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GENERAL NOTICE

NOTICE 2966 OF 2004

ICASA

INDEPENDENT COMMUNICATIONS AUTHORITY OF SOUTH AFRICA

NOTICE IN TERMS OF SECTION 27 OF THE TELECOMMUNICATIONS ACT

1) The Independent Communications Authority of South Africa (ICASA) hereby gives notice and invites comment in terms of section 27 of the Telecommunications Act No. 103 of 1996 (" the Act") on how the ADSL service should be provided.

2) Interested persons are hereby invited to submit written representations on their views on the ADSL service, within THIRTY (30) DAYS of publication hereof by post, hand delivery or facsimile transmission and by an electronic version in Microsoft word for the attention of

Ms. D. Ngoasheng
Independent Communications Authority of South Africa
Private Bag X10002
Sandton
2146

Block B,
PinMill Farm
164 Katherine Street
Sandton

Facsimile : (011) 448-1870,

Telephone : (011)321-8278 or 083 3260 134 or

e-mail : dngoasheng@icasa.org.za .

3) Persons making representation are requested to indicate if they wish to make oral representation, the estimated duration whereof shall not exceed 45 minutes.

4) In order to provide a wide basis for representations to be made during the enquiry, ICASA has compiled questions as a guideline to address critical issues related to this matter. Since, these questions are not in any way exhaustive, the respondents are invited to comment on any issue that might be relevant to this exercise.

5) All written representations submitted to ICASA pursuant to this notice shall be made available for inspection by interested persons within SIXTY (60) DAYS of publication hereof at the ICASA library and copies of such representations and documents will be obtainable on payment of the prescribed fee.

6) At the request of any person who submits a written representation or document pursuant to this notice, ICASA may determine whether such representation or document, or any portion thereof, relates to the financial situation or business plan of any person, or to any other matter reasonably justifying confidentiality, in which event such representation or document shall not be made available for inspection by members of the public. If the request for non-disclosure to the public is refused, the person making the request shall be allowed to withdraw such representation or document.

7) With respect to the documentation determined not to be open to public inspection in terms of paragraph 6 above, ICASA may direct that the public or any member or category thereof, shall not be present while the oral submissions relating to such documentation are being made; provided that those present shall have been notified of this intention and allowed to object thereto after such objections had been considered by ICASA.

8) These questions have been incorporated into the annexure hereto titled "DISCUSSION DOCUMENT ON THE ADSL SERVICE (hereinafter referred to as "the discussion document").

9) The findings and conclusions, if any, made by ICASA following the public enquiry will be published in the Government Gazette in accordance with Section 27 of the Act.

Mandla Langa
Chairperson
ICASA

DISCUSSION DOCUMENT ON THE ADSL SERVICE

Introduction

At the beginning of the new millennium, the paradigm shift from voice to data in the communications service market is being led by the dominance of the Internet. Ensuring the balanced growth and harmonization of these services are two key factors for the advancement of the information society and the promotion of related equipment and component industries. There is an increasing need for speed by people who use the internet and related services. Thus an ever growing need for bandwidth based services. The trend towards bandwidth based services is likely to continue dramatically over the next few years. xDSL services offer the bandwidth associated with satisfaction of need for speed. (Attached see diagram)

What is xDSL?

A means of providing high data rate bit streams over existing copper pairs for delivery of broadband and high bandwidth service.

Advantages of the xDSL Service

- Means for delivery of broadband services to the end user
- Offers higher transmission rates and superior reach to competing technologies
- Faster and easier to provision and install than competing technologies

Disadvantages of the xDSL Service

- There is no guarantee that xDSL can be provided to all subscribers, as longer length loops may not support adequate xDSL performance.
- Issues regarding the spectral compatibility with other copper pair based services.

There are two dominant classes of xDSL services; those offering **symmetrical** upstream and downstream capacity which offers equal download and upload capacity, and those offering **asymmetrical** higher downstream capacity which offers higher download capacity.

The Fixed line operator in the country has opted for the asymmetrical type of the xDSL service herein referred to as the ADSL service. The assumption is that subscribers would prefer to download data more than they would wish to upload it.

What is the ADSL SERVICE?

Asymmetrical Digital subscriber Line (ADSL) service is based on a new modem technology that turns an ordinary telephone line into a multi tasking access medium. ADSL works on an analogue telephone service. Different ADSL modems can be used, the most common interface between a Personal Computer (PC) and the ADSL modem is Ethernet. However, a Universal Serial Bus (USB) option can also be used. The splitter device separates the ADSL data service from your analogue Plain Old Telephone Service (POTS). An ADSL service and telephone service will not affect each other.

The benefits of ADSL access are the following:

- It provides continuous connectivity –always on ,always available,
- Multi tasking business tool – talk on the phone or send a fax whilst still being on line
- Also offers a flat rate monthly access

Telkom's ADSL service has the following features:

- Downstream speed   512 Kbps
- Upstream speed   256 Kbps

Guarantee

Telkom does not guarantee any throughput speeds on an ADSL access line. In South Africa ADSL is an access product used to connect to Internet Service Providers via the South African Internet Exchange (SAIX). It was targeted at the small business and higher end of the residential market that has a moderate volume of Internet traffic and requires an always available service. Telkom informed ICASA that they intended introducing the ADSL service in the first quarter of 2002.[6] The Department of Consumer Protection started receiving complaints about the service towards the end of the same year. Most of the complaints emanating from the introduction of the 3 Gbyte cap by Telkom. The cap places a limit on the amount of bandwidth a subscriber may use per month.

Customer Premises Equipment

ADSL modem surge protector

The two main suppliers of ADSL modems are Telkom branded modems which are Marconi and Alcatel. ICASA has type approved many more supplies of ADSL modems.

Introduction of the 3Gbyte cap

Telkom introduced the monthly volume cap in November 2002 as part of the launch. The rationale for the monthly volume cap has been to protect the total ADSL subscriber base by providing a reasonable service to all subscribers. Power users who continuously download huge amounts of data can negatively

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[6] Reference: The benefits of ADSL access – According to Telkom website

impact on the rest of the ADSL subscriber base who only make use of their ADSL service for normal Internet access purposes, thereby experiencing very slow bandwidth throughput speeds. The monthly volume cap was intended to promote equal distribution of the bandwidth available to the total ADSL subscriber base.

Internet Service Providers (ISP's) provide the Internet services that run on ADSL with a 3 Gbyte cap. To provide all ADSL customers with a "reasonable" service, a 3 Gbyte limit was introduced by Telkom as part of the Internet service to ensure that power users do not abuse the international bandwidth and to equally distribute the limited bandwidth amongst all ADSL access end users.

ADSL customers that exceed the 3 Gbyte volume limit for the month, his/her international traffic will be transported over slower international link without affecting his local access. The customer will experience slower access speeds on the alternate international link , as he/she will then be sharing this link with all with other customers who exceed the 3 Gbyte. Cap.

4 Gbyte Unshaped Service

Due to the high number of complaints received on the capping of the service, Telkom later introduced the 4 Gbyte Unshaped service as an alternative to the 3 Gbyte capped service. The 4 Gbyte Internet services that are provided have no protocol shaping. The major difference between the 4 Gbyte service and the 3 Gbyte service is that after 4 Gbyte usage is fixed. Internet access in excess of 4 Gbyte is restricted until an additional Internet account is purchased that will provide another 4 Gbytes.

Port Prioritization and how does it affect subscribers

Port Prioritisation is defined as traffic shaping where certain traffic is given priority over other.e.g. Internet traffic can be differentiated between web based browsing and peer- to- peer programs. Priority is given to the server to certain ports to carry the internet traffic. Most of the bandwidth can be allocated to the web based traffic and only trickle to the peer to peer programs.

Based on Telkom's monitoring mechanisms of usage of the service, the operator can degrade a subscriber's service if that subscriber is considered to be "abusing "the service.[7]

Pricing of the ADSL Service

The breakdown of pricing of the service is as follows:

Subscription	Prolog	Prolog plus
Shaped	R249-00 p.m(incl. vat)	R 269-00 p.m(incl. vat)
Unshaped	R879-00 p.m(incl. vat)	R 909-00 p.m(incl. vat)

Telkom ADSL access
Sign a 24 month contract

Monthly Rental	Consumer	Business
Line Rental	R 680-00 p.m(incl. vat)	R 800-00 p.m(incl. vat)

Once of Charges

Installation	R 404-00(incl. vat)
ADSL POTS Ethernet Modem	R1, 499-00(incl. vat)
OR	
ADSL POTS USB modem	R1, 149-00(incl. vat)
Marconi micro filters	R 48-00(incl. vat)
Additional monthly charge	Normal Telkom tariff phone line rental and voice or fax calls

* Certain prices are subject to currency fluctuation and may change without notice

*The monthly rental fee excludes phone line rental and tariffed voice and fax call

International Benchmark

Belgacom in Malaysia offers three features of the ADSL service namely

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[7] Reference: Telkom's response to ICASA on complaints received.

Belgacom ADSL Light	Maximum download speed	512 Kbps
	Upload	128 Kbps
Belgacom ADSL Skynet go	Maximum download speed	3.3 Mbps.[8]
	Upload	192 Kbps
Belgacom ADSL Skynet plus	Maximum download speed	3, 3 Mbps
	Upload	256 Kbps
Korea Telecoms	Maximum download speed	8 Mbps
	Upload	640 kbps
British Telecoms	Maximum download speed	2000kbps

The ADSL service is so advanced in other countries like the UK that some service providers offer the service on a Pay-As-You-Go basis. Instead of paying a flat monthly rate for the service the subscribers are given the option of paying for what they use. The usage is charged on the basis of the number of websites surfed, emails sent and received, files downloaded *etc*. Subscribers are not charged for the time they spend online, but rather on data usage. The Pay-As-You-Go Broadband has the same benefits of high speed internet access and provides continuous connectivity. The added benefit is that unlike the flat rate scheme, the less you use it the less you pay. The service is billed in arrears, not in advance. Some complainants in South Africa have expressed their dissatisfaction with Telkom's inability to make it possible for subscribers to monitor their usage of the service on an ongoing basis.

Analysis of the downstream speed of 512 kbps

The calculations below are based on the fact that ADSL is always on connection therefore someone can download anytime/all the time if they want to.

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[8] Reference: Belgacom –   Malaysia website
                              Korea Telkom website
                              British Telkom website

512 kbps (kilo bits per second) = 64 kB per second (kilo Bytes per Second).

Explanation   :   there are 8 bits in a Byte

64 kB per second X 60 seconds = 3840 kB per minute

3840 kB per minute X 60 minutes = 230,400 kB per hour or 225 MB per hour

Explanation   :   there are 1024 kB in one MB (Mega Byte)

225 MB X 24 hours = 5,400 MB per day or 5.27 GB (Giga Byte) per day

Explanation   :   there are 1024 MB in one GB (Giga Byte)

5,400 MB X 30 days = 162,000 MB or 158.2 GB

This 158.2 GB per month is far more than the Telkom cap of 3 GB per Month. In fact a person can exceed that 3 GB cap in one day if they download non-stop at 512 kbps.

The maximum download speed possible if a subscriber is to remain below the 3Gbytes monthly cap (without considering the upstream activities) works out to:

3GB per month X 1024 = 3072 MB per month

3072 MB per month divided by 30 days = 102.4 MB per day

102.4 MB per day divided by 24 hours = 4.2666 MB or 4369.06 kB per hour

4369.06 kB per hour divided by 60 minutes = 72.817 kB per minute

72.817 kB per minute divided by 60 seconds = 1.213 kB per second or 9.7 Kbps (kilo bits per second)

Explanation   :   1.213 kB per second X 8 = 9.7 kbps

Compare 9.7 kbps to the promised 512 kbps.

The analysis of complaints received:

Telkom's customers lodged formal complaints with ICASA, claiming the following:

- that the asymmetric digital subscriber line (ADSL) service in SA falls far below international standards.
- Customers claim that Telkom's high-speed internet lines are slow yet costly and that specific charges include exorbitant line rental charges, inferior speeds and no after sales service.
- The cost of the ADSL modems sold by Telkom are exorbitant.
- Some customers allege that when the cap was introduced on the service, Telkom subscribers were not informed. They allege that Telkom has not been able to explain why the 3Gbyte limit was introduced on the service and how this is monitored.
- Some customers allege that Telkom did not inform its customers of the port prioritization policy.
- Some customers complained that the ADSL service does not provide the speed and quality as advertised.

Quality of service

According to Telkom, ADSL is a shared service; the more subscribers the slower the Internet download speeds on the international link[6] .That is why Telkom carefully balance the number of users versus available bandwidth. It is also a key reason for capping. The 3 Gig' cap protects users from a small minority of people who abuse the service and use it for purposes it was not intended for. Capping ensures that most customers will enjoy the true ADSL experience of fast Internet"

The performance of international servers will also affect download speeds. Telkom also claims that it purchases international bandwidth at a premium and it is not unlimited. On the International pipe, Telkom's SAIX has prioritized surfing, email and file transfer protocols. Bandwidth intensive protocols such as peer-to-peer applications are afforded a lower priority and as such will perform worse than a standard dial-up under high international load conditions. SAIX prioritization has been implemented to provide the majority of ADSL customers with fast Internet experience. Telkom also indicates that recent statistics show that very few customers reach their monthly cap. ADSL users who require more than 3Gbyte monthly can order a second username and password from their ISP's providing them with an additional 3Gbyteyte per month.

Questions

The objective of this discussion document is to solicit information from the industry, with the view to assist ICASA to address effectively complaints received from the public.

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[9] Reference: Telkom's response to complaints from ICASA

Question 1

Does Telkom inform widely its potential subscribers about all ADSL modems approved by ICASA? If so, how?

Question 2

Should customers be restricted to only two suppliers of modems?

Question 3

Should Telkom guarantee the throughput speeds from the service?

Question 4

Did Telkom inform its subscribers that they intended introducing a cap of 3GByte on the service? If so, when and how?

Question 5

Is it reasonable to put a 3GBtye cap on the service? Given the capping of the service, do the subscribers still get the promised 512kbps downstream speed? Please explain?

Question 6

Telkom has also communicated that the 3Gbyteyte cap protects users from a small minority of people who abuse the service. What would be regarded as abuse of service according to Telkom? Is this an international norm? Is it possible to identify and penalize the minority that abuses the service?

Question 7

How does port prioritization affect the quality of service that subscribers receive? Should Telkom give traffic priority to certain subscribers? When should subscribers be informed about port prioritization and how it would affect them?

Question 8

Should there be a duplication of payment for line rental *i.e.* ADSL line and line rental business or residential line rental?

Question 9

Should Telkom include bandwidth into the costs of line rental and   modems?

Reference:Telkom's response to complaints from ICASA

Question 10

How can ICASA ensure that the cost of the service is not excessive?

Question 11

Considering the cost of the service, should subscribers monitor their international utilization? Or should it be Telkom's responsibility to so monitor?

Question 12

Should Telkom have a service agreement with ADSL subscribers? What should it entail?

Question 13

Should subscribers of any service be negatively impacted by other subscribers especially if they are paying a premium for the service? How can the situation be remedied?

Question 14

On average what kind of service do ADSL subscribers experience?