



**PRESS RELEASE - 22<sup>nd</sup> September 2003**

## **PUBLIC CONSULTATION**

### **Regulatory Framework for the Provision of Internet Services**

1. The Lesotho Telecommunications Authority (“the Authority”) hereby provides notice and invites proposals and/comments on the provision of: a) International Internet Bandwidth provision, and b) Access to the Internet using broadband wireless network solutions.
2. Interested persons are hereby invited to submit written representations, including an electronic version of representation by email, of their views by no later than 16h00 on 16<sup>th</sup> October 2003.
3. Persons making representations are further invited to indicate whether they are requesting an opportunity to make oral representations (and the estimated duration there of, which duration shall not exceed one hour).
4. Written representations may be:
  - a) Posted or hand delivered for the attention of:

**The Chief Executive  
Lesotho Telecommunication Authority  
6<sup>th</sup> floor Moposo House  
Kingsway Road  
P.O. Box 15896  
MASERU 100  
LESOTHO**

b) E-mailed to [ceo@lta.org.ls](mailto:ceo@lta.org.ls) or [admin@lta.org.ls](mailto:admin@lta.org.ls)

5. All written representations submitted to the Authority pursuant to this notice shall be made available for inspection by interested persons from 22<sup>nd</sup> to 28<sup>th</sup> October 2003 at the offices of the Authority, and copies of such representations and documents will be obtainable on payment of a fee.
6. All submissions shall be treated as public information and respondents are advised not to include any information that they regard as confidential. However, respondents are encouraged to show, in general terms, the cost-effectiveness of their proposals.
7. In order to provide for a wider basis for representations to be made during the enquiry, the Authority has compiled questions that are pertinent to this issue.
8. These questions have been incorporated into the annexure hereto titled “**Consultation Document – Regulatory Framework for the Provision of Internet Services**” (hereinafter referred to simply as the “Consultation Document”).
9. Representations may address any relevant issue, whether or not such issue has been raised in the Consultation Document. Furthermore, it is not a prerequisite that representations should address any or all of the issues raised in the document.
10. The findings, recommendations and conclusions by the Authority following public comment, will be made publicly available.

*Consultation Document***Regulatory Framework for the Provision of Internet Services****1. Objective**

Lesotho Telecommunication Authority's goal in holding this public consultation is to formulate a regulatory framework for:

- a) International Internet Bandwidth provision, (1<sup>st</sup> Tier ISPs).**
- b) Wireless Internet Access Networks provision**
  - **Wide Area Networks (WANs)/Metropolitan Area Networks (MANs)**
  - **Local Area Networks (LANs) including "hotspots"**

**2. Introduction**

The Authority recognises the important role of information and communications technologies in the economic development. In particular, the role of access to the Internet is highlighted. However, over the past years, widespread Internet access in Lesotho has been limited, mainly by market and regulatory factors.

At present internet access provision in Lesotho is through wire-line connectivity with limitations such as non-availability of Integrated Services Digital Network (ISDN), Digital Subscriber Line (xDSL) and Fibre-To-The-Curb (FTTC) hence unavailability of broadband internet services.

In an effort to address this problem, the Authority has decided to seek public comments regarding possibilities for improving the quality of Internet services. First, the Authority has recognised the need for intervention in the international bandwidth service provision. Next, as a way of addressing the cost of access, the Authority has seen the need to provide for alternatives for the consumer. Hence, the need for discussions on the possibility of creating a new service category for a first Tier Internet service provider; allowing the provision of broadband service through wireless infrastructure; and making ISM bands licence exempt.

The purpose of this paper is to invite representations concerning licensing arrangements for frequency spectrum bands for the provision of Internet access, having particular regard to the following objectives of the Telecommunications Act:

- Regulation of info-communications in the public interest;
- Encouragement of investment and innovation in the telecommunications industry;

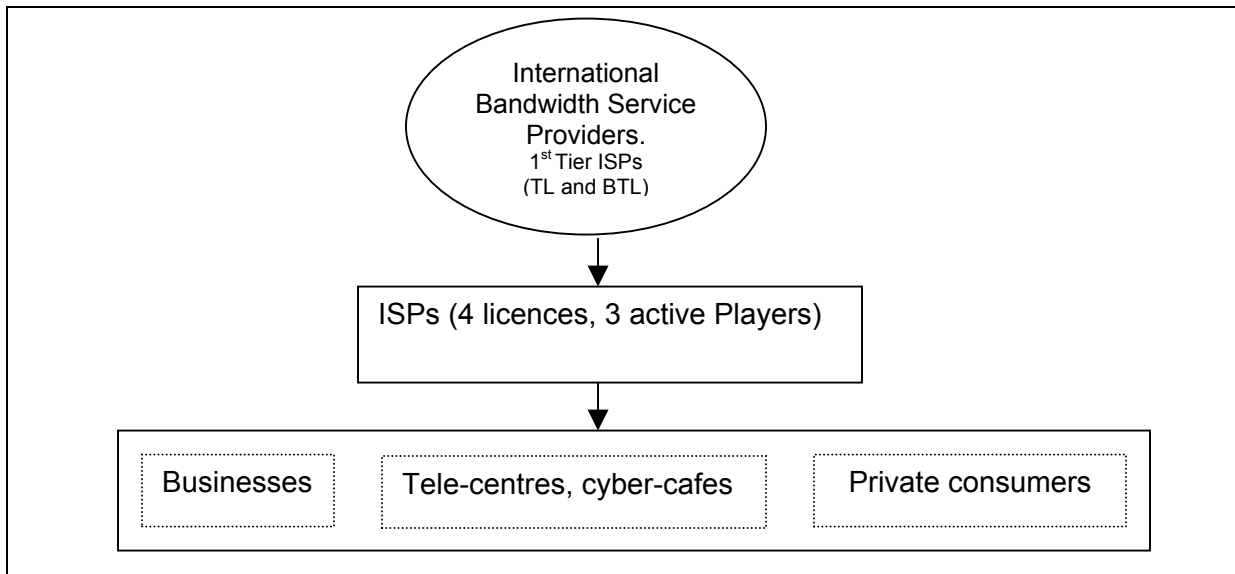
- Efficient allocation of radio spectrum, which is a limited resource;
- Promotion of the universal and affordable provision of telecommunication services;
- Promotion of network development so that the majority of Basotho have universal access to telecommunication services;
- Promotion of the development of telecommunication services which are responsive to the needs of users and consumers;
- Promotion and facilitation of convergence of telecommunication, broadcasting and information technology.
- Establish a method of allocating licences where demand for spectrum is likely to exceed supply.

This paper is organised into three sections. Section A deals with issues relating to the provision of international internet bandwidth service. Section B is on wireless Internet access networks, incorporating broadband wireless access in bands other than the Industrial, Scientific and Medical (ISM) bands followed by wireless local-area-networks (WLAN) in the ISM bands. Section C is an extraction of questions contained in the preceding sections, organised for ease of answering.

## **SECTION A: INTERNATIONAL INTERNET BANDWIDTH PROVISION**

### **1. The Internet market in Lesotho.**

The Internet market is currently organised as shown below:



**Figure 1**

2. There is presently only one active International Bandwidth Service Provider in Lesotho. This service provider has an international gateway that connects the country to the rest of the Internet world. There have been complaints by ISPs on the cost, quality and variety of services available. The Authority deems the solution to this problem as competition. Based on the market size, and the maturity of the market, the Authority would like to get views on the following:
  - a) Allowing every licensed ISP to have their own international gateway if they want (full competition).
  - b) Introducing competition by licensing a limited number of International Internet Bandwidth Service Providers (first Tier ISPs).
3. First Tier ISPs would have to interconnect with each other and with the smaller ISPs in some way. The Authority is interested in getting views regarding ways in which such interconnection should happen.

- a) What level of competition do you think would work in Lesotho in this regard? (i.e. full competition or limited competition)**
- b) Assuming 2(a) of section A prevails, what do you think of the cost of infrastructure duplication being higher than necessary and thus defeating the goal of containing costs so as to make service affordable to the largest number of potential users?**
- c) Assuming 2(b) of section A prevails, what type of company would be most suitable for this undertaking? A company co-owned by players in the industry; an entity privately owned, that bids for a licence; other (please explain).**
- d) In your view, (taking into account the market size) what should be the appropriate number of 1<sup>st</sup> Tier ISPs in Lesotho?**

## **SECTION B: WIRELESS INTERNET ACCESS**

### **I. WIDE AREA NETWORKS**

#### **1. Broadband Wireless Access**

Broadband Wireless Access is defined as a service that uses the radio spectrum to transmit data at rates in excess of 256 kbps and which can transmit data, video and voice and other signals.

##### **1.1. Broadband Fixed Wireless Access (BFWA)**

Fixed wireless access is defined as a service that provides data rates in excess of 256 kbps and which can transmit data, video and voice and other signals. Current standards in this area are the Wireless Fidelity (Wi-Fi) standards (802.11a, 802.11b, 802.11g), HiperLAN and IMT-2000. .

##### **1.2. Mobile wireless broadband**

This is defined as the specification of physical and medium access control layers of an air interface for interoperable mobile broadband wireless access systems, operating in licensed bands below 3.5 GHz, optimized for IP-data transport, with peak data rates per user in excess of 1 Mbps. It supports various vehicular mobility classes up to 250 km/h in a Metropolitan Area Network (MAN)/Wide Area Network (WAN) environment and targets spectral efficiencies, sustained user data rates and numbers of active users that are all significantly higher than achieved by existing mobile wireless systems.

**Should Internet Service Providers be allowed to roll out wireless networks to connect their customers?**

##### **1.3. Regulatory Framework for Broadband Wireless Access (outside the ISM Bands)**

- 1.3.1. The Authority has realised the need for spectrum reservation for BWA:  
Currently spectrum allocation is made on a “first-come-first-serve” basis.  
However, in some cases demand is likely to exceed supply.

**Comments are invited on the preferred method of allocating spectrum for internet wireless access services.**

The Authority is interested in the business case for Wide Area Networks in Lesotho, where possible; kindly provide information for a business case for WANs.

## II. WIRELESS LOCAL AREA NETWORKS

1. WLAN is an acronym for Wireless Local-Area Network. WLAN supports communication over short distances using radio or infrared signals instead of cable networks. It is a type of Local-Area Network (LAN) that uses high-frequency radio waves rather than wires to communicate between nodes.
2. A LAN (wireless or wired) is a computer network that spans a relatively small area. Most LANs are confined to a single building or group of buildings (depending on their proximity). However, one LAN can be connected to other LANs over any distance via telecommunication facilities.
3. WLAN Standards:
  - 3.1. There are a number of WLAN standards around the world. The European Telecommunications Standardisation Institute (ETSI) has a standardized WLAN called HiperLAN2. The American community, the Institute of Electrical and Electronics Engineers (IEEE) has created a standard called 802.11b, 802.11a and recently 802.11g. In the industry, 802.11 are also known as “Wi-Fi”.
  - 3.2. WLAN operates in two unlicensed bands:
    - The standards 802.11b and 802.11g operate in the 2.4 GHz band, together with other devices including Bluetooth and home cordless telephones.
    - The 802.11a standard operates in the 5 GHz band, which at this point is relatively free of interference from other electrical devices operating in this band.
  - 3.3. A WLAN network core component consists of:
    - 3.3.1. A WLAN access point, which is effectively a base station that can support many clients. It broadcasts messages on a certain frequency and interrogates responses from clients.
    - 3.3.2. The WLAN access card is the client interface that talks to the access point. Typically it can be a PC card or compact Flash card format that can be inserted into a laptop or Personal Digital Assistant (PDA).
    - 3.3.3. It is the Authority’s initial view that WLAN equipment (the access point and the access card) forms part of Customer Premises Equipment (CPE).

**Kindly provide your comments on whether WLAN equipment forms part of Customer Premises Equipment.**



4. The Authority has done some initial investigation and has identified that there are presently 2 (two) key market areas for WLAN:

4.1. Private Access (Corporate, Small Office/Home Office)

- Usage is mainly as an adjunct to corporate fixed LAN provided via a Private Telecommunications Network (PTN), giving users the freedom to move within their premises;
- WLANs are used as the major hub for all wireless Internet connection within a home or office. WLAN access points usually connect to a major backbone via fixed or wireless networks, e.g. an ADSL/cable modem.

4.2. Public Access

- Usually referred to as public 'hotspots'.
- Provides public access usually in highly targeted areas where business users frequent or places where people wait, and are relatively stationary e.g. airports, train stations, coffee shops, hotels, shopping centres etc....

**Kindly provide your input on the size, nature and scope of the two markets (public and private).**

**The Authority is interested in the business case for public WLANs in Lesotho, where possible; kindly provide information of the business case for WLANs in Lesotho.**

5. Regulatory Framework for WLANs

5.1. Spectrum Licensing

A WLAN can be deployed for use in the ISM bands without a spectrum licence in accordance with the following:

- 5.1.1. operates in accordance with specified EIRP (total radiated power);
- 5.1.2. utilises equipment that has been type approved in terms of section 50.(1) of the Lesotho Telecommunications Act 2000;
- 5.1.3. cause no interference to users of ISM equipment as prescribed by the ITU within this band or other radio users outside this band;
- 5.1.4. acknowledges that there will be no protection against harmful interference in this band;
- 5.1.5. be confined to the same premises/buildings and between the computer systems of the same user.

## 5.2. Service Licensing

- 5.2.1. Section 27(1) of the Telecommunication Act prescribes that “No person shall establish or provide telecommunication service in Lesotho except under, and in accordance with a licence issued pursuant to this Act.” If the provision of wireless Internet access via a WLAN is not dealt with in terms of an existing service licence category, then LTA may prescribe a service category for such a service. LTA may also prescribe telecommunication services or activities that may be provided without a licence.
- 5.2.2. One of the issues that the Authority seeks to address is whether a person providing a public WLAN is providing a telecommunication service and if so must it be licensed in this case or not?
- 5.2.3. It is the Authority’s initial view that the owner of a public WLAN (“Hotspot”) is providing a telecommunications service (conveyance of signals) to third parties. However, it should be further pointed out that although providing a telecommunication service, the actual function of a “Hotspot”, while used on customer premises, is the same as that, of the service provided by a traditional wired-LAN Internet Café.
- 5.2.4. In order to encourage the Internet usage, the Authority sees the importance of making Internet service provision as easy as possible for service providers. Therefore, in consonance with the ITU-R regulations use of ISM frequency bands is unlicensed.

**The Authority seeks your comments on its intention to create a new service category for ‘hotspots’ and for wireless internet access using the ISM bands.**

**In line with the previous question, the Authority proposes the following definition for wireless internet access and seeks your comments thereon:**

**“Wireless Internet Access means: Internet access obtained over short distances using low power radio signals instead of traditional network cabling”**

**The Authority further proposes that hotspots, if created be permitted without a telecommunications service licence where:**

- a) The service is provided on a single premises;**
- b) The service falls within the limits of a low power device; and**
- c) The person providing the Wireless Internet Access is using the services of licensed service providers.**

**Please comment on the above.**

- 5.2.5. The Authority is aware that wireless equipment could potentially be used to communicate outside or between customer premises and such use is prohibited.

## **General**

1. Please briefly give your view of the sustainability of the internet service provision business in Lesotho.
2. Please provide your views on the relationship between the provision of Internet services using BWA networks and WLANs and the existing rights of licensed service providers.
3. The Authority seeks the views of all interested parties on the above, and on any other matters, which may not have been raised in the document related to the objectives of this document.

For ease of reference, the questions contained in this document are listed on the next page.

## **SECTION C: LIST OF QUESTIONS**

### **QUESTION 1**

- a) What level of competition do you think would work in Lesotho in this regard? (that is full competition or limited competition)
- b) Assuming 2(a) of section A prevails, what do you think of the cost of infrastructure duplication being higher than necessary and thus defeating the goal of containing costs so as to make service affordable to the largest number of potential users?
- c) Assuming 2(b) of section A prevails, what type of company would be most suitable for this undertaking? A company co-owned by players in the industry; an entity privately owned, that bids for a licence; other (please explain).
- d) In your view, (taking into account the market size) what should be the appropriate number of 1<sup>st</sup> Tier ISPs in Lesotho?

### **QUESTION 2**

- a) Should Internet Service Providers be allowed to roll out wireless networks to connect their customers?
- b) Comments are invited on the preferred method of allocating spectrum for internet wireless access services.
- c) The Authority is interested in the business case for Wide Area Networks in Lesotho, where possible; kindly provide information for a business case for WANs.

### **QUESTION 3**

Kindly provide your comments on whether WLAN equipment forms part of Customer Premises Equipment.

### **QUESTION 4**

- a) Kindly provide your input on the size, nature and scope of the two markets (public and private).
- b) The Authority is interested in the business case for public WLANs in Lesotho, where possible; kindly provide information of the business case for WLANs in Lesotho?

## **QUESTION 5**

**The Authority seeks your comments on its intention to create a new service category for ‘hotspots’ and for wireless internet access using the ISM bands.**

**The Authority proposes the following definition for wireless Internet access and seeks your comments thereon:**

**“Wireless Internet Access means: Internet access obtained over short distance using low power radio signals instead of traditional network cabling”**

**The Authority further proposes that such service category, if created be permitted without a telecommunications service licence where:**

- a) The service is provided on a single premises;**
- b) The service falls within the limits of a low power device; and**
- c) The person providing the Wireless Internet Access is using the services of licensed service providers.**

**Please comment on the above!**

## **QUESTION 6**

**Please provide your views on the relationship between the provision of Internet services using BWA networks and WLANs and the existing rights of licensed service providers.**

## **QUESTION 7**

**How many licences for a 1<sup>st</sup> Tier ISP do you think would be sustainable in this sector of the market, and why?**

## **QUESTION 8**

**Please briefly give your view of the sustainability of the Internet service provision business in Lesotho.**