

BOTSWANA COMMUNICATIONS REGULATORY AUTHORITY



**SURVEY ON INTERNET CONNECTIVITY IN KEY STRATEGIC
AREAS IN BOTSWANA (HOSPITALITY FACILITIES)**

MARCH 2014

TABLE OF CONTENTS

1.0 INTRODUCTION.....	4
2.0 OBJECTIVE	4
3.0 METHODOLOGY	5
4.0 FINDINGS.....	6
4.1 Availability of Internet	6
4.2 Types of Internet Technology Deployed	6
4.3 Internet Bandwidth Capacity Procured.....	6
4.4 Turnaround Time for Fault Repair by Service Providers	8
4.5 Quality of Internet Provided.....	9
4.6 Broadband Internet Pricing	9
4.7 Last Mile Connectivity	10
5.0 CONCLUSION.....	11
6.0 RECOMMENDATIONS.....	12
Annexure 1	14

LIST OF FIGURES

Table 1: Types of Internet Technologies	6
Table 2: Internet Bandwidth Capacity Procured	7
Table 3: Location of hotels and turnaround time for resolution of faults by Service Providers	8
Table 4: BTCL Corporate Retail Bandwidth Prices as at February 2014	10
Figure 1: Internet Bandwidth Capacity Procured by Facilities.....	7
Figure 2: Market share of Service Providers on hotel internet provision.....	9

1.0 INTRODUCTION

- 1.1 Although Botswana is classified as a middle income country endowed with natural resources and has invested heavily in the ICT infrastructure, the country's internet connectivity or penetration rate and speeds are relatively low. The internet connectivity paints a gloomy picture for economic growth. This has resulted in concerns and complaints by internet users across various sectors of the economy. Against this background, the Botswana Communications Regulatory Authority (BOCRA or Authority) is carrying out an assessment of internet connectivity in key strategic areas of the economy. The Authority commenced the assessments on connectivity in the hospitality industry during the month of November 2013.
- 1.2 The hospitality industry the world-over aims at increasing customer loyalty and value for money as they make their Facilities more hospitable and enjoyable. The desire is to among others, improve productivity and communication of customers by investing in modern technology infrastructure capable of providing high-speed broadband internet services.
- 1.3 The Botswana communications market has over the past few years experienced considerable developments which include:
 - Connectivity to high capacity infrastructure;
 - Technological revolution and convergence;
 - Competitive service offering by communications industry players;
 - Improved access to information; and
 - Price reductions for voice and data services.
- 1.4 The report focuses on internet connectivity and efficiency in Hospitality Facilities in Botswana. For purposes of this report, "Hospitality Facilities" refers to any facilities including but not limited to guesthouse, campsite, motel, lodge and hotel.
- 1.5 "Internet Service Providers" refers to Public Telecommunications Operators (PTOs) and Value Added Network Service (VANS) licensees who provide Internet services to hospitality facilities.

2.0 OBJECTIVE

- 2.1 The objective of the study was to assess various aspects of internet connectivity with a view to make recommendations for service improvements in the hospitality facilities. The following were assessed:
 - Availability of Internet connection at the Facilities;
 - Internet bandwidth procured;
 - Contracted Internet Service Providers;
 - Quality of internet service provided;
 - Average numbers of internet users per month;
 - Internet bandwidth upgrade plans; and
 - Broadband Internet Pricing.

3.0 METHODOLOGY

- 3.1 A simple random sample of sixty four (64) hospitality facilities was picked from fifteen (15) locations throughout Botswana. The locations and the Facilities covered are shown on **Annexure 1** of the report. Data collection involved site visits and administration of structured questionnaires to personnel at the respective facilities. The facility personnel interviewed included Managers, IT officers and front desk attendants, who either completed the questionnaires individually or discussed with interviewers and provided the answers.
- 3.2 The survey sample was divided into two groups, each covered by a group of interviewers, from the 8th to the 14th of November 2013. One group covered the tourist areas of Kasane, Maun and Ghantsi, while the other group covered the Eastern corridor and the Trans Kalahari Highway areas.

4.0 FINDINGS

4.1 Availability of Internet

- 4.1.1 The study focused primarily on availability of internet services for utilisation by guests and connectivity for daily operations of the hospitality business such as data transfer and online bookings. A total of fifty-two (52) facilities provided internet access to customers, constituting 81% of the total of 64 surveyed facilities. The internet was found to be mostly offered as a complimentary service.
- 4.1.2 Twelve (12) Facilities recorded no internet availability for customers. These facilities however, indicated that they often received enquiries from customers on internet provision and were exploring means of providing the service.

4.2 Types of Internet Technology Deployed

- 4.2.1 As shown on Table 1 below, the most common Internet technology used at the hospitality facilities was Asymmetric Digital subscriber Line (ADSL) with a total of 41%, followed by Satellite (VSAT) at 22% and Fixed Wireless at 9%.

Table 1: Types of Internet Technologies

Internet Technology	Number of Hospitality Facilities	Percent (%)
ADSL	26	41
VSAT	14	22
Fixed Wireless	6	9
Unidentified	18	28
Total	64	100

- 4.2.2 VSAT services were found to be mostly used in remote locations where there was lack of other forms of infrastructure for internet connection.
- 4.2.3 Some Hospitality Facilities were not able to provide information on their type of internet technologies as they did not have personnel with ICT skills available at the time of the study. This category accounted for 28% of the interviewed Facilities.

4.3 Internet Bandwidth Capacity Procured

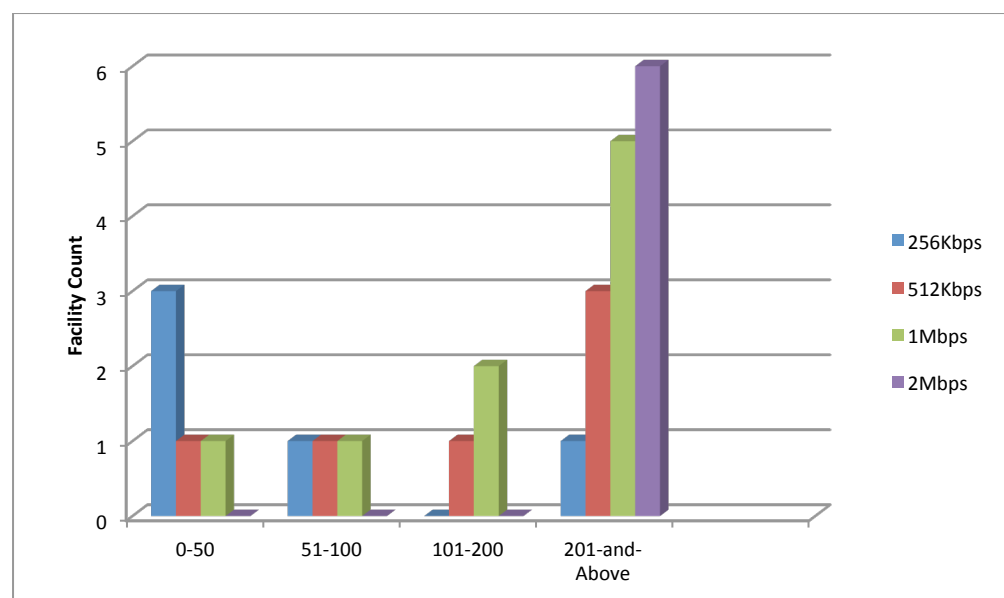
- 4.3.1 Bandwidth capacity was studied across Hospitality Facilities with different number of customers per month as illustrated by table 2 and figure 1 below. 56% of the Hospitality Facilities with connectivity (29 out of 52) indicated the

bandwidth capacities they procured. Facilities in categories of 0-50 and 51-100 customers per month were found to be mostly procuring lower Internet bandwidth capacities of 256Kbps and 512Kbps. Capacity bandwidth of 512Kbps and 1Mbps were recorded for facilities within the category of 101-200 customers per month. For Facilities with 201 and-Above customers per month, mixed capacities for Internet bandwidth were procured.

Table 2: Internet Bandwidth Capacity Procured

No. of Customers per Month	Internet Bandwidth Capacity					
	256 Kbps	512 Kbps	1Mbps	2Mbps	>2Mbps	Total
0-50	3	1	1	0	0	5
51-100	1	1	1	0	0	3
101-200	0	1	2	0	0	3
201-Above	1	3	5	6	3	18
Total	5	6	9	6	3	29

Figure 1: Internet Bandwidth Capacity Procured by Facilities



4.3.2 The study revealed some instances where facilities with high number of customers per month subscribed to lower bandwidth capacities. This goes against the general expectation for the relationship between Facility size and internet bandwidth capacity to assume an increasing trend. It is expected that larger Hospitality Facilities should purchase high bandwidth capacities to meet the needs of consumers with high demand for reliable internet provision.

4.3.3 The study further established that hotel management are not well informed about various internet service packages and products as well as the available Internet Service Providers in the market. Some Facility managers were under the impression that they were subscribing to the maximum bandwidth capacity whilst in fact they were being provided with bandwidths below the appropriate capacity.

4.4 Turnaround Time for Fault Repair by Service Providers

4.4.1 Table 3 below depicts the number of Facilities against service provider's turnaround times for repair of internet faults. 67% of the Facilities indicated that they received assistance within 24 hours from the time they log a fault despite the distant location of the Service Provider. Some of them reported that Service Providers use remote assistance to troubleshoot and resolve network problems. Some hotels were however not happy with turn-around times by Service Providers indicating that they take longer than 48 hours to repair faults.

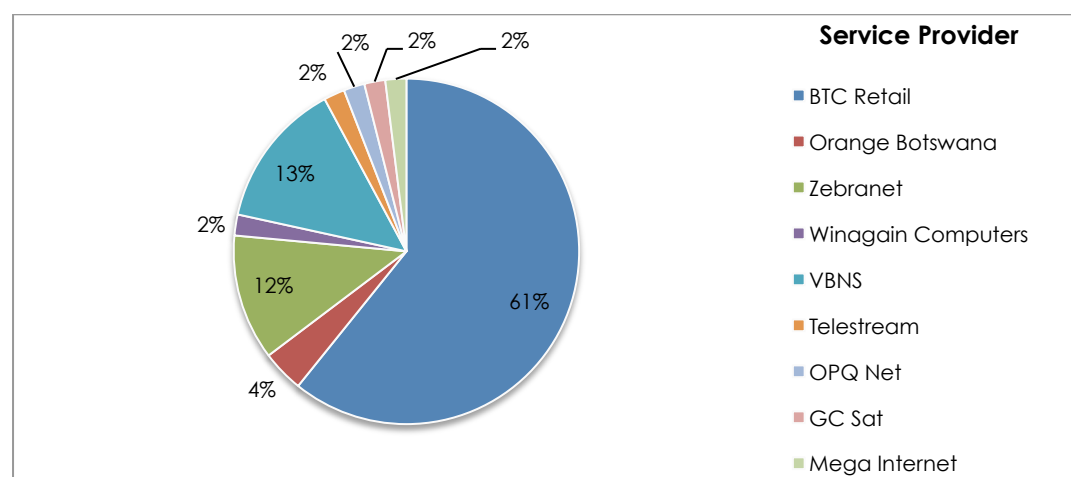
Table 3: Location of hotels and turnaround time for resolution of faults by Service Providers

LOCATION	Turnaround Time of Fault Repair			Total
	0 - 24 hours	24 - 48 hours	48 hours and Above	
Serowe	0	2	1	3
Mahalapye	3	0	0	3
Selibe Phikwe	2	1	1	4
Francistown	2	0	1	3
Palapye	5	0	0	5
Jwaneng	1	1	0	2
Kanye	2	0	0	2
Kang	0	2	0	2
Lobatse	1	0	0	1
Maun	4	1	0	5
Ghanzi	0	1	0	1
Kasane	2	0	2	4
Gaborone	6	0	0	6
Mogoditshane	2	0	1	3
Kazungula	0	1	0	1
Total	30	9	6	45*

Note: * There was no response from 7 Facilities

4.4.2 Some of the Hospitality Facilities attributed the slow turn-around time by BTCL to its large customer base. BTCL has the highest market share (**see figure 2**) on internet provision and many VANS depend on BTCL to provide them with the internet to be able to service to Hospitality Facilities. This dependency of VANS on BTCL for internet services was also a major concern highlighted by Hospitality Facilities who are subscribing for the ADSL service from BTCL. They indicated that this arrangement has impacted on service provision and turnaround time by Service Providers. The study has further revealed that there are some of the hospitality facility management personnel who feels that since the VANS migrated to the new ADSL Connect product offered by BTCL allowing VANS to manage their own bandwidth their service provision has not improved.

Figure 2: Market share of Service Providers on hotel internet provision



4.5 Quality of Internet Provided

- 4.5.1 Hospitality Facilities have indicated that internet is generally slow during peak hours, which is a major complaint advanced by users. Frequent power outage is another factor that tends to cripple internet accessibility.
- 4.5.2 Some of the Hospitality Facilities have indicated that one of the challenges that they encounter is unauthorised access to their network by outsiders. This leads to congestion of the network, as the guests have to compete for bandwidth with other people around the hospitality outlets.

4.6 Broadband Internet Pricing

- 4.6.1 Some Hospitality Facilities indicated that a major hindrance for buying the appropriate bandwidth capacity was high prices of internet packages offered in the market.
- 4.6.2 Table 3 below shows BTCL monthly retail bandwidth prices as at February 2014. Other retail prices charged by VANS can be found at BOCRA website www.bocra.org.bw or the respective sites of the VANS.

Table 4: BTCL Corporate Retail Bandwidth Prices as at February 2014

BTC Internet Bandwidth (Mbps)	Monthly Prices in Botswana Pula (BwP) exc. VAT		
	1 year Contract	2 years Contract	3 years Contract
1 Mbps	6,599.89	6,312.94	5,739.04
2Mbps	13,069.10	12,500.87	11,364.43
3 Mbps	19,409.55	18,565.65	16,877.87
4 Mbps	25,623.17	24,509.12	22,281.01
5 Mbps	31,711.84	30,333.06	27,575.51
6 Mbps	37,677.43	36,039.28	32,762.98
7 Mbps	43,521.79	41,629.54	37,845.03
8 Mbps	49,246.72	47,105.57	42,823.23
10 Mbps	60,345.45	57,721.74	52,474.31
13 Mbps	76,141.91	72,831.40	66,210.36
20 Mbps	109,669.09	104,900.87	95,364.42
30 Mbps	161,979.81	154,937.21	140,852.01
40 Mbps	212,579.88	203,337.28	184,852.07
50 Mbps	299,236.24	286,225.94	260,205.43
60 Mbps	352,008.13	336,703.42	306,094.02
65 Mbps	377,566.47	361,150.54	328,318.67

4.6.3 The entry of Botswana Fibre Networks (BoFiNet) into the market is expected to exert downward pressure on internet bandwidth prices. VANS have an option of buying bandwidth from a number of other Service Providers including BoFiNet, BTCL or Satellite vendors.

4.7 Last Mile Connectivity

4.7.1 Despite access to the international bandwidth through the undersea cables of the Eastern Africa Submarine Cable System (EAssy) and West Africa Cable System (WACS) there is still a challenge with the last mile connection to the end users. Technologies such as satellite are being used in unserved areas and have proven to be expensive leading Hospitality Facilities not to have internet connection altogether. The quality of service of satellite in those areas is generally poor.

4.7.2 It has further been revealed that Facilities in the outskirts of all locations studied had problems of lack of last mile connection.

5.0 CONCLUSION

- 5.1 Provision of internet to customers has become an inseparable part of service provision by Hospitality Facilities worldwide. Customers do not only need accommodation from these centres but also need assurance that they will be able to actively participate in the online arena using 'bandwidth hungry' applications through the use of high speed internet access.
- 5.2 Botswana is looking into the implementation of the National Broadband Strategy and the Hospitality Industry has been identified as one of the crucial sectors which must be connected to high speed internet. Facilities within Hospitality sector should be used to promote internet usage and increase broadband penetration in the country. The results of this study show that most of the Hospitality Facilities in Botswana are embracing provision of internet as one of the marketing tools to attract customers. The study has uncovered the need to avail information about various bandwidth packages, appropriate internet technologies by Internet Service Providers to enable them to serve their clientele satisfactorily.
- 5.3 Internet Service Providers have evolved over time and they are transforming to offer advanced and high speed technologies hence it is critical for information to be availed to customers to make informed choices for their business needs.
- 5.4 In summary the study revealed the following;
 - 5.4.1 That there is generally high demand for internet in the Hospitality Facilities emanating from international and local visitors on business and leisure purposes;
 - 5.4.2 Last mile connectivity is not available in a number of villages, towns and cities such that some Hospitality Facilities connect through other means of communications which are expensive and unreliable;
 - 5.4.3 Many Internet Service Providers were found to be challenged in terms of lacking capability and capacity to effectively service their clients with internet;
 - 5.4.4 There is slow internet speed at the Hospitality Facilities;
 - 5.4.5 The cost of the internet is still high in Botswana;
 - 5.4.6 Some of the places including Kasane, Kang, Maun and Ghanzi had no dedicated personnel from Service Providers to attend to Internet challenges such that attendnace to faults took long. Many Service Providers have offices in either Gaborone or Francistown and are not present in other localities.

6.0 RECOMMENDATIONS

It is recommended that:

- 6.1 Hospitality facilities should ensure that Internet access is universally accessible across the hospitality premises i.e. at the rooms, lobby, poolside, gym, restaurant, business center, etc. Access points and hotspots should be well positioned to guarantee acceptable signal strength in all locations;
- 6.2 Hospitality facilities should use the appropriate internet technologies for service provision. Hospitality facilities should also purchase bandwidth that is capable of serving the magnitude of guests visiting their facilities. The appropriate minimum bandwidth recommended based on number of rooms is stipulated as follows:

No. of Rooms	Internet Bandwidth Required*
5 – 10	At least 2 Mbps
11 – 29	At least 3 Mbps
30 – 49	At least 8 Mbps
50 – 99	At least 13 Mbps
100 – 149	At least 26 Mbps
150 – 199	At least 38 Mbps
200 - 249	At least 51 Mbps
250 and Above	At least 64 Mbps

Note: * These are the preliminary proposed bandwidths, growth in demand for bandwidth by users is expected to increase hence hoteliers should be in a position to upgrade to higher bandwidths.

- 6.3 A separate dedicated internet connection must be provided for premises which have conference facilities or the Hospitality Facilities should apply for additional bandwidth on demand during the events and they should liaise with Internet service providers;
- 6.4 Hospitality facilities should engage Internet Service Providers who have the capability to offer appropriate service and support. The hospitality industry must also make sure that they sign Service Level Agreement (SLA) with Internet Service Providers with clear turnaround times and penalties for non-delivery. BOCRA should ensure that the all Internet Service Providers enter into SLAs with their customers;
- 6.5 BOCRA should develop and monitor Industry Guidelines for the quality of Internet services and minimum requirements of bandwidth that should be followed by hospitality industry and all Internet Services Providers;
- 6.6 MTC and BOCRA should facilitate deployment of infrastructure to areas that do not have service. This can be through subsidies in order to facilitate last mile connection;
- 6.7 BOCRA should embark on consumer education and awareness campaigns through targeted forums like Hospitality And Tourism Association of Botswana (HATAB) and other relevant platforms on issues pertaining to broadband and internet service provision;

- 6.8 BOCRA should write and publish a regulatory notice directing service providers to provide Hospitality Facilities with appropriate Internet bandwidth. The regulatory notice should also direct Internet service providers to properly market and avail information on their various bandwidth packages to their customers to allow them to make informed choices;
- 6.9 BOCRA should continuously monitor and ensure internet price reductions to ensure uptake of services;
- 6.10 BOCRA should engage the Internet service providers with the view to reduce the cost of internet;
- 6.11 MTC and BOCRA should engage all Hospitality stakeholders to make sure that they are aware of the report as well as to monitor the implementation of the recommendations; and
- 6.12 The Botswana Tourism Organisation should use clearly defined parameters for availability of internet at hospitality premises as one of the criteria to issue a licence as well as the grading of the Facilities.

Annexure 1

Locations and Hospitality Facilities Interviewed

Location	Hospitality Facility
Gaborone	• African Home Lodge • Falcon Crest • Lansmore Hotel • Peermont Group • Tlotlo Hotel and Conference Centre • Travel Lodge • Cresta Group
Mogoditshane	• The Big Five Lodge • Living Guest House • Wingate Hotel
Lobatse	• Cumberland Hotel
Kanye	• Motse Lodge • Warm Hands Lodge
Francistown	• Adansonina Hotel • Tati River Lodge • Thapama Cresta • Peermont Mertcourt • Tagala Village Lodge
Jwaneng	• Sawa Sawa Lodge • Mokala Lodge
Ghanzi	• Calvary Guest House • Gantsi Grand Quest • Kalahari Arms • Tautona Lodge
Kang	• Echo Lodge • Kang Lodge • Kang Ultra Stop
Mahalapye	• Best Business Premier Hotel • Cresta Hotel • Madiba Inn • Maeto Lodge • Maeto Hotel
Palapye	• Cresta Hotel • Desert Sands • Kgolagano Centre • Majestic Five • Palapye Hotel • Tapinda Lodge • Harmony Lodge
Serowe	• Lentswe Lodge • The Corner Guest House • The white palace • Honeymoon Hotel

Maun	• Airport Lodge • Centre Lodge • Crocodile Camp • Island Safari • Maduo Lodge • Maun Lodge • Sedia Hotel • Thamalakane River Lodge
Kasane	• Chobe Game Lodge • Chobe Marina Lodge • Chobe Safari Lodge • Water Lily Lodge
Kazungula	• Toro Safari Lodge
Selebi Phikwe	• Bosele Hotel • Hotel Stonehouse • Phikwe Guest House • Phokoje Bush Lodge • Travel Inn • Tuli Toursim