



## CONSULTATION PAPER

# **Retail pricing of entry-level broadband services**

*Issued on 20<sup>th</sup> June 2014*

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## 1 EXECUTIVE SUMMARY

The Government of PNG has recently announced its National Broadband Policy, which formally recognises that high quality, affordable broadband services are essential to future social and economic development in PNG. As is envisaged under the National Broadband Policy, and to help assess progress towards the Government's affordable broadband policy objectives, NICTA will be regularly monitoring and reporting publicly on the affordability of entry-level retail broadband services.

The Minister's declaration of the international cable transmission capacity service in March 2013, which among other things, requires access to submarine cable capacity to be supplied at prices that are cost-orientated, has enabled some recent improvements in the pricing and value of retail broadband services. However, there is a long way to go to make broadband services generally affordable. Recent assessments of the affordability of entry-level broadband by the International Telecommunications Union (ITU) and NICTA staff found that entry-level mobile broadband services are 20%–80% of average monthly income, while entry-level fixed broadband can be up to 150%. The international benchmark for measuring affordability of entry-level broadband services is 5% of average monthly income. Entry-level broadband is thus still unaffordable for most Papua New Guineans.

NICTA would prefer that the Government's affordable broadband policy objectives are achieved through market forces alone. However, as indicated in the Government's policy, if market forces do not bring down pricing and improve the affordability of broadband services, then NICTA will consider intervening to require the supply of an entry-level product as at specified price.

NICTA invites interested parties to consider and comment on the issues discussed in this paper, in particular the specific consultation questions. **Written submissions should be submitted via email to [consultation.submission@nicta.gov.pg](mailto:consultation.submission@nicta.gov.pg) and must be received by noon Friday 18<sup>th</sup> July 2014.**

Copies of all submissions received will be published on NICTA's Public Register consistent with the requirements on NICTA under subsection 229(3) of the Act. Additional procedural information is set out in the *Guidelines on the submission of written comments to public consultations and public inquiries*, which are available on NICTA's Public Register.

## 2 BROADBAND POLICY

In December 2013, the Government approved its National Broadband Policy, which set out the Government's objectives and proposed initiatives for the development of a more competitive, more affordable, and more responsive broadband sector. The Broadband Policy aligned with the broader planning commitments of the Government's *PNG Vision 2050* and the *Medium Term Development Plan*. A copy of the Broadband Policy is available at NICTA's website ([www.nicta.gov.pg](http://www.nicta.gov.pg)) in electronic form and is attached as Annex A for convenience.

The price of broadband services is one of the key influences on the rate of broadband adoption and usage. Although broadband services are more affordable today than they were previously, broadband services nonetheless remain unaffordable to many people. The affordability of retail broadband services is therefore one of the key principles of the Broadband Policy. Particular emphasis is given to the affordability of "entry-level" broadband services, which describes the minimum download capacity of a service (i.e. the advertised bandwidth) that will entitle the service to be classified as a broadband service for the purposes of monitoring and assessing progress under the Broadband Policy. Currently that entry-level is defined as a minimum download speed of 512 kilobits per second (kbps), but the appropriateness and relevance of that threshold is intended to be reviewed regularly.<sup>1</sup>

One of the goals of the Broadband Policy is that, by 2017, entry-level broadband services are available at a generally affordable price. The Broadband Policy does not define what an affordable price would be. However, the Broadband Commission for Digital Development, a joint initiative of the ITU and the United Nations Educational, Scientific and Cultural Organization (UNESCO), defines affordability in this context as no more than five per cent of average monthly income (as measured by gross national income (GNI) per capita). In PNG, this would be equivalent to approximately K200–K220 per year, or K15–K20 per month at the present time.<sup>2</sup> The Broadband Commission's target for the achievement of affordable entry-level broadband services in developing countries such as PNG is 2015, two years earlier than the Government's goal in the National Broadband Policy.

NICTA intends to measure the affordability of entry-level broadband services for the purposes of target setting and performance assessment under the Broadband Policy by using the benchmark of 5% of GNI per capita. NICTA would however welcome suggestions of other measures and ways of assessing the affordability of entry-level broadband that could be used in addition to the ITU's benchmark. (As the ITU will continue to use the 5% threshold to assess affordability in PNG and internationally, NICTA will continue to collect the necessary data and use it for its own progress reporting under the Broadband Policy in addition to any other measures of affordability that might be identified and be practicable.)

**Question 1:** How should NICTA assess the affordability of entry-level broadband services?

<sup>1</sup>As noted in the National Broadband Policy, 'Services with capacities below the minimum entry level [of 512 kbps] may continue to be provided by will not count for target setting and performance assessment.'

<sup>2</sup>Assumes GNI per capita of approximately K4,368 (source: <http://data.worldbank.org/indicator/NY.GNP.PCAP.CN>)

### 3 BROADBAND AFFORDABILITY

A recent ITU assessment of the affordability of entry-level fixed broadband services ranked PNG 163<sup>rd</sup> out of 169 countries (see Figure 1), suggesting that the prices of entry-level fixed broadband in PNG (and therefore also fixed broadband service more generally) are among the most expensive in the world. (The ITU also assessed the affordability of entry-level mobile broadband services, distinguishing between handset-based and computer-based (i.e. accessed via a USB modem or dongle) products. However, PNG was one of a small number of countries not included in that assessment because pre-paid charges are structured as “pay-per-use” (i.e. charged on the basis of per MB of data) and post-paid charges are neither published nor targeted at residential users.

**Figure 1: Results of ITU’s assessment of the affordability of entry-level fixed broadband services in the Asia Pacific (2012)<sup>3</sup>**

Global rank	Regional rank	Country	Entrylevel fixed broadband price as % of GNI per capita
1	1	Macao, China	0.2%
8	2	Japan	0.7%
10	3	Hong Kong, China	0.7%
14	4	Singapore	0.8%
28	5	Maldives	1.5%
40	6	Korea (Rep.)	1.6%
42	7	Australia	1.6%
54	8	Brunei Darussalam	1.9%
60	9	Sri Lanka	2.1%
64	10	New Zealand	2.4%
72	11	Malaysia	3.1%
86	12	Iran	4.7%
93	13	India	5.1%
94	14	Mongolia	5.3%
98	15	Thailand	5.6%
99	16	China	5.6%
101	17	Bhutan	6.2%
102	18	Fiji	6.4%
108	19	Bangladesh	7.3%
114	20	Indonesia	9.1%
119	21	Vietnam	11.3%
122	22	Philippines	12.4%
123	23	Micronesia	13.7%
125	24	Marshall Islands	15.3%
126	25	Pakistan	15.5%
128	26	Samoa	16.1%
133	27	Nepal	17.8%
134	28	Tonga	19.2%
140	29	Cambodia	34.0%
145	30	Timor Leste	43.5%
146	31	Vanuatu	44.0%
147	32	Kiribati	44.0%
<b>163</b>	<b>33</b>	<b>Papua New Guinea</b>	<b>150.5%</b>
167	34	Afghanistan	221.3%
168	35	Solomon Islands	280.2%

<sup>3</sup>Entry-level fixed broadband service defined for the purposes of this assessment as a fixed broadband service with an advertised download capacity of at least 256 kbps down. Price comparison based on the downloading of 1 GB of data per month. Source: ITU (2013) *Measuring the Information Society*.

NICTA staff have undertaken their own assessment of the affordability of entry-level broadband services currently offered in PNG using the same methodology as the ITU study. That approach to assessing broadband affordability is the methodology recommended<sup>4</sup> by the ITU's Expert Group on Telecommunication/ICT Indicators (EGTI), which is responsible for determining the ITU's definitions of statistical indicators and related methodological issues. The parameters for NICTA staff's assessment are shown in Figure 2. The differences from the ITU's approach are that NICTA staff took into account:

- All broadband service providers supplying residential users (not just the largest broadband service provider as the ITU does);
- both pre-paid and post-paid fixed broadband products (not only post-paid products as the ITU does); and
- both wired and wireless fixed broadband products (not only wired technologies as the ITU does).

NICTA notes that some of those parameters—in particular the minimum monthly data allowance and the minimum period of validity for that data allowance—do not align with many of the entry-level broadband products currently offered in PNG. However, that is not the intention. The intention is to standardise a set of features and an assumed level of usage that are representative of modern entry-level broadband for the purposes of assessing the affordability of that entry-level. Thus although NICTA proposes some modification to these parameters for the purposes of its own monitoring and reporting, NICTA does not consider it appropriate to base assessments of affordability on the current “average user” or current utilisation rates, which are likely being significantly distorted by the prevailing high prices.

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<sup>4</sup>As recently as 2012

**Figure 2: ITU specified parameters used for NICTA's selection of the least expensive broadband plans currently available in PNG (as of June 2014)**

Parameter	Fixed broadband services	Mobile handset-based broadband services		Mobile computer-based broadband services	
Technology	xDSL, cable, IEEE 802.16e, satellite <sup>5</sup>	UMTS, HSDPA+/HSDPA, CDMA2000, IEEE 802.16e		UMTS, HSDPA+/HSDPA, CDMA2000, IEEE 802.16e	
Type of user	Residential	Residential		Residential	
Commitment period (if applicable)	12 months (or the closest thereto)	12 months (or the closest thereto)		12 months (or the closest thereto)	
Payment model	Pre-paid or Post-paid <sup>6</sup>	Pre-paid		Pre-paid	
Minimum advertised download speed <sup>7</sup>	256 kbps	256 kbps		256 kbps	
Minimum monthly data usage <sup>8</sup>	1 GB	250 MB	500 MB	1 GB	1 GB
Period of validity (if pre-paid)	Minimum of 30 days validity	Minimum of 30 days validity		Minimum of 30 days validity	
Exclusions (where practicable)	<ul style="list-style-type: none"><li>• Time-based offers linked to ‘hours of use’ and not to data volumes</li><li>• Promotional pricing/offers</li><li>• Discounts limited in time or to special user groups</li><li>• Special prices that apply to a certain type of device only</li><li>• Installation fees</li><li>• Deposits</li><li>• Equipment charges</li><li>• Line rental</li><li>• Bundles</li></ul>				

The results of NICTA's assessment, summarised in Figure 3, show that current entry-level broadband products range from about 20%–80% of GNI per capita, which is unaffordable for most Papua New Guineans.

<sup>5</sup> This differs from the ITU's specification, which measured only wire-based technologies (i.e. xDSL, cable, etc)

<sup>6</sup> This differs from the ITU's specification, which measured only post-paid

<sup>7</sup> Although the PNG National Broadband Policy is based on a minimum download speed of 512 kbps, it is important, initially, to monitor services with speeds of 256 kbps to enable come comparison with the studies that have already been undertaken. Later monitoring and assessment will be based on 512 kbps, and even greater download speeds as the definition of entry-level changes over time.

<sup>8</sup> For plans that are limited in terms of data allowance (i.e. below 250 MB, or 500 MB, or 1 GB), the cost per additional byte is added to the monthly subscription price up to the relevant amount of minimum monthly usage.

**Figure 3: Summary of results of NICTA staff's assessment of the affordability of entry-level broadband services (June 2014)**

Licensee	Plan details	Annual price as a percentage of Gross National Income (GNI) per capita <sup>9</sup>			
		Pre-paid or post-paid fixed service (1 GB)	Pre-paid mobile handset-based service (250 Mb)	Pre-paid mobile handset-based service (500 Mb)	Pre-paid Mobile computer-based service (1GB)
bemobile <sup>10</sup>	Pre-paid: K80, 1GB, 30 days, K0.30 per additional MB	Product not offered	<b>22.0%</b>	<b>22.0%</b>	Pricing not advertised
Daltron <sup>11</sup>	K150 per month, 1GB cap, speed throttling after cap exceed. Plan: HOME Connect.	<b>41.2%</b>	Product not offered / Pricing not advertised	Product not offered / Pricing not advertised	Product not offered / Pricing not advertised
Datec <sup>12</sup>	K79 per month; .099 toea per MB excess, 13 Mbps, 1GB cap, K49 set up, PLAN: DIAT2	<b>21.7%</b>	Product not offered / Pricing not advertised	Product not offered / Pricing not advertised	Product not offered / Pricing not advertised
Digicel <sup>13</sup>	Pre-paid: K0.29/MB (peak) K0.15/MB (off-peak)	Product not offered	<b>19.9%</b>	<b>39.8%</b>	79.9%
Global internet <sup>14</sup>	Pre-paid: K200 monthly fee, 650MB, 25 toea per additional MB. Plan: Gold User.	<b>80.6%</b>	Product not offered / Pricing not advertised	Product not offered / Pricing not advertised	Product not offered / Pricing not advertised
HiTRON <sup>15</sup>	Post-paid: K100 monthly service fee plus 15 toea per downloaded MB. 256 kbps	<b>69.7%</b>	Product not offered / Pricing not advertised	Product not offered / Pricing not advertised	Product not offered / Pricing not advertised
Telikom <sup>16</sup>	Post-paid: K128 monthly fee plus 13 toea excess fee per downloaded MB Prepaid: K60/500MB, K110/1GB per month	35.2%	Pricing not advertised	16.5%	30.2%

<sup>9</sup>GNI per capita (for 2012) taken to be K4,368; source: <http://data.worldbank.org/indicator/NY.GNP.PCAP.CN>

<sup>10</sup><http://www.bemobile.com.pg/data> Other price plans with lower subscription fees and lesser data allowances were disregarded for the purposes of comparison as they did not provide access for a minimum of 30 days (i.e. the subscription remained valid for between 3 and 21 days, depending on the package).

<sup>11</sup>[www.daltron.com.pg/internet-services](http://www.daltron.com.pg/internet-services) Excludes K89 per month for line rental and K400 for a standard installation.

<sup>12</sup><http://www.datec.net.pg/services/direct-internet-access/tier-2-internet-data-13mbps> One time set up fee is not included.

<sup>13</sup>[www.digicelpng.com/en/plans/digiflex/flex\\_tariffs](http://www.digicelpng.com/en/plans/digiflex/flex_tariffs) 100% data usage during peak time assumed for the purposes of comparison.

<sup>14</sup>[www.global.com.pg/pages/global-internet/internet-plans](http://www.global.com.pg/pages/global-internet/internet-plans)

<sup>15</sup>[www.hitron.com.pg/docs/Internet%20Service%20Plans.pdf](http://www.hitron.com.pg/docs/Internet%20Service%20Plans.pdf) 256 kbps. Excludes the K200 equipment deposit and the K300 'MB deposit'.

<sup>16</sup><http://www.telinet.com.pg/site/index.php/vservices> Telikom's Telinet prices used for this paper are requested direct from Telikom as prices on their website are not current. Telikom offers both post & prepaid broadband services



## 4 BROADBAND PRICE MONITORING

NICTA notes that a number of broadband products have recently been reduced in price, improved in value (i.e. had data allowances increased), or both. Many of these improvements have been enabled by the Minister's declaration<sup>17</sup> of the international cable transmission capacity service in March 2013, which among other things required access to submarine cable capacity to be supplied at prices that are cost-orientated. NICTA would welcome hearing of other regulatory actions that it should consider taking in order to reduce the costs incurred by broadband service providers and, thus, the costs of retail broadband services for end-users.

**Question 2:** What initiatives or actions by NICTA could help broadband service providers reduce their costs and improve the value of the retail broadband services supplied to end-users?

To help measure progress under the National Broadband Policy and to help inform the Government's policy making, NICTA will be monitoring and reporting publicly on the affordability of entry-level broadband. Beginning in January 2015, NICTA proposes to use the parameters set out in Figure 4 as the basis of a quarterly assessment and public report to the Minister on the affordability (and changes in the affordability) of entry-level broadband services. (The particular parameters that are different to those used in the above assessment are shaded in grey in Figure 4.) NICTA intends to publish guidelines setting out how it will collect and standardise the public information on entry-level broadband products and the structure of its public report to the Minister. In the interim, NICTA would welcome comments on the appropriateness of the parameters in Figure 4 and suggestions on how those parameters could be refined or expanded.

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<sup>17</sup> Wholesale Service Declaration No. 1 of 2013

**Figure 4: Proposed parameters for NICTA's regular assessments of the affordability of entry-level broadband services**

Ref.	Parameter	Fixed broadband services	Mobile handset-based broadband services		Mobile computer-based broadband services	
1	Technology	xDSL, cable, IEEE 802.16e, satellite	UMTS, HSDPA+/HSDPA, CDMA2000, IEEE 802.16e		UMTS, HSDPA+/HSDPA, CDMA2000, IEEE 802.16e	
2	Type of user	Residential	Residential		Residential	
3	Commitment period (if applicable)	12 months (or the closest thereto)	12 months (or the closest thereto)		12 months (or the closest thereto)	
4	Payment model	Pre-paid or Post-paid	Pre-paid		Pre-paid	
5	Minimum advertised download speed	512 kbps	512 kbps		512 kbps	
6	Minimum monthly data usage	500 MB	250 MB	500 MB	250 MB	500 MB
7	Period of validity (if pre-paid)	Minimum of 30 days validity	Minimum of 30 days validity		Minimum of 30 days validity	
8	Exclusions (where practicable)	<ul style="list-style-type: none"><li>• Time-based offers linked to ‘hours of use’ and not to data volumes</li><li>• Promotional pricing/offers</li><li>• Discounts limited in time or to special user groups</li><li>• Special prices that apply to a certain type of device only</li><li>• Installation fees</li><li>• Deposits</li><li>• Equipment charges</li><li>• Line rental</li><li>• Bundles</li></ul>				

**Question 3:** What are your views on the appropriateness of the parameters in Figure 4 for the purposes of selecting from, and standardising, the least expensive products of different licensees for the purposes of assessing the affordability of entry-level broadband services?

As indicated in the National Broadband Policy, the Government intends to ensure that an entry-level broadband service is available—either through market forces or regulation—to all Papua New Guineans at an affordable price. NICTA would prefer to see the Government's affordable broadband objectives achieved without the need for regulatory intervention. However, licensees should be aware that if NICTA's monitoring does not show improvements over time in the affordability of entry-level broadband services, then NICTA may consider intervening in broadband pricing by way of:

- a retail service determination under section 159 of the *National Information and Communications Technology Act 2009* (the Act) on the dominant service provider in each identifiable retail broadband market;
- a special licence condition under section 55 of the Act on relevant Applications Licensees; and/or

- rules under section 218 of the Act, consistent with any Government policies of which NICTA is formally notified under section 11 of the Act.