



## BOTSWANA TELECOMMUNICATIONS AUTHORITY

### REGULATORY DIRECTIVE NO. 1 OF 2011

(Pursuant to Section 17 of the Telecommunications Act, Cap 72:03)

## COST ORIENTED PRICING BY PUBLIC TELECOMMUNICATIONS OPERATORS

Per T.G. Pheko, Chief Executive

### DEFINITIONS

1. All words used in this Directive which are defined in the Telecommunications Act shall have the same meanings as are ascribed to them under the Act.
  - “**Act**” means the Telecommunications Act, Cap 72:03;
  - “**Authority**” means the Botswana Telecommunications Authority;
  - “**this Directive**” means Directive no. 1 of 2011;
  - “**LRIC**” means Long Run Incremental Cost model;
  - “**Service Provider**” means any person who provides a telecommunications service;
  - “**PTOs**” means Public Telecommunications Operators;
  - “**Report**” means the Report of the Cost Model and Pricing Framework for Telecommunication Services in Botswana (2010)

“**Wholesale**” means service or product offerings by an operator to Other Licensed Operator (OLO) for purposes of resale or own use by the OLO.”

## **INTRODUCTION**

2. Telecommunication services are important tools for socio-economic development for Botswana. Such services are one of the major utilities needed for rapid growth and modernisation of many other sectors of the economy. In this context, it is critical that the pricing of telecommunication services is done in manner that is efficient as the converse may have a detrimental effect not only on the telecommunications sector but also on other sectors of the economy. In recognition of this critical role played by the Information and Communications Technologies (ICTs) sector, the Botswana Telecommunications Authority (the BTA or the Authority) adopted the use of the Long Run Incremental Cost model (LRIC) for costing of call termination in 2005 following a detailed study on costing and pricing. A pricing framework was developed on the basis of the costing exercise, which framework sought to espouse the principle of Cost Oriented Pricing. The use of LRIC model and Cost Oriented Pricing are in line with international best practice methodologies for costing and pricing of telecommunication services.
  
3. In 2010, the BTA, in close consultation and collaboration with Public Telecommunication Operators (namely Botswana Telecommunications Corporation, Mascom Wireless Botswana (Pty) Ltd and Orange Botswana (Pty) Ltd) and other industry stakeholders, updated the 2005 model. It is on the basis of the results of the 2010 updated model that the Authority defines and directs new pricing developments in the telecommunications market.

## **PURPOSE**

4. The purpose of this Directive is to implement the recommendations of the 2010 Cost Model and Pricing Framework. In so doing, the Authority seeks to foster competition as well as ensure that there are appropriate incentives for long term sustainable investments in ICTs in Botswana. The desired outcome is increased penetration and use of telecommunications services.
5. The Authority hereby issues this Directive in order to address various matters in relation to market, consumer and user concerns arising in terms of Section 17 (2), (a), (b) and (c) of the Act.

## **CHALLENGES**

6. The Authority has identified and determined, among others, that:
  - 6.1 there are incentives for distorted pricing of call termination across networks;
  - 6.2 there are undue discriminatory offerings to different service providers;
  - 6.3 there is inefficient wholesale pricing in general;
  - 6.4 there are indications of high consumer retail tariffs; and
  - 6.5 there is potential for abuse of market power in certain market segments.

## **SCOPE**

7. In order to address the challenges within the different market segments, this Directive shall explicitly focus on:
  - 7.1 Fixed termination rates;
  - 7.2 Mobile termination rates
  - 7.3 Wholesale Asymmetric Digital Subscriber Line (ADSL) prices;
  - 7.4 Wholesale leased line prices;
  - 7.5 Wholesale International Internet Leased Line charges; and
  - 7.6 Filing of Retail tariffs.

## ORDER OF PRECEDENCE

8. This Regulatory Directive supercedes all past directives, rulings or instructions issued by the Authority in relation to matters addressed herein.

## APPLICABILITY

9. This Directive applies to Public Telecommunications Operators and any other service provider who offers a service or product that is directed on herein.

## REGULATED PRODUCTS AND SERVICES

10. The Authority hereby directs that the under-listed products and services be priced as follows:

### Fixed Termination Rates

- 10.1 The following cost oriented fixed termination rates shall be charged for the periods as specified in **Table 1**:

Table 1: Fixed Termination Rates (in BWP)

Year	2011	2012	2013	2014
Termination rate	0.174	0.183	0.191	0.201

### Mobile Termination Rates

- 10.2 The current mobile termination rates, which in some instances are as high as P0.75, are being reduced and the following cost oriented mobile termination rates shall apply for the periods as specified in **Table 2**:

Table 2: Mobile Termination Rates (BWP)

Year	2011	2012	2013	2014
Termination rate	0.453	0.401	0.348	0.295

## Wholesale Asymmetric Digital Subscriber Line (ADSL) prices

10.3 The wholesale Asymmetric Digital Subscriber Line (ADSL) prices shall be revised downwards to align them to cost and make ADSL more affordable. The weighted average reduction on wholesale ADSL prices for bandwidths of 512kbit/s, 1Mbit/s and 2Mbit/s is 17%. The following monthly prices in **Table 3** shall be charged.

Table 3: Wholesale ADSL Monthly Prices

Package	Monthly Price (BWP)
ADSL access charge (512kbit/s)	159
ADSL access charge (1Mbit/s)	207
ADSL access charge (2Mbit/s)	271

10.4 Future price increase on ADSL shall be capped at the Consumer Price Index (CPI) for the period 2011 to 2014. The CPI is published by Statistics Botswana (former Central Statistics Office).

## Pricing of Wholesale Leased Lines

10.5 The wholesale prices which include discounts of up to 43% on the current retail prices shall be implemented in order to optimise economic welfare arising out of immediate possible increase in demand for leased lines. **Table 4** shows the wholesale leased line prices that shall be charged for 9.6Kbit/s to 2Mbit/s:

Table 4: Wholesale Leased Line Prices for 9.6Kbit/s to 2Mbit/s.

<i>Leased line bandwidth (kbit/s)</i>	<i>Distance (km)</i>	<i>Charge per km (BWP)</i>	<i>Monthly fixed charge (BWP)</i>	<i>Monthly access charge (BWP)</i>
9.6	1 – 50	10	55	95
9.6	51 – 200	5	339	95
9.6	201 – 400	2	833	95
9.6	>400	1	1,210	95
64	1 – 50	23	127	190
64	51 – 200	10	772	190
64	201 – 400	5	1,898	190
64	>400	2	2,759	190
128	1 – 50	31	171	285
128	51 – 200	14	1,044	285
128	201 – 400	6	2,567	285
128	>400	3	3,731	285
256	1 – 50	42	225	380
256	51 – 200	18	1,374	380
256	201 – 400	9	3,379	380
256	>400	5	4,909	380
512	1 – 50	56	312	523
512	51 – 200	25	1,904	523
512	201 – 400	11	4,683	523
512	>400	6	6,805	523
1024	1 – 50	80	422	760
1024	51 – 200	36	2,573	760
1024	201 – 400	16	6,328	760
1024	>400	9	9,196	760
2048	1 – 50	103	570	950
2048	51 – 200	46	3,477	950
2048	201 – 400	21	8,550	950
2048	>400	11	12,426	950

10.6 The following wholesale leased line discounts shown in **Table 5** shall be offered for multiple E1s (2Mbit/s) on the same route and the discounts are applied on E1 prices shown in Table 4 above. These discounts shall apply to both the fixed monthly fee as well as the distance-based fee.

Table 5: Wholesale Discounts for Multiple E1s (2Mbit/s) on the same route

Number of E1s on same route	Discount on individual E1s
2	34%
3	48%
4	56%
5	61%
6	65%
7	68%
8	70%
9	72%
10	74%
11	75%
12	76%
13	77%
14	78%
15	79%
16	80%

10.7 For high bandwidth leased lines of 45Mbit/s to 622Mbit/s, the following wholesale prices shall be charged as presented in **Table 6:**

Table 6: Wholesale prices for High Bandwidth Leased Lines for 45Mbit/s to 622 Mbit/s

Leased-line bandwidth (Mbit/s)	Distance (km)	Charge per km (BWP)	Monthly fixed charge (BWP)	Monthly access charge (BWP)
45	1 – 50	380	2117	3553
45	51 – 200	169	12,967	3553
45	201 – 400	84	31 893	3553
45	>400	42	46 344	3553
155	1 – 50	647	3609	6056
155	51 – 200	288	22 101	6056
155	201 – 400	144	54 361	6056
155	>400	72	78 992	6056
622	1 – 50	1175	6551	10 992
622	51 – 200	522	40 115	10 992
622	201 – 400	261	98 666	10 992
622	>400	131	143 374	10 992

10.8 The allowable annual price increases shall be capped to CPI minus a Productivity factor of 1.7%, for all wholesale leased lines from 9.6Kbit/s to 622Mbit/s.

## Wholesale International Internet Leased Lines (ILL)

10.9 Government's investment in the high bandwidth capacity cables has come to fruition as evidenced by the launch of the East Africa Submarine System in December 2010. This is a major breakthrough in promoting Government's objective of achieving universal service and affordable communication services. In this connection the wholesale International Internet Leased Lines (ILL) prices are hereby reduced. The magnitude of this reduction ranges between 21% to 46% of the prevailing ILL prices. The prices to be charged are as set out in **Table 7** below:

Table 7: Wholesale International Internet Leased Lines (ILL) Prices

Product Description	1 Year Contract (BWP per month)	2 Year Contract (BWP per Month)	3 Year Contract (BWP per Month)
Wholesale Internet Bandwidth 1Mbps	15,103	12,587	9,508
Wholesale Internet Bandwidth 2Mbps	30,070	25,058	17,115
Wholesale Internet Bandwidth 3Mbps	44,880	37,400	25,416
Wholesale Internet Bandwidth 4Mbps	59,541	49,613	33,549
Wholesale Internet Bandwidth 5Mbps	74,052	61,710	41,516
Wholesale Internet Bandwidth 6Mbps	87,972	73,311	49,321
Wholesale Internet Bandwidth 7Mbps	101,606	84,674	56,966
Wholesale Internet Bandwidth 8Mbps	114,961	95,798	64,453
Wholesale Internet Bandwidth 9Mbps	128,037	106,699	72,510
Wholesale Internet Bandwidth 10Mbps	140,128	116,776	86,154
Wholesale Internet Bandwidth 11Mbps	152,606	127,167	94,769
Wholesale Internet Bandwidth 12Mbps	164,812	137,340	103,385
Wholesale Internet Bandwidth 13Mbps	176,759	147,302	112,000
Wholesale Internet Bandwidth 14Mbps	188,455	157,046	120,615

Wholesale Internet Bandwidth 15Mbps	199,893	166,580	129,231
Wholesale Internet Bandwidth 16Mbps	211,086	175,909	137,846
Wholesale Internet Bandwidth 17Mbps	222,040	185,035	146,462
Wholesale Internet Bandwidth 18Mbps	232,750	193,956	155,077
Wholesale Internet Bandwidth 19Mbps	243,222	202,688	163,692
Wholesale Internet Bandwidth 20Mbps	251,668	209,726	158,213
Wholesale Internet Bandwidth 22Mbps	274,067	228,392	174,034
Wholesale Internet Bandwidth 24Mbps	295,997	246,663	189,856
Wholesale Internet Bandwidth 26Mbps	317,458	264,547	205,677
Wholesale Internet Bandwidth 28Mbps	338,456	282,044	221,498
Wholesale Internet Bandwidth 30Mbps	355,742	296,453	237,319
Wholesale Internet Bandwidth 32Mbps	375,666	313,052	235,041
Wholesale Internet Bandwidth 34Mbps	395,148	329,290	249,731
Wholesale Internet Bandwidth 36Mbps	414,208	345,175	264,421
Wholesale Internet Bandwidth 38Mbps	432,847	360,706	279,111
Wholesale Internet Bandwidth 40Mbps	451,078	375,897	293,801
Wholesale Internet Bandwidth 45Mbps	497,311	414,426	317,801
Wholesale Internet Bandwidth 50Mbps	547,040	455,865	353,113
Wholesale Internet Bandwidth 55Mbps	589,710	491,429	372,887
Wholesale Internet Bandwidth 60Mbps	636,888	530,740	406,786
Wholesale Internet Bandwidth 65Mbps	676,165	563,468	422,308
Wholesale Internet Bandwidth 70Mbps	720,895	600,746	454,793
Wholesale Internet Bandwidth 75Mbps	756,935	630,782	466,082
Wholesale Internet Bandwidth 80Mbps	799,326	666,108	497,154
Wholesale Internet Bandwidth 85Mbps	832,300	693,580	503,030
Wholesale Internet Bandwidth 90Mbps	872,447	727,036	532,620
Wholesale Internet Bandwidth 95Mbps	911,703	759,757	562,210

Wholesale Internet Bandwidth 100Mbps	940,494	783,748	591,800
Wholesale Internet Bandwidth 110Mbps	1,024,202	853,502	618,431
Wholesale Internet Bandwidth 120Mbps	1,106,136	921,781	674,651
Wholesale Internet Bandwidth 130Mbps	1,162,365	968,640	716,255
Wholesale Internet Bandwidth 140Mbps	1,239,259	1,032,716	771,352
Wholesale Internet Bandwidth 150Mbps	1,314,501	1,095,419	826,448
Wholesale Internet Bandwidth 155Mbps	1,164,473	970,394	823,850
Wholesale Internet Bandwidth 165Mbps	1,233,404	1,027,834	788,004
Wholesale Internet Bandwidth 175Mbps	1,308,150	1,090,128	835,768
Wholesale Internet Bandwidth 185Mbps	1,382,902	1,152,423	883,524
Wholesale Internet Bandwidth 195Mbps	1,457,655	1,214,711	931,280
Wholesale Internet Bandwidth 200Mbps	1,495,034	1,245,862	955,162
Wholesale Internet Bandwidth 210Mbps	1,569,780	1,308,150	1,002,918
Wholesale Internet Bandwidth 220Mbps	1,644,532	1,370,445	1,050,675
Wholesale Internet Bandwidth 230Mbps	1,719,285	1,432,740	1,098,431
Wholesale Internet Bandwidth 240Mbps	1,794,037	1,495,034	1,146,188
Wholesale Internet Bandwidth 250Mbps	1,868,790	1,557,322	1,193,951
Wholesale Internet Bandwidth 260Mbps	1,943,542	1,619,617	1,241,707
Wholesale Internet Bandwidth 270Mbps	2,018,294	1,681,912	1,289,464
Wholesale Internet Bandwidth 280Mbps	2,093,047	1,744,207	1,337,220
Wholesale Internet Bandwidth 290Mbps	2,167,799	1,806,495	1,384,983
Wholesale Internet Bandwidth 300Mbps	2,242,545	1,868,790	1,432,740
Wholesale Internet Bandwidth 310Mbps	2,317,297	1,931,084	1,480,496
Wholesale Internet Bandwidth 320Mbps	2,392,050	1,993,372	1,528,252
Wholesale Internet Bandwidth 330Mbps	2,466,802	2,055,667	1,576,016
Wholesale Internet Bandwidth 340Mbps	2,541,554	2,117,962	1,623,772
Wholesale Internet Bandwidth 350Mbps	2,616,307	2,180,257	1,671,528

Wholesale Internet Bandwidth 360Mbps	2,691,059	2,242,545	1,719,285
Wholesale Internet Bandwidth 370Mbps	2,765,812	2,304,840	1,767,041
Wholesale Internet Bandwidth 380Mbps	2,840,557	2,367,134	1,814,804
Wholesale Internet Bandwidth 390Mbps	2,915,310	2,429,429	1,862,561
Wholesale Internet Bandwidth 400Mbps	2,990,062	2,491,717	1,910,317
Wholesale Internet Bandwidth 410Mbps	3,064,814	2,554,012	1,958,074
Wholesale Internet Bandwidth 420Mbps	3,139,567	2,616,307	2,005,837
Wholesale Internet Bandwidth 430Mbps	3,214,319	2,678,602	2,053,593
Wholesale Internet Bandwidth 440Mbps	3,289,072	2,740,890	2,101,350
Wholesale Internet Bandwidth 450Mbps	3,363,824	2,803,184	2,149,106
Wholesale Internet Bandwidth 460Mbps	3,438,570	2,865,479	2,196,869
Wholesale Internet Bandwidth 470Mbps	3,513,322	2,927,767	2,244,626
Wholesale Internet Bandwidth 480Mbps	3,588,074	2,990,062	2,292,382
Wholesale Internet Bandwidth 490Mbps	3,662,827	3,052,357	2,340,138
Wholesale Internet Bandwidth 500Mbps	3,737,579	3,114,652	2,387,895
Wholesale Internet Bandwidth 510Mbps	3,812,332	3,176,940	2,435,658
Wholesale Internet Bandwidth 520Mbps	3,887,084	3,239,234	2,483,414
Wholesale Internet Bandwidth 530Mbps	3,961,836	3,301,529	2,531,171
Wholesale Internet Bandwidth 540Mbps	4,036,589	3,363,824	2,578,927
Wholesale Internet Bandwidth 550Mbps	4,111,334	3,426,112	2,626,690
Wholesale Internet Bandwidth 560Mbps	4,186,087	3,488,407	2,674,447
Wholesale Internet Bandwidth 570Mbps	4,260,839	3,550,702	2,722,203
Wholesale Internet Bandwidth 580Mbps	4,335,592	3,612,996	2,769,960
Wholesale Internet Bandwidth 590Mbps	4,410,344	3,675,284	2,817,716
Wholesale Internet Bandwidth 600Mbps	4,485,096	3,737,579	2,865,479
Wholesale Internet Bandwidth 610Mbps	4,559,849	3,799,874	2,913,236
Wholesale Internet Bandwidth 620Mbps	4,634,601	3,862,162	2,960,992

11. All prices herein are exclusive of Value Added Tax

## **FILING OF RETAIL TARIFFS**

12. Public Telecommunications Operators and other licensed operators who provide products or services whose wholesale tariffs have been pronounced herein, shall file with the Authority the tariff they propose to charge, for such products or services when offered at retail level.
13. The retail tariff must reflect that the termination rates and relevant wholesale prices (which are considered as factors of retail pricing), have reduced. This means that the filed retail tariffs must be proposing reductions of the current consumer prices charged by operators. The submission of retail tariffs must be done on or before the **01 March 2011**. All submissions which are in response to this Directive shall be reviewed and considered for approval by the Authority for implementation from the **1 April 2011**.
14. The Authority will continuously monitor price movements in both the wholesale and retail markets for Telecommunication services to evaluate if necessary action is required to correct the market.

## **COMMENCEMENT OF DIRECTIVE**

15. This Regulatory Directive shall become effective on the date of its issuance.

**Issued at Gaborone on this 8<sup>th</sup> day of February 2011.**

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Thari G. Pheko  
**CHIEF EXECUTIVE**

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