through the fixed network.
5. Japan has the highest broadband subscriptions and technologies options offered. Japan also has the highest amount of spectrum allocated for broadband.
6. Most countries determined that the main challenge in rolling out new technologies is due to no guarantee on quality of service. Other challenges highlighted are limited devices, lack of spectrum and interference.
7. 70% of the respondents highlighted that the key focus area for IRT is IP Mobility and Multi-homing.

Others

The author would like to thank all members who had contributed in the survey.