هيئة تنظيم الاتصالات
Telecommunications Regulatory Authority

Wholesale Inbound Services Regulation

Explanatory Note

Ref: MCD/0912/126

27 September 2012

Purpose: To define the position of the Telecommunications Regulatory Authority on the regulationof wholesale inbound services.

Explanatory Note

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List of acronyms and definitions

Batelco	Bahrain Telecommunications Company B.S.C
BD	Bahraini Dinar
CLI	Calling Line Identification
cpm	cents per minute
CPP	Calling Party Pays
fpm	fils per minute
GCC	Gulf Cooperation Council
IA	Indirect Access
IFL	International Telecommunications Facilities Licence
ISL	International Telecommunications Services Licence
LRIC	Long Run Incremental Cost
NNO	Non-Network Operators
OLO	Other Licensed Operator
PSTN	Public Switched Telephone Network
RAO	Reference Access Offer
RIO	Reference Interconnection Offer
RO	Reference Offer
SDR	Special Drawing Right
VoIP	Voice over Internet Protocol

1 Executive Summary

1. Wholesale inbound services are supplied byBahraini Licensed Operators to foreign telecommunications operators to enable the completion of international calls that are made from subscribers in foreign countries to subscribers in the Kingdom of Bahrain. Where a call is made by a subscriber of a foreign network to a subscriber of a network in Bahrain, the foreign operator hands the call over to a Bahraini Licensed Operator, who then conveys the call using international links into Bahrain. The call is then terminated by the fixed or mobile network operator of the call recipient in Bahrain. In other words, call termination is used by Bahraini Licensed Operators to supply wholesale inbound services to foreign operators.
2. Call termination is a bottleneck input and is currently subject to cost-based regulation in Bahrain. Call termination is supplied by a network operator to other operators that compete in the supply of downstream wholesale inbound services to foreign operators. Such competitors rely on the call termination service in order to be able to complete incoming calls, and combine call termination with the international facilities across which such calls are brought into Bahrain.
3. In July 2010, the regulated rates for international inbound call termination on Batelco's fixed and mobile networks were set at the same level as Batelco's domestic termination rates. This reflects the fact that the international inbound termination service is the same as the domestic call termination service, with the same network elements involved.
4. The reduction in international inbound termination rates in Bahrain in recent years has resulted in lower wholesale inbound rates paid by foreign operators. The wholesale inbound rates for calls to Bahrain are now considerably lower than the wholesale inbound rates that apply in other GCC countries. However, while there is some evidence that non-GCC operators have passed these lower wholesale rates through into lower retail prices for calling Bahrain (and in so doing have created some benefit for end users in Bahrain), the lack of retail price differentiation by GCC operators (who account for the majority of international inbound traffic into Bahrain) indicates that the GCC operators have retained the resulting margins earned on calls to Bahrain.
5. In these circumstances, the Telecommunications Regulatory Authority ("the Authority") considers that it is appropriate to introduce a price floor for wholesale inbound services supplied to all foreign operators.[1] Such a price floor, combined with cost-based call termination, will ensure that some economic surplus will be retained within Bahrain, and that Bahrain Licensed Operators are able to compete for such surpluses by having cost-based access to the essential call termination input.
6. The Authorityhas concluded that the following will best satisfy the duties to promote effective and fair competition and protect the interests of end users in Bahrain:
    a. cost-based termination rates for international inbound traffic;

[1] In the Draft Regulation, the Authority had proposed to set a price floor for calls originating in GCC countries only. However, in light of submissions received on the Draft Regulation, the Authority considers that a GCC-only price floor would not be practical, and that a price floor for all international inbound traffic is appropriate.

b. price floors applying to all Bahraini Licensed Operators for wholesale inbound services:
   - 12 fils per minute for calls to fixed subscribers in Bahrain; and
   - 22 fils per minute for calls to mobile subscribers in Bahrain.

7. The Authority will consider reviewing these price floors in the event that relevant market conditions change, such as where the wholesale inbound rates paid by Bahraini Licensed Operators for outbound calls to other GCC countries are lowered.

2 Introduction

8. The purpose of this Explanatory Noteis to set out the Authority's consideration of the regulation of wholesale inbound services that underpins the Regulation releasedby the Authority.The Authority issued a Draft Regulation on wholesale inbound services ("Draft Regulation") for consultation on 26 January 2012[2], and received submissions from interested parties. The Authority has reviewed and amended the Draft Regulation in light of these submissions, as discussed below.

9. This Explanatory Note is structured as follows. Each section contains the text from the Explanatory Note attached to the Draft Regulation ("Draft Regulation – Explanatory Note") with minor amendments, followed by a summary of the submissions received on that section, and the Authority's analysis and position on whether the Draft Regulation should be amended in light of submissions.

10. Section 3summarises the relevant background on the supply of international inbound services to foreign operators, specifically describing the relevant services and the recent history of regulation applying to those services.

11. Section 4 sets out the relevant legal framework within which the regulation of wholesale inbound services must take place. This includes the relevant legal considerations that must be taken into account when comparing alternative regulatory options.

12. In Section5, the Authority considers the regulation of international inbound services, including whether the termination rates for international inbound traffic should be increased and whether the wholesale inbound rates that are charged to foreign operators should be subject to aprice floor. In considering whether to intervene in either of these ways, the Authority has placed significant weight on its duties to protect the interests of users of telecommunications services in Bahrain and to promote fair and effective competition.

13. Section 6concludes with the Authority's decision on which of the options (in the form of aRegulation) would best meet the considerations the Authority is required to have regard to when carrying out its duties under the Telecommunications Law as promulgated by Legislative Decree No. 48 of 2002 (the "Telecommunications Law").

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[2] "The Regulation of Wholesale Inbound Services Consultation", 26 January 2012 (MCD/01/12/006).

14. A number of annexes are also provided to this consultation document. Annex A summarises the network elements involving in supplying international inbound services to foreign operators, illustrating the “vertical relationship” between the call termination elements that are used as an input into the provision of wholesale inbound services. Annex B provides a summary of the main arguments that have been made by various operators in respect of international inbound ratesprior to the issuance of the Draft Regulation on 26 January 2012. Annex C summarises the position that has been taken in a number of other countries on the treatment of international calls terminating within those countries.

3 Background

15. In its Final Order in respect of Batelco’s 2010 Reference Offer, the Authority noted that:[3]

> “the issue of international inbound traffic to fixed and mobile networks is an industry-wide issue and as such needs to be addressed in a separate regulatory proceeding. This is recognized by Batelco and certain other operators, who have approached in the past the Authority. The Authority intends to look at this issue in the first half of 2011.”

16. On 6 June 2011,[4] the Authority wrote to a number of Licensed Operators (the Authority’s “6 June 2011 letter”) requesting further clarification and explanation of how international inbound services are supplied and the nature of the concerns that have been raised by the mobile network operators. The Authority also sought views on the proposals to increase rates, and requested specific information on the volumes and rates of international inbound traffic into Bahrain. Responses were received from all of theseLicensed Operators.

17. On 27 July 2011,[5]the Authority informed all Licensed Operators of its intention to undertake a consultation with the wider industry on international inbound termination rates during the fourth quarter of 2011. In that letter, the Authority noted that it will set out its views on the nature of the issues relating to the supply of inbound services to foreign operators.

18. On 26 January 2012, the Authority released for consultation its Draft Regulation on wholesale inbound services, including an Explanatory Note setting out the Authority’s reasoning for proposing a price floor for wholesale inbound services supplied to GCC operators.[6]Submissions were received from the following parties:

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[3] The Authority “An Order issued by the Telecommunications Regulatory Authority (“TRA”) on the Reference Interconnection Offer and Reference Access Offer of the Bahrain Telecommunications Company B.S.C (“Batelco”)”, 25 January 2011, paragraph 622.

[4]Letters from the Authority to each of Batelco, Zain, Viva, Menatelecom, Kalaam and Etisalcom, re International Inbound Termination Rates, 6 June 2011.

[5]Letter from the Authority to all Licensed Operators, International Inbound Termination Rates, 27 July 2011 (Ref MCD/07/11/112).

[6]The deadline for submissions was originally set as 23 February 2012, with this subsequently extended to 26 February 2012.

a. SGS[7], a company which provides inspection, verification, testing, and certification services;

b. Viva[8];

c. Zain[9];

d. Batelco[10]; and

e. 2Connect[11].

19. The submission from 2Connect has been disregarded as it was submitted after the extended submission date.

20. In the remainder of this section, the Authority provides the background to the regulation of international inbound termination services. Specifically, this includes a description of the relevant services, and the relevant dominance determinations that apply to the termination of calls on fixed and mobile networks.The Authority then provides a summary of the recent history of determining regulated international inbound termination rates in Bahrain. The final subsection summarises the relevant decisions that have been taken at the Gulf Cooperation Council ("GCC") level.

3.1 Description of the relevant services

3.1.1 Draft Regulation – Explanatory Note

21. International inbound termination services are supplied by fixed and mobile network operators in Bahrain to terminate calls that are made from subscribers in foreign countries to subscribers in Bahrain. The international inbound calls are originated on the foreign network, with the foreign network operator handing the call over to a Bahraini Licensed Operator, who then conveys the call into Bahrain using international facilities and links into Bahrain. The call is then terminated by the network operator (fixed or mobile) of the call recipient in Bahrain.

22. Figure 1 below is a generic representation of the supply of international inbound services and international termination services in respect of a call from a foreign operator to a fixed or mobile subscriber in Bahrain. The call is originated by the foreign operator, for example, BT in the United Kingdom. In order to provide the retail call service, BT purchases a wholesale international inbound service ("Wholesale Inbound Service 2" shown in Figure 1) from a Bahrain Licensed Operator, and hands the call over at an agreed international

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[7] SGS "Comments from SGS on the Regulation of Wholesale Inbound Services", 23 February 2012.

[8] Viva "A public consultation on the Regulation of Wholesale Inbound Services: VIVA's response to the Telecommunications Regulatory Authority's Consultation", 26 February 2012.

[9] Zain "Zain Bahrain Response to the TRA Consultation on The Regulation of Wholesale Inbound Service", 26 February 2012.

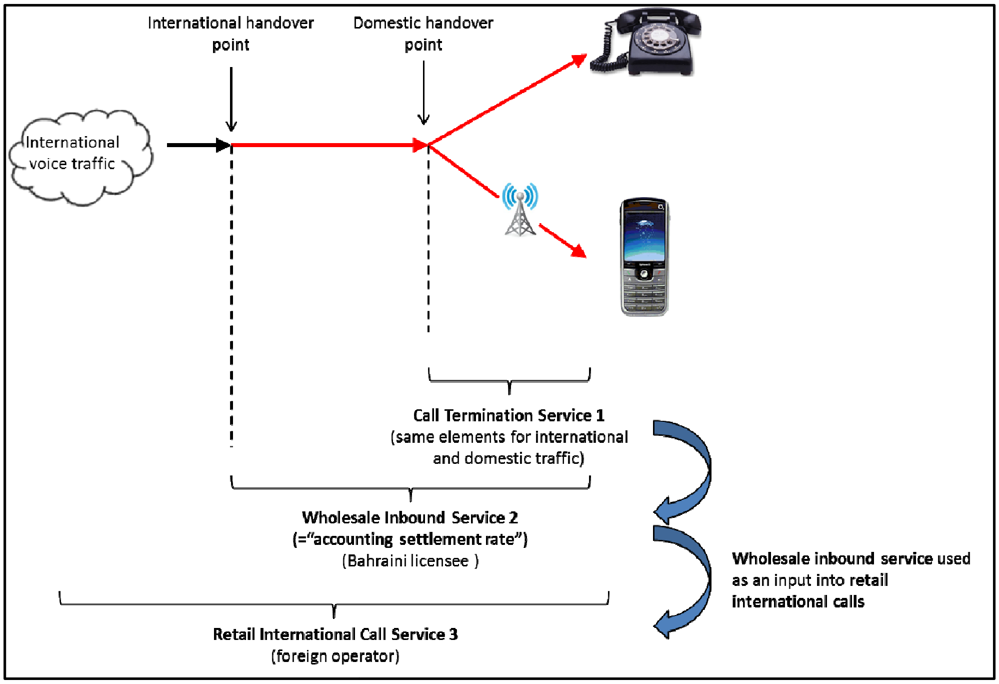
[10] Batelco "Response to the Regulation of Wholesale Inbound Services Consultation", 26 February 2012.

[11] 2Connect WLL "The Regulation of Wholesale Inbound Services", 11 March 2012.

handover point.[12] The BahrainiLicensed Operator carries the call into Bahrain, and terminates the call on the network to which the call recipient subscribes.

23. Where the operator supplying the wholesale inbound service differs from the operator terminating the call, the former will purchase a Call Termination Service (Service 1 shown in Figure 1) from the latter.[13]

Figure 1: Supply of International Inbound Services



24. Having reviewed the operators' responses to the Authority's 6 June 2011 letter, the Authority considers that Figure 1 is a reasonable generic illustration of how these services are supplied. While the operators' responses provided more detail of the facilities and links involved in supplying these services, Figure 1 above is consistent with those responses.

25. As can be seen from Figure 1, there is a vertical relationship between the supply of the Wholesale Inbound Service 2, and the supply of the Call Termination Service 1. The termination service is an 'upstream' input that is used in the supply of the wholesale inbound service.[14] The network operators supplying the wholesale call termination input

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[12] The international handover point is often the notional mid-point of an international facility.

[13]Where the operator supplying the wholesale inbound service also terminates the call, a wholesale Call Termination Service is not explicitly involved, although the underlying network elements involved in terminating the call will be similar.

[14]The tables shown in Annex A also illustrate this relationship by summarizing the network elements involved in supplying wholesale inbound services to foreign operators. The Annex A tables are based on Batelco's Routing Factor Table (2010), using the example of Batelco's 'International – Terminating (InPay)' service in the case of international inbound calls to Batelco fixed subscribers, and Batelco's 'GSM Postpaid – International Incoming (InPay)' service in the

are also involved in supplying wholesale inbound services to foreign operators, and compete with non-integrated operators in supplying these inbound services.

3.1.2 Summary of submissions

26. Batelco submitted that while the Authority's description of the principal parties in the supply of wholesale inbound services is correct, a number of additional operators may also be involved, including "non-network operators" in Bahrain (defined by Batelco to be competitors who do not operate a fixed or mobile access network), as well as transit operators in non-GCC countries.[15]

27. Zain submitted that the Authority's viewthat the termination of international traffic and the termination of domestic traffic involve the same network elements and hence the same cost, is not correct. According to Zain, there are differences between supplying local termination services and international termination services.[16]

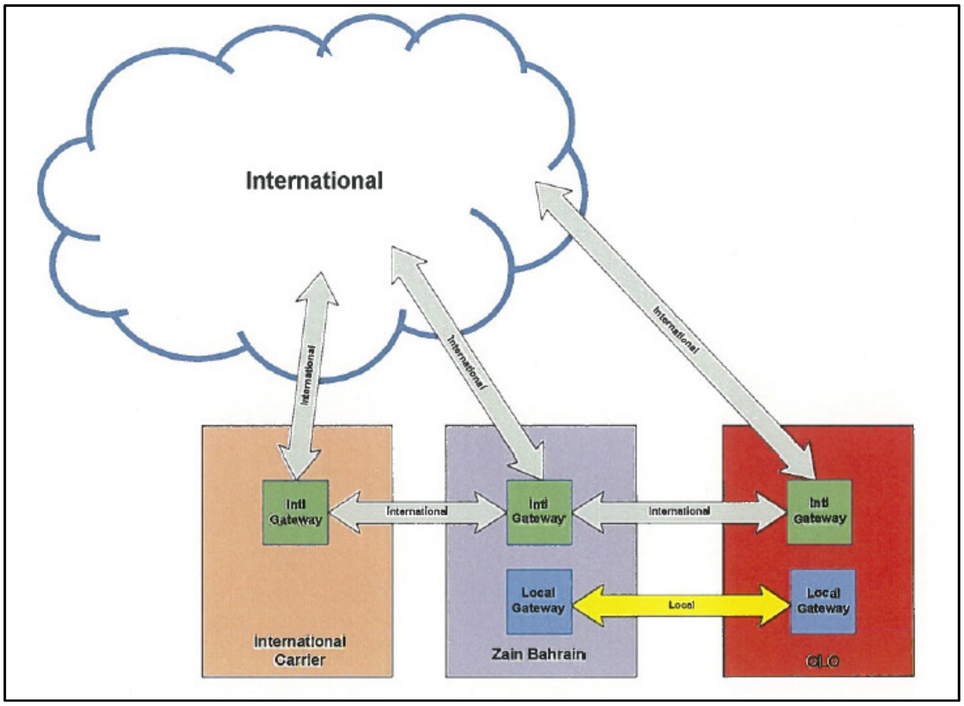
28. Zain used the following diagram to illustrate the differences between termination of international inbound traffic and termination of domestic traffic.Zain noted that international traffic must pass through the international gateway of an operator, whereas local traffic does not. International inbound traffic that terminates on Zain's network in Bahrain passes through Zain's international gateway, irrespective of whether Zain or another Bahrain operator brings the traffic into Bahrain.

case of international inbound calls to Batelco mobile subscribers. The Annex A tables are consistent with the information supplied by other operators in responses to the Authority's 6 June 2011 letter.

[15] Batelco submission, paragraph 16.

[16] Zain submission, Section 2.1.

Figure 2: International Inbound Traffic



29. Zain submitted that there is no vertical relationship between supplying wholesale inbound services and local termination services.

30. No other parties commented on the description of the relevant services.

3.1.3 The Authority's analysis and conclusions

31. In relation to Batelco's comments, it should be noted that Batelco's "non-network operators" are included in the reference in Figure 1above to "Bahraini licensees" who supply wholesale inbound services to foreign operators. Batelco's purpose of distinguishing between "non-network operators" and "network operators" appears to be to facilitate Batelco's subsequent argument that economic profits earned on wholesale inbound services should be directed towards investment in access networks in Bahrain.

32. As Batelco notes, a GCC operator originating a call to Bahrain may hand the call over to a non-GCC transit operator, who would then convey the call through to the Bahrain Licensed Operator providing the wholesale inbound service. In terms of Figure 1above, the transit operator would appear prior to (i.e. to the left of) the international handover point. The inclusion of such transit operators does not affect the analysis.[17]

[17]The inclusion of non-GCC transit operators would be relevant in the event that a GCC-only price floor were to be implemented, as such operators could potentially be used by GCC operators in order to circumvent the price floors. However, as discussed below, the price floors for the wholesale inbound services are to apply to all international inbound traffic, and as a result, the inclusion of non-GCC transit operators does not affect the analysis.

33. Zain's representation of international inbound traffic destined for Zain (as reproduced above in Figure 2) shows that such traffic is conveyed into Bahrain either directly by Zain itself or by another operator who hands the traffic over to Zain at Zain's international gateway. In either case, once the traffic arrives at Zain's international gateway, the termination of such traffic on Zain's network will be essentially the same as the termination of domestic calls on Zain's network. It would appear that Zain's position is based on the incorrect premise that the Wholesale Inbound Service 2 (in Figure 1) is the same as the Call Termination Service 1.

34. However, this is not the case, as can be seen by comparing the network elements involving in supplying the two services. Annex A sets out the network elements associated with Batelco's wholesale inbound services and termination services (Table 3 relates to international inbound calls to Batelco's fixed subscribers, and Table 4 relates to international inbound calls to Batelco's mobile subscribers).

35. In each case of PSTN termination and mobile termination, the same network elements are involved irrespective of where the call originates. While (as Zain notes) international traffic must pass through an international gateway of an operator, once the call is handed over to the terminating network operator, the termination of the international call will involve the same or similar network elements as the termination of a domestic call (as discussed in Annex A).

36. In order to supply the wholesale inbound service to a foreign operator, a Bahrain operator must acquire call termination services from the terminating operator in Bahrain in order for the call to be completed.The call termination service provided by the network operator of the called party is used as an input into the supply of the wholesale inbound service. In that sense, there is a notional vertical relationship between Wholesale Inbound Service 2 and Call Termination Service 1 in Figure 1.

37. The Authority has concluded that the description of the relevant services set out in the Draft Regulation – Explanatory Note remains appropriate.

3.2 Relevant Dominance Determinations

3.2.1 Draft Regulation – Explanatory Note

38. The relevant dominance determinations that relate to the termination of calls on fixed and mobile networks in Bahrain are the following:

    a. Dominance in Interconnection Markets 2003 (the "2003 Dominance Determination");[18] and

    b. Dominance Designation for Termination Services on Individual Mobile Networks 2010 (the "2010 Dominance Determination").[19]

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[18] "Dominance in Interconnection Markets: A Determination by the Telecommunications Regulatory Authority", 9 August 2003, available at http://www.tra.org.bh/en/pdf/Dominance_in_Interconnection_Markets_ERU_DE_005_v1.0_PDF.pdf

39. In the 2003 Dominance Determination, the Authority found Batelco to be dominant in the market for call termination on public fixed networks, and the market for mobile call termination and retail services.[20]

40. In the 2010 Dominance Determination, which the Authority noted supersedes the 2003 Dominance Determination as far as it relates to mobile services,[21] the Authority concluded that the relevant markets are the wholesale market for termination services on Batelco's mobile network, and the wholesale market for termination services on Zain's mobile network. The Authority concluded that both Batelco and Zain are dominant in these respective markets.[22]

41. The Authority notes that the market power concerns that gave rise to the dominance findings in both the 2003 Dominance Determination and the 2010 Dominance Determination do not change according to whether the call originates within Bahrain or outside Bahrain. In particular, under the Calling Party Pays ("CPP") principle which applies in Bahrain, a disconnection is created between the party that pays for the call (and hence pays for termination) and the party that chooses which network to subscribe to. As discussed in the 2010 Dominance Determination, consumers are unlikely to switch operators in response to an increase in termination rates, as consumers are typically unconcerned about the cost of incoming calls as they do not pay to receive calls under the CPP principle.

42. The resulting termination 'bottleneck' allows a network operator to increase call termination rates without risking the loss of subscribers from its network. This applies equally to the termination of calls that are made by subscribers of other domestic network operators (i.e. domestic off-net calls), and the termination of calls that are made by foreign subscribers (i.e. international inbound calls).

43. The Authority also notes that the markets in which both Batelco and Zain were found to be dominant relate to the supply of wholesale termination services on their respective mobile networks. No distinction is made between calls that originate within or outside of Bahrain.

44. As a result of the above determinations, international inbound termination services are currently regulated services in Bahrain. International inbound termination services are included in Batelco's Reference Offer ("RO").[23] Zain has yet to publish its RO.

45. In summary, the 2003 Dominance Determination continues to apply in respect of the termination of calls on Batelco's fixed network, while the 2010 Dominance Determination applies in respect of the termination services on each of Batelco's and Zain's mobile

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[19] "Dominance designation for termination services on individual mobile networks", 1 February 2010, available at http://www.tra.org.bh/en/pdf/FinalDominanceDesignationMTRsPublic.pdf

[20] 2003 Dominance Determination, Section 4.3.

[21] 2010 Dominance Determination, paragraph 8.

[22] ibid, paragraph 90.

[23] Service 2-7 and Service 2-8, Schedule 1, Batelco Reference Offer, available at http://www.batelco.com.bh/portal/Wholesale/wholesale_reference_offer.asp

networks.[24] The Authority considers that there has been no significant changes that would warrant a change in the dominance findings of the 2003 and 2010 Dominance Determinations.

3.2.2 Summary of submissions

46. Zain disagreed with the Authority's view that the termination of international inbound traffic is covered by the 2010 Dominance Determination.[25] According to Zain's submission, international inbound termination and domestic termination are different services and should not be included in the same market, for the following reasons:
    a. the termination of international inbound calls involves more network elements than the termination of domestic calls;
    b. domestic call termination is not a substitute for international call termination;
    c. to supply international inbound services, an operator must hold additional licenses (namely an Individual International Telecommunications Facilities License ("IFL") and an Individual International Telecommunications Service License ("ISL"));
    d. changes in the wholesale price for international inbound services will not affect end users in Bahrain, with the Authority acknowledging in the consultation that foreign operators have not passed on lower wholesale inbound rates into retail call prices;
    e. international inbound services are supplied to the international market, whereas local termination services are supplied to the domestic market.
47. For the above reasons, Zain concluded that the international inbound service should not be treated the same as local calls.
48. No other parties commented on the relevant dominance determinations.

3.2.3 The Authority's analysis and conclusions

49. The Authority is not convinced by Zain's arguments that the 2010 Dominance Determination does not apply to Zain in respect of the supply of call termination services for international inbound calls.
50. In the Draft Regulation – Explanatory Note, the Authority noted that the 2010 Dominance Determination found both Batelco and Zain to be dominant in the supply of termination services on their respective mobile networks. The Authority further noted that the market power concerns apply irrespective of whether the call originates within Bahrain or outside of Bahrain and that as a result, termination services are regulated for both international inbound traffic and domestic traffic.

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[24] On 17 August 2011, the Authority informed all Licensed Operators that a review of the wholesale market for mobile termination services is appropriate in light of Viva's entry and to ensure that regulation is applied consistently. Letter from the Authority to Licensed Operators, Market Reviews, 17 August 2011 (Ref MCD/08/17/128).

[25] Zain submission, Section 2.2.

51. The Authority reiterates that the market power concerns relating to mobile termination services arise under CPP which applies in Bahrain. Under CPP, the terminating operator is able to raise its wholesale call termination rate without risking the loss of its own subscribers, as those subscribers do not pay for incoming calls. The resulting lack of constraint on the terminating operator is not affected where the call originates in another country. The fact that foreign end users pay the higher termination rates does not mitigate the market power concerns.

52. The Authority notes that in October 2010, Zain increased the termination rate that it charges for international inbound calls to its mobile subscribers in Bahrain, from 6.12 fils per minute[26] to 27 fils per minute. The fact that Zain has been able to increase its international inbound termination rate to a level that exceeds the cost-based domestic termination rate by 340% indicates that absent regulation, Zain has dominance in relation to supplying termination services on its network for international inbound traffic. Zain's behaviour indicates that it was commercially unconstrained when increasing its international inbound termination rates.

53. Zain has claimed that it was able to increase its international inbound termination rates because while Batelco is regulated in relation to international inbound termination, Zain is not.[27] Zain claimed that the basis for Batelco being regulated is the 2003 Dominance Determination, which found that only Batelco was dominant.[28] However, those parts of the 2003 Dominance Determination that relate to mobile services were replaced by the 2010 Dominance Determination, which applies to both Zain and Batelco.[29]

54. Zain's argument that additional (IFL and ISL) licenses are required to supply international inbound services does not demonstrate that international inbound termination and domestic termination services are supplied in separate markets. The requirement for an additional license is not onerous, and is unlikely to represent a significant barrier for supply-side switching between termination of international and domestic traffic.

55. The Authority remains of the view that the 2010 Dominance Determination applies in respect of the termination of calls on Zain's mobile network and Batelco's mobile network (irrespective of where the call originates), and that the 2003 Dominance Determination applies in respect of the termination of calls on Batelco's fixed network.

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[26]The 6.12 fils per minute was symmetric with Batelco's regulated cost-based international inbound termination rate.

[27]See letter from Zain to the Authority, 4 July 2011 (Ref: RI/11/07/023), where Zain states: "Due to the fact that Batelco is regulated on the Access Services and Zain Bahrain is not, and the prices of Batelco's RIO are reflecting only Batelco's cost. Zain Bahrain decided to increase its International Termination Rates from being set as same as Batelco (current Batelco RIO is setting this service charge at BD 0.00612 per minutes) to be BD 0.027 per minutes." (para 1a) .

[28]At paragraph 2 of its 4 July 2011 letter to the Authority, Zain refers to the 2003 Dominance Determination as being the basis for Batelco's dominance.

[29] See paragraph 8 of the 2010 Dominance Determination.

3.3 Recent history of regulated international inbound termination rates in Bahrain

3.3.1 Draft Regulation – Explanatory Note

56. Prior to 2006, thetermination rates applying to internationally originated traffic exceeded the termination rates for domestically originated traffic in Bahrain.In Batelco's 2006 Reference Interconnection Offer ("RIO"), Batelco proposed maintaining these differentials between international and domestic termination rates. The Authority disagreed, and in its 2006 RIO Final Order, the Authority determined termination rates for international inbound traffic that reflected the costs of supplying such termination services.[30]The termination rates for international traffic in the 2006 RIO Final Order represented a significant reduction from previous levels.[31]

57. The 2006 RIO Final Order went to arbitration, during which the arbitration panel referred to the possible use of a glide-path to remove the differential between termination rates applying to international and domestic traffic. The Authority considered and accepted a proposal by Batelco to usesuch a glide-path to gradually reduce and eliminate the differential,[32]with the agreed "buffer" level (i.e. the margin above cost) in this glide-path reducing to zero by 1 July 2010 at the latest.

58. Since 1 July 2010, the termination rates for international calls to Batelco's fixed and mobile networks have been set equal to the applicable domestic termination rates.

3.3.2 Summary of submissions

59. No comments were provided on this section in the submissions.

3.3.3 The Authority's analysis and conclusions

60. The Authority has no further comments.

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[30] The Authority, Order No. 3 of 2006 Reference Interconnection Offer Order, 6 August 2006. See Section 4.4(i) for International Inbound Call charges – Fixed, and Section 4.4(j) for International Inbound Call charges – Mobile. In both cases, the Authority noted that the network charge calculated from the 2004 accounts differed from Batelco's proposed charge, and that the difference could not be accounted for. The charges determined by the Authority as being fair and reasonable were based on the network costs of the underlying network components of each service, plus an allowance for the cost of interconnection-specific services..

[31] ibid, page 43. Batelco had proposed maintaining the International PSTN Call Termination charge at the prevailing 9.95 fils per minute, while the charge determined by the Authority was 2.91 fils per minute. For International Mobile Call Termination, Batelco's proposed charge was the prevailing 18.40 fils per minute, while the charge determined by the Authority was 8.33 fils per minute.

[32]The Authority "Reference Interconnection 8 November 2006: Notice on Approved Charges", 7 February 2007, page 12.

3.4 GCC statements

3.4.1 Draft Regulation – Explanatory Note

61. In addition to the Authority's determination of international inbound termination rates through the RO process, it is also relevant to note that the issue of international inbound termination rates has been considered by the GCC Council. The following is a brief history of the GCC Council's consideration of this issue:

    a. The GCC Council first considered the issue in response to a request from Etisalat (UAE) in the 10th meeting of the Ministerial Committee held in Qatar on 28 May 1997. During this meeting, the Ministers agreed to set a cap of 1.5 gold francs[33] per minute, with the option available for operators to agree on lower rates bilaterally;

    b. In 1999, the Ministerial Committee reduced the rate to 1 gold franc per minute to apply from 1 July 1999, and requested the Operations and Tariff Committee of the GCC Council to further study the appropriate mechanism to regulate such rates;

    c. In 2001, the rates were further reviewed and reduced to 0.24 SDR[34] (or approximately 13.8 US cents). The Ministerial Committee notedthat this agreement did not overrule any existing bilateral agreements which were lower than the rates set as per the Ministerial Committee meeting. Although not explicitly stated as such, this clearly indicates that the rates set by the Ministerial Committee are caps;

    d. In 2004, the rates were further reduced to 0.15 SDR (approximately 8.7 US cents), withthe meeting minutes of the Ministerial Committee clearly indicatingthat such rates are caps for termination of traffic between the GCC member states. In this same meeting, the Ministerial Committee recommended that the Operations and Tariff Committeestudy the possibility of having separate rates for fixed and mobile services;

    e. In 2005, the Ministerial Committee acknowledged the initiative undertaken by Batelco (Bahrain), Etisalat (UAE) and Qtel (Qatar) in implementing new rates of 8 US centsfor calls to fixed and 10 US cents for calls to mobile. The meeting minutes clearly indicate that the Ministerial Committee was setting caps for termination services. The same rates were implemented across all GCC member states in 2006;

    f. In 2008, the Ministerial Committee indicated that it was aware thatsome termination rates for Arab countries had been lowered, and that in some cases such rates were similar to or lower than the existing implemented GCC rates. It therefore required the Operations and Tariff Committee to investigate lowering the existing rates to a proposed 7 US cents for fixed and 9 US cents for mobile. The

[33] The Gold Franc was the unit used for International Settlements up until April 1, 2003, when it was replaced with the Special Drawing Right.

[34] At this point, the SDR was used as a standard exchange rate between operators.

Ministerial Committee indicated that it encourages lower bilateral agreements between the operators;

g. The situation did not change in 2009,where the operators continued to implement rates of 8 US cents for calls to fixed and 10 US cents for calls to mobile. The Ministerial Committee meeting minutes say that bilateral rates can be agreed below the caps. Batelco had proposed 5 US cents for calls to fixed but this was refused by the other GCC member states;

h. In both 2010 and 2011, the Ministerial Committee did not discuss in detail the termination rates for GCC member states.

3.4.2 Summary of submissions

62. Zain noted that Batelco's international inbound tariff has been significantly lower than the GCC agreed rate of 8 US cpm, and that Batelco had proposed to lower the GCC rate in 2009.[35] Zain also noted that the GCC operators have agreed (in the Operation and Tariff committee meeting) that traffic refiling is not allowed between GCC operators, as the discounted GCC rates are only applicable to traffic generated by GCC subscribers.

63. No other parties commented on the background to the GCC's statements.

3.4.3 The Authority's analysis and conclusions

64. The Authority has no further comments on the backgroundto the GCC statements.

4 Legal framework

4.1.1 Draft Regulation – Explanatory Note

65. Article 3(b) of the Telecommunications Law places the following general duty on the Authority:

> *"The Authority undertakes in carrying out its duties relating to Telecommunications services in the manner best calculated to:*
>
> 1. *protect the interests of Subscribers and Users in respect of:*
>   - *the tariffs charged for services.*
>   - *availability and provision of service.*
>   - *quality of services.*
>   - *protection of personal particulars and privacy of services.*
> 2. *promote effective and fair competition among new and existing Licensed Operators."*

[35] Zain submission, Section 2.4.

66. The legal framework relating specifically to Interconnection and Access is set out in Article 57 of the Telecommunications Law. Article 57 (b) relates specifically to Interconnection and states that:

> *"A Public Telecommunications Operator determined by the Authority to have a **Dominant Position** in a particular Telecommunications market shall, within three months of such determination and every six months thereafter, publicise a reference Interconnection offer after obtaining the Authority's approval to such offer."(emphasis added).*

67. Article 57(b) goes on to state that:

> *"Such terms and conditions and tariffs shall be **fair, reasonable and non-discriminatory and the tariffs shall be based on forward-looking incremental costs or by benchmarking such tariffs against tariffs in comparable Telecommunications markets**." (emphasis added).*

68. Article 57(e) relates specifically to Access and states:

> *"A Public Telecommunications Operator in a **Dominant Position** shall offer upon request Access to its Telecommunications Network on fair and reasonable terms to any Licensed Operator." (emphasis added)*
>
> *"The Authority may publish regulations with regards to Access, including a regulation concerning the reference Access offer similar to a reference interconnection offer.*
>
> *If the Authority considers the tariffs and the terms and conditions on which Access is offered by an operator in a Dominant Position are unreasonable, it may determine such tariffs and terms and conditions as it considers appropriate, and the provision of paragraph (b) of this Article shall apply in this respect."*

69. Therefore, it follows that if during its assessment of Reference Offer Access and Interconnection products the Authority does not consider that the terms and conditions are reasonable, the Authority can determine the tariffs and in doing so shall have regard to the provisions in both Article 57(b) and Article 57(e). When the Authority is determining the prices for both Interconnection and Access services, it must be satisfied that the resulting tariffs are fair, reasonable and non-discriminatory and based on forward looking costsor benchmarking.

70. As discussed in Section 3.2 above, Batelco's fixed and mobile international inbound termination services are currently regulated services in Bahrain. This is on the basis of the Authority's 2003 Dominance Determination, in which the Authority found Batelco to be dominant in the market for call termination on public fixed networks; and the 2010 Dominance Determination, in which the Authority found that each of Batelco and Zain are dominant in the markets for call termination on their respective mobile networks. For the reasons set out in Section 3.2 above, these dominance findings apply irrespective of whether the call originates within or outside of Bahrain.

71. The Authority notes that Article 57 of the Telecommunications Law draws a distinction between Interconnection and Access. Interconnection is defined in Article 1 of the Telecommunications Law as:

> *"The physical and logical linking of Telecommunications networks used by the same or a different operator in order to allow the Subscribers of one operator to communicate with Subscribers of the same or another operator, or to receive services provided by another operator."*

72. Article 1 defines Access as:

> *"the making available of telecommunications facilities and/or telecommunications services to another Licensed Operator for the purpose of providing telecommunications services, and including the connection of equipment by wire or wireless means, access to physical infrastructure including buildings, ducts, cable and masts, access to mobile networks and access to number translation or networks offering equivalent functionality."*

73. In accordance with the 2010 Dominance Determination, the Authority considers that termination services are properly characterised as interconnection services.[36] As discussed in Section3.2 above, the 2010 Dominance Determination applies to the termination of international inbound traffic as well as domestic traffic.

74. In any event, the Authority notes that according to Article 57(e), if the Authority considers the tariffs and terms and conditions on which Access is offered by a dominant operator are unreasonable, the Authority may determine such tariffs and terms and conditions as it considers appropriate, and that Article 57(b) shall apply. In other words, the same pricing principle will apply where the Authority is determining prices for Access and Interconnection.

4.1.2 Summary of submissions

75. Zain disagreed with the Authority's view that the international inbound termination service is the same as the domestic termination service.[37] However, Zain supported the Authority's alleged position that the international inbound termination service should be treated as an Access Service and should be priced on the basis of benchmarking.

76. Viva agreed with the Authority's view that Article 57(b) applies and that the Authority would be acting within its duties and has the right to intervene if it considers that Access tariffs and terms are unreasonable.[38]Viva submitted that the central issue when considering whether to regulate wholesale inbound services (via a price floor) is whether it would produce an economic benefit for Bahrain and ultimately for end users in Bahrain.[39]

4.1.3 The Authority's analysis and conclusions

77. Contrary to Zain's submission, the Authority did not state that the international inbound termination service should be treated as anAccess Service. The Authority specifically

[36] 2010 Dominance Determination, page 2 paragraph 2.

[37] Zain submission, Section 3.

[38]Vivasubmission, Section 4.

[39]Viva submission, Section 5.

stated in the Draft Regulation – Explanatory Note that it considered that termination services are properly characterised as Interconnection services. The Authority noted that the same pricing principle applies to both Access and Interconnection. With regards to Zain's assertion regarding the termination of international and domestic calls, the Authority has set out its view above.

78. The Authority agrees with Viva that a key consideration for regulating wholesale inbound services is whether there would be a resulting benefit for end users in Bahrain.

5 Regulation of international inbound services

79. In deciding whether to consider the regulation of international inbound services at the request of some operators, including Batelco, Viva and Zain, either in the form of increasing international inbound termination rates or setting a price floor for the wholesale inbound rates that are charged to foreign operators, the Authority has based its consideration on its legislative duties to promote fair and effective competition and to protect the interests of users of telecommunications services in Bahrain.

80. These duties, together with the pricing principles set out in Article 57 of the Telecommunications Law, are generally mutually consistent. Under an orthodox regulatory decision-making framework, upon which the Telecommunications Law is based, markets are identified in which there is significant market power or dominance, and appropriate regulatory remedies are applied to ensure that the prices of key access and interconnection services are cost-based. Such cost-based prices should facilitate competition in the relevant downstream markets, which in turn will protect the interests of end users. Competitive markets deliver better outcomes for consumers than markets characterised by market power, in the form of lower prices, greater choice and quality, and more innovative services.

81. The need for a regulatory review in relation to international inbound services has therefore been evaluated in light of the duties of the Authority to promote effective and fair competition and to protect the interests of end users in Bahrain.

5.1 Promoting effective and fair competition

5.1.1 Draft Regulation – Explanatory Note

82. As noted earlier, international inbound call termination is a bottleneck input that is supplied by a network operator to other operators that compete in the supply of downstream wholesale inbound services to foreign operators. Such competitors rely on the call termination service in order to be able to complete incoming calls, and combine call termination with the international facilities across which such calls are delivered into Bahrain.

83. In July 2010, the regulated rates for international inbound call termination on Batelco's fixed and mobile networks were set at the same level as Batelco's domestic termination rates. This reflects the fact that the international inbound termination service is the same as the domestic call termination service, with the same network elements involved.[40] Put differently, the termination of international calls is no different than the termination of domestically originated calls.

84. As a result of the glide-path that was introduced in early 2007, international inbound termination rates have dropped significantly in Bahrain. Competing providers of international inbound services have been able to acquire wholesale call termination services at rates that have been moving towards cost as the buffer has gradually reduced between 2007 and 2010. By acquiring cost-based call termination from Batelco, competitors can use their own international facilities (or lease such capacity from others, including Batelco), and undercut Batelco's prices for wholesale inbound services. Batelco has had to respond by lowering its wholesale inbound rates in order to retain international inbound traffic on its network. As a consequence, the profit margins that have been earned by Batelco and other Bahraini Licensed Operators in supplying wholesale inbound services to foreign operators have been gradually eroded.These rate reductions and margin erosion on wholesale inbound services is an expected consequence of increasing competition in the supply of wholesale inbound services. The arbitration panel in 2006 also referred to the pro-competitive effect of the Authority's 2006 decision to remove the buffer, noting Batelco's submission that:[41]

> *"… the effect of the TRA's decision will be to largely eliminate the inpayment surplus. The reason for this effect is that lowering the termination rates that Batelco is entitled to charge other licensed operators will allow those licensed operators to, in turn, offer lower inpayment rates to international operators. Through the process of competition, the inpayment rate will steadily begin to approach the cost of providing the service – as Batelco puts it, the inpayment surplus will be "competed away"."*

85. As the provision of wholesale inbound services has become more competitive, it appears that the reductions in the termination rate applying to international inbound traffic since 2007 (as a result of the glide-path) have been passed through into the wholesale inbound rates charged to foreign operators. This indicates that the Authority's decision to set cost-based termination rates in respect of international inbound traffic has been and has had an effect consistent with the Authority's duty to promote fair and effective competition between existing and new Licensed Operators in Bahrain.

5.1.2 Summary of submissions

86. No submissions commented specifically on this section, although Batelco observed that as the international inbound buffer was removed from national termination rates, competition

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[40] See Annex A for the example of international and domestic calls terminating on Batelco's fixed network.

[41] "Decision of the RIO Arbitration Panel on Batelco's Application for a Stay of Part of the RIO Order made by the TRA on 6 August 2006", 13 December 2006, paragraph 5.8.

between BahrainiLicensed Operators has forced average wholesale rates down and eroded the resulting margins earned by BahrainiLicensed Operators.[42]

5.1.3 The Authority's analysis and conclusions

87. The Authority remains of the view that the decision to set cost-based termination rates in respect of international inbound traffic has been and has had an effect consistent with the Authority's duty to promote fair and effective competition between existing and new Licensed Operators in Bahrain.

5.2 Protecting the interests of users in Bahrain

5.2.1 Draft Regulation – Explanatory Note

88. As noted earlier, the Authority has an overall duty to protect the interests of users of telecommunications services in Bahrain.
89. In considering how end users in Bahrain might have benefited from reductions in termination rates applying to international inbound calls, it is important to note that the wholesale inbound services are purchased by foreign operators. Any benefit to users in Bahrain will therefore depend on the response of these foreign operators to the reduction in wholesale inbound rates, and in particular the response of the GCC operators asmost calls to Bahrain originate from the GCC countries.[43]
90. To the extent that such reductions have resulted in lower prices for making calls to Bahrain, users in Bahrain (i.e. the recipients of such calls) are likely to have received a benefit in the form of receiving a higher volume of calls than would otherwise have occurred. The provision of cheaper calls into Bahrain may be an important consideration in terms of Bahrain's attractiveness as a regional business centre.
91. However, in the case of international inbound services, the beneficiaries of the greater competition and lower wholesale inbound rates appear to have been principally the foreign operators themselves. There is little evidence to suggest that the foreign operators, particularly those in other GCC countries, have passed the lower wholesale inbound rates through into their retail call prices. Absent such pass-through, users in Bahrain are unlikely to be benefiting from the increased competition in the supply of wholesale inbound services.
92. According to Batelco, the foreign operators that purchase wholesale inbound services have not passed the rate reductions on to their subscribers making the calls, but have instead retained the reductions in the form of higher margins earned on such calls. For

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[42] Batelco submission, paragraph 18.

[43] According to the market statistics collected by the Authority, the significant majority of international inbound traffic terminating on Batelco's networks in Q1 and Q2 2010 was from GCC countries.

example, in its response to the Authority's letter of 6 June 2011, Batelco stated the following in relation to the retail rates offered in other countries[44]:

> "We also consider that the cost savings are not in practice passed onto the far end customer by the far end operator. For example, please see the following retail rates offered to Bahrain compared with Qatar from around December 2010:

Calls Charges from:	To Bahrain BD	To Qatar BD
Etisalat	0.218	0.218
Du	0.141	0.141
Wataniya	0.196	0.196
Viva – Kuwait	0.131	0.111
STC	0.131	0.131
Mobily	0.131	0.131
Zain – Saudi	0.131	0.131
Omantel	0.166	0.166
Nawras	0.165	0.165
Vodafone – UK	0.149	0.149
Europe (T-Mobile)	0.752	1.017
Telekom Indonesia	0.213	0.213

> Despite the termination rates into Bahrain being 70% lower than in Qatar, the retail rates for the far end customers remain unchanged. We believe a similar situation applies in KSA, UAE, Oman, and Kuwait."

93. In responding to the Authority's 6 June 2011 letter[45], Zain provided similar information on the retail call prices being offered by foreign operators. Of the 11 foreign operators listed in Zain's response, 9 operators offered uniform retail prices for calls to Bahrain, KSA, UAE, and Qatar, despite the international inbound termination rates being lower in Bahrain. This information is summarised in Table 1.

Table 1: International calls retail prices offered by foreign operators

Country	Operator	Calls to:			
		Bahrain	KSA	UAE	Qatar
Qatar	Vodafone Qatar	$0.18	$0.18	$0.18	-
KSA	Mobily	$0.35		$0.35	$0.35
Kuwait	Al-Wataniya	$0.55	$0.55	$0.55	$0.55
Kuwait	VIVA	$0.53	$0.53	$0.53	$0.53

[44] Batelco response, Q7.

[45] Letter from Zain to the Authority "Re: International Inbound termination Rates" (Zain Ref: RI/11/06/017), 20 June 2011, table headed "International calls retail prices offered by foreign operators".

Country	Operator	Calls to:			
		Bahrain	KSA	UAE	Qatar
Oman	Oman Tel	$0.41	$0.41	$0.41	$0.41
Jordan	Zain Jordan	$0.45	$0.45	$0.45	$0.45
Jordan	Orange	$0.28	$0.28	$0.28	$0.28
Egypt	Vodafone Egypt	$0.59	$0.59	$0.59	$0.59
Lebanon	MTC Touch	$0.40	$0.40	$0.40	$0.40
Pakistan	Telenor	$0.12	$0.15	$0.15	$0.19
USA	AT&T	$0.15	$0.23	$0.29	$0.32

Source: Zain

94. A number of major operators supplying calls to Bahrain apply a uniform retail price for calls across the GCC region. For example, STC's international calling rates do not differentiate between calls to different GCC countries, with calls to all GCC countries costing 1.1/1.3 Saudi Riyals per minute for peak/off-peak calls.[46]

95. BT's and AT&T's international calling rates do show some differentiation between GCC countries, with BT offering uniform standard calling rates for calls to Bahrain, Oman, Kuwait, and Qatar, and lower calling rates for calls to Saudi Arabia and UAE.[47] AT&T offers lower prices for calls to Bahrain than for calls to KSA, UAE, and Qatar.

96. There are other examples where there is significant differentiation in retail prices offered by non-GCC operators for calls throughout the GCC region. Table 2 summarises some examples of such differentiation in retail prices for calls to Bahrain and Qatar.

Table 2: Retail prices for calls to Bahrain and Qatar

		To Bahrain		To Qatar	
Operator	Calling from	fixed	mobile	fixed	mobile
T-Mobile (cpm)	US	34	37	96	98
Callbacktoday.com (cpm)	India	7.3	11.3	23.9	30.7
Briing.com (ppm)	UK	1.5	4.0	10.0	13.0
Skype (ppm)	UK	14.5	14.5	22.0	22.0

[46] see http://www.stc.com.sa/cws/portal/en/individual/ind-aljawal/ind-alj-start/stc-Ind-srvdir/stc-Ind-tariffs-int-call-chrgs (accessed 23 January 2012).

[47] see http://www.productsandservices.bt.com/consumerProducts/displayTopic.do?topicId=25500 (accessed 23 January 2012).

		To Bahrain		To Qatar	
Operator	**Calling from**	**fixed**	**mobile**	**fixed**	**mobile**
Free (eurocpm)	France	free*	27.0	49.0	49.0

* Free includes calls to Bahrain fixed numbers as part of its Freebox bundle.

97. The extent to which foreign operators have lowered their retail rates for international calls to Bahrain in response to lower termination rates will be influenced by the competitiveness of the foreign market. For example, in countries where there are a limited number of licensed operators (such as the UAE), the incumbent operators may be able to retain the margins from lower wholesale call costs, without the threat of being undercut by competitors or potential new entrants.

98. In more liberalized markets, competition will force operators to set retail prices that reflect the cost of supplying the service. Any attempt by an incumbent operator to retain the higher margins arising from lower termination rates would attract competitors into the international calling market in the foreign country, undercutting the incumbent suppliers of such calls. This would put downward pressure on the retail price of calls to Bahrain, in effect forcing the incumbents to pass at least some of their cost reductions through into lower retail prices. This is likely to explain some of the pricing differentiation evident above in respect of more competitive markets such as the US, the UK, and France. The Authority also notes that for outbound international calls from Bahrain, where there are a large number of suppliers (both network operators and prepaid calling card operators), there is a significant degree of pricing differentiation between destinations (and in some cases, for calls to a particular network within a destination).

99. In summary, while the reductions in termination rates applying to international inbound calls into Bahrain have increased competition in respect of wholesale inbound services, there is little evidence to indicate that users in Bahrain have benefited from such increased competition. The incumbent operators in the GCC countries have not reflected such reductions in wholesale rates in their retail prices, indicating that those operators have retained the wholesale rate reductions in the form of higher margins earned on calls to Bahrain.

5.2.2 Summary of submissions

100. According to Batelco, a small proportion of the wholesale inbound rates for calls into Bahrain is taken by Bahrain's non-network-based operators ("NNOs") to cover their international facilities costs, providing no demonstrable benefit in terms of investment in access networks in Bahrain.[48] Batelco submitted that the largest benefit has been enjoyed by foreign operators in the form of savings in their outpayment costs paid to Bahraini LicensedOperators.[49]

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[48]Batelco submission, paragraph 23.

[49]Batelco submission, paragraph 24.

101. Batelco noted that in a perfectly competitive overseas market, these reductions in outpayment costs would be passed through into lower retail prices for calls to Bahrain, resulting in higher volumes of calls to Bahrain, thereby increasing the welfare of subscribers in both countries.[50] Batelco provided some analysis of "far-end retail international calling rates to Bahrain", indicating that such pass-through has not occurred. Specifically, Batelco submitted that retail prices for calls to Bahrain do not differ from retail prices for calls to other GCC countries, despite the reduction in wholesale inbound rates into Bahrain. According to Batelco:[51]

    a. operators in the Arab region do not differentiate their retail call prices to reflect the lower wholesale rate for calls into Bahrain;

    b. UK operators typically offer lower retail prices to Saudi Arabia, Kuwait, and UAE, which is likely to reflect higher volumes on those routes;

    c. US operators show very little differentiation;

    d. Australian retail call prices place Bahrain mid-way amongst the GCC countries.

102. Batelco concluded that the lack of retail price differentiation appears to be a result of either a lack of competitive pressure in the overseas markets, or the relative unimportance of Bahrain as an international call destination. As a result, Batelco submitted there has been a significant value transfer from Bahrain, with no gain in welfare for Bahrain end users.[52]

103. SGS also submitted that non-GCC operators continue to make substantial margins on calls to Bahrain, and that as a result the Authority should enforce a harmonized tariff regardless of the origin of the call.[53]

104. Zain's submission referred to the lack of retail price differentiation among GCC operators for calls to Bahrain and other GCC countries, submitting that this is evidence that GCC operators have retained the reductions in wholesale rates for calls into Bahrain.[54]

105. Zain claimed that this also applies to non-GCC operators, who have typically not reflected lower wholesale call costs to Bahrain in their retail prices.

106. According to Viva, the issue of whether foreign operators have passed the lower wholesale rates for calls to Bahrain through into their retail prices for such calls is irrelevant, as Viva believes the elasticity of demand is minimal.[55]

5.2.3 The Authority's analysis and conclusions

107. As noted in the Draft Regulation – Explanatory Note, the lack of retail price differentiation by GCC operators for calls to Bahrain indicates that end users in Bahrain have not

[50] Batelco submission, paragraph 25.
[51] Batelco submission, paragraphs 27 to 29.
[52] Batelco submission, paragraphs 31 and 32.
[53] SGS submission, pages 8 and 9.
[54] Zain submission, Section 4.2.
[55] Viva submission, Section 5.

benefited from the increasingly competitive supply of wholesale inbound services into Bahrain. There is a consensus on this point amongst respondents and the Authority.

108. With respect to the retail pricing of non-GCC operators, the Authority considers that there has been a greater level of differentiation. While lower retail prices for calls to Bahrain are not always observed, non-GCC operators often do provide calling options with lower call prices to Bahrain than to other GCC countries.

109. For example, Batelco claimed that the non-GCC retail rates referred to in the Draft Regulation – Explanatory Note are not representative of the operators who originate the majority of calls to Bahrain. However, in Batelco's analysis (contained in Batelco's Annex B), Batelco appears to selectively use incumbent calling rates which demonstrate little retail price differentiations, whereas the same incumbents or other significant competitors in those markets offer plans that show considerable variation. For example,

    a. in the case of calls from the UK, Batelco refers to BT's calling prices. However, according to Ofcom[56], BT accounts for approximately 20% of total international minutes from the UK, whereas Indirect Access ("IA") operators - where the calling party dials an access code prior to making the call - account for nearly twice as much as BT (38%). IA operators in the UK exhibit significant retail price differentiation for calls to Bahrain compared to other GCC countries[57];

    b. in the case of calls from the US, Batelco refers to AT&T's direct-dial prices. However, AT&T offers a prepaid calling card service, which offers calls to Bahrain at substantially lower prices than calls to other GCC countries.[58] For example, a call to a Bahrain mobile costs 15 US cpm, compared to Kuwait (21 US cpm), Saudi Arabia (23 US cpm), UAE (29 US cpm), Qatar (32 US cpm), and Oman (33 US cpm).

110. However, while the retail pricing evidence may provide grounds to set a price floor for wholesale inbound services supplied to GCC operators only, the Authority has reviewed its position on this issue in light of other relevant practical considerationsthat are discussed in Section 5.4.3(such as the issue of enforceability in the face of potential refiling).

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[56]Ofcom "Telecommunications market data tables Q3 2011", shows that BT supplied 329 million international minutes in Q3 2011, out of a total of 1,615 million minutes from fixed lines (Ofcom, Table 5). In Q3 2011, IA operators supplied 620 million international minutes.

[57] For example, according to the international price comparator available at http://www.cheapestinternationalcalls.com/ the average cost of a call from a UK landline to a Bahrain mobile is 3.8 pence per minute (ppm). The next cheapest GCC country to call is Kuwait (7.2 ppm). The average cost to call a mobile in the other GCC countries are 9.1 ppm for calls to Saudi Arabia, 12.2 ppm for UAE, 16.9 ppm for Qatar, and 23.4 ppm for Oman.

[58]seehttp://www.consumer.att.com/prepaidcard/International_Rates%20_Sept_2010.pdf. AT&T also offers an international calling application that can be downloaded and used via smartphones, with similarly low rates (US$0.07 per minute for calls to Bahrain, and US$0.23 per minute for calls to Bahrain mobile). See https://callinternational.att.com/intlRates.htm

5.3 The Authority's view on regulation

5.3.1 Draft Regulation – Explanatory Note

111. The Authority considers that the following actions will best satisfy the duties to promote effective and fair competition and protect the interests of end users in Bahrain:

    a. cost-based termination rates; and

    b. anabove-cost price floor applying to all Bahraini Licensed Operators for wholesale inbound services.

112. The setting of cost-based termination rates for dominant operators for calls that originate in foreign countries will ensure that all operators supplying wholesale inbound services can access the essential termination input at prices that reflect the cost of supplying the termination input. This is consistent with Article 57 of the Telecommunications Law and reflects the fact that the termination service for calls originating overseas is the same as the termination service when the call is originated domestically. This will continue to provide a level playing field for the network operators who provide the termination service and for their competitors who purchase call termination and compete in the downstream market for wholesale inbound services. This will also ensure that network operators supplying termination services are compensated for their efficiently-incurred costs of supplying such services.

113. Cost-based termination rates will also close any opportunities for arbitrage that would otherwise arise where there is an artificial differential in termination rates for domestic and international traffic, when the underlying termination service is identical.

114. The introduction of a price floor for wholesale inbound services will ensure that some economic surplus on supplying these wholesale services will be retained within Bahrain. Cost-based termination rates will allow Bahraini Licensed Operators to compete for such surpluses from a levelled cost basis insofar as the essential termination input is concerned.

115. The Authority considers that such a price floor is at present appropriate, given the lack of evidence that reductions in wholesale rates in recent years have been passed on by foreign operators into lower retail prices for calls to Bahrain.

116. The Authority also notes that the wholesale rates paid by Bahraini Licensed Operators for outbound calls to other GCC countries are significantly higher than the wholesale rates charged for calls into Bahrain. In other GCC countries, the wholesale rates charged by the incumbents are typically close to the rates that have been endorsed by the GCC Ministerial Committee (US 8 cpm for calls to fixed, and US 10 cpm for calls to mobile, as per section 3.4 above). Until such time as these rates are reduced throughout the GCC region, which would directly benefit users in Bahrain in the form of lower costs of calling other GCC countries, the Authority considers that a price floor is appropriate.

117. The Authority considers that the introduction of a price floor is justified as the pricing evidence summarised above indicates that the benefits of the competition that has occurred in recent years have largely been enjoyed by the foreign operators netting a gain

they would otherwise not receive, with little benefit received by users in Bahrain. In this specific context, the Authority considers that a price floor is appropriate.

5.3.2 Summary of submissions

118. In light of the lack of retail price differentiation in other countries, Batelco submitted that measures need to be implemented to raise the value of international payments made by overseas operators to Bahrain and to thereby retain economic value within Bahrain. According to Batelco, this could be achieved either directly through raising the wholesale inbound rates (as proposed by the Authority), or indirectly by increasing the rates for the inputs which underpin the wholesale inbound service (i.e. termination rates).[59]

119. Batelco's submission supported the principle of a price floor applied to the wholesale inbound service as the mechanism to retain value within Bahrain, In addition, Batelco submitted that a price floor could be expected to improve international inbound call quality, as operators focus more on route quality rather than low cost. Batelco also claimed that less traffic is likely to be received with incorrect Calling Line Identification ("CLI"), which is important for security reasons.[60]

120. According to Batelco, a price floor by itself would provide non-network operators with a windfall profit, having no access network in which to invest the surplus.[61] Batelco submitted that a price floor should be supplemented by the reintroduction of a buffer for the termination rate applying to international inbound traffic. Batelco claimed that an inbound termination buffer would retain the international inbound surplus in Bahrain and ensure that it was invested in Bahrain networks. Batelco proposed that the buffer initially be set at a value equal to 50% of the margin between the domestic termination rate and the Authority's proposed price floor for the wholesale inbound service,along with a mechanism to reduce the buffer as overseas retail prices for calls to Bahrain become more competitive.[62]

121. In its submission, Viva agreed with the Authority's view that implementing a price floor will ensure that economic benefits are retained in Bahrain[63], although as discussed later in Viva's submission, Viva did not agree with the Authority's proposed level of the price floor or the Authority's proposal to restrict the price floor to GCC countries only. Viva proposed that the price floor be applied irrespective of where the international call is handed over.[64]

122. Zain supported the Authority's view that it is appropriate to establish a price floor for international inbound services.[65] However, Zain claimed that the Draft Regulationwas vague on the issue of "international inbound between Local Operators in Bahrain". According to Zain, if the local conveyance of international inbound calls is at rates lower

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[59]Batelco submission, paragraphs 33 and 34.

[60]Batelco submission, paragraphs 35 and 36.

[61]Batelco submission, paragraph 37.

[62]Batelco submission, paragraphs 47 and 48.

[63] Viva submission, Section 5.

[64] Viva submission, Section 6.

[65]Zain submission, Section 4.3.

than the price floor, this will result in "many uncontrollable issues", given that there are at least 16 licensed operators supplying services in Bahrain.

5.3.3 The Authority's analysis and conclusions

123. All submissions received supported in principle the use of a price floor for wholesale inbound services as a means of retaining economic value within Bahrain.[66] However, Batelco proposed that a price floor be supplemented with the reintroduction of a buffer on domestic termination rates, to ensure that the economic surplus earned on international inbound calls is invested in access networks in Bahrain.

124. Viva also appears to support the reintroduction of a buffer on domestic termination rates, as Viva proposed that the regulated price floor be applied to all international incoming traffic irrespective of whether the hand-over point is within Bahrain or outside of Bahrain. Where the foreign operator hands the call over to a Bahraini Licensed Operator outside of Bahrain, the Bahraini Licensed Operator conveys the call into Bahrain in the manner illustrated in Figure 1above. However, if the price floor were to be applied where the international call is handed over within Bahrain, this would amount to applying the price floor to the domestic termination service.

125. While Zain claimed that the Draft Regulation was vague on the issue of international inbound traffic between local operators in Bahrain, the Authority clearly stated that the termination rates for international inbound traffic (i.e. "Service 1" in Figure 1above) should be cost-based. The Authority proposed cost-based termination rates for international inbound traffic, combined with a price floor for wholesale inbound services (i.e. "Service 2" in Figure 1above), as this would best promote effective competition and protect the interests of end users in Bahrain.[67]

126. Regarding Batelco's arguments in support of a buffer to encourage network-based investment, cost-based termination rates will preserve incentives for efficient investment by allowing for the recovery of costs associated with such investments. Further and contrary to what Batelco is suggesting, there is no guarantee that access network operators would invest more in access networks (assuming that the incremental investment would be efficient) if the buffer was in place. This would also be discriminatory between Licensed Operators.While the objective of the Regulation is to ensure that value is retained in Bahrain, hopefully for investment in the telecommunications sector (at either the service or network level), it is not to allocate this value between operators.

127. In addition, Batelco appears to be drawing a distinction between the three main mobile network operators who terminate most of the international inbound traffic, and other operators who bring international inbound traffic into Bahrain. According to Batelco, the latter do not undertake or support welfare-enhancing investments. However, this overlooksvarious investments, such as those made in alternative international facilities which support inbound traffic, as well as the network investments made in Bahrain by

[66] A number of submissions did not support the proposed level or the proposed limitation of the price floor to GCC countries. These submissions are discussed in the following section.

[67] "The Regulation of Whole Inbound Services Consultation", 26 January 2012, paragraph 81.

operators such as Menatelecom. For example, Menatelecom conveys a significant volume of international inbound minutes into Bahrain using its international links (with most of this traffic terminating on other networks). Menatelecom would stand to be disadvantaged from the introduction of a buffer, as this would increase its termination cost base (with no corresponding revenue increase as very little international inbound traffic terminates on Menatelecom'sWimax network).

128. Another point discussed in the Draft Regulation – Explanatory Note, is that the introduction of a buffer for international inbound termination could distort competition in the supply of wholesale inbound services. For example, if Menatelecom conveys international traffic into Bahrain, and hands the traffic over to Viva at a local handover point, Menatelecom would incur a termination cost of 37.65 fils per minute under Viva's proposal. If Viva instead were to bring the traffic into Bahrain and terminate it on its own network, it would face a termination cost that reflected its actual costs (which could be proxied by the current regulated mobile termination rate of 6.4 fils per minute). This would provide Viva (and the other network operators in Bahrain) with a substantial cost advantage when supplying wholesale inbound services.

129. As outlined in the Draft Regulation – Explanatory Note, the introduction of such a buffer may also create 'arbitrage' opportunities to exploit the artificial differential in termination rates, with international traffic being re-routed as domestic traffic (which could be difficult to detect especially in the case of Voice over Internet Protocol ("VoIP") calls, where CLI information may not be available).

130. To conclude, the Authority remains of the view that a combination of cost-based call termination services for international inbound traffic, which will promote effective competition between Licensed Operators in Bahrain, and a price floor for wholesale inbound services, which will protect the interests of end users in Bahrain,will best satisfy the duties of the Authority under Article 3(b) of the Telecommunications Law.

5.4 The Authority'sview on an appropriate price floor for wholesale inbound services

5.4.1 Draft Regulation – Explanatory Note

131. In considering the appropriate level at which to set a price floor for wholesale inbound services, the Authority has had regard to the information provided by operators in response to the Authority's 6 June 2011 letter, relating to wholesale rates and the cost of supplying wholesale inbound services.Specifically, in determining an appropriate price floor for wholesale inbound services, the Authority has taken the average of the 2010 rates submitted to the Authority. This results in a wholesale inbound rate for calls to fixed subscribers in Bahrain of 14 fils per minute, and a wholesale inbound rate for calls to mobile subscribers in Bahrain of 21 fils per minute. The Authority considers that at this level the price floors strike the right balance between two opposing considerations:

   a. If the price floor is set at a low level, it will have less effect in terms of constraining competition and retaining profits in Bahrain. Competition could continue to drive down wholesale rates before the price floor is reached, and if those lower prices are not passed on to foreign callers in such a way as toencourage more calls to be made to Bahrain then, then competition between Bahraini Licensed Operators will continue to have the perverse effect of delivering benefits to foreign operators without commensurate benefits to users in Bahrain; and

b. If however the price floor is set at a high level, this creates a risk that foreign operators would increase calling prices to Bahrain in order to try and maintain the margins previously earned on such calls. A high wholesale rate would also undermine efforts at the GCC level to reduce these rates across the region, deferring the benefits of such reductions for end users in Bahrain (in the form of lower outbound call costs).

132. In light of the evidence that GCC operators have not passed previous reductions through into lower calling rates to Bahrain, the Authority intends to establish a price floor for wholesale inbound services supplied to GCC operators only. The price floor would not apply to calls from non-GCC countries. As explained above(at paragraphs 96 to 98), non-GCC operators have introduced some price differentiation for calls to GCC countries, with lower calling rates typically applying forcalls to Bahrain where termination rates are lower. This has benefited end users in Bahrain.

133. The Authority is therefore currently of the view that the following price floors should be established for wholesale inbound services supplied by Bahraini Licensed Operators to GCC operators in respect of calls to Bahrain:

a. for calls to fixed subscribers in Bahrain, the minimum wholesale rate is 14 fils per minute;

b. for calls to mobile subscribers in Bahrain, the minimum wholesale rate is 21 fils per minute.

5.4.2 Summary of submissions

134. Batelco submitted that the most likely result of the Authority's proposed limitation of the price floor to GCC traffic is that GCC operators will re-file their Bahrain-bound traffic through cheaper routes using non-GCC countries, as the latter would not be subject to the proposed price floor.[68] Such re-filing would undermine the proposed regulation and its objectives.

135. Batelco argued that if the Authority does not expand the scope of the price floors to all international inbound traffic, the regulation should make it clear that the price floors apply to "calls originated in GCC countries", as opposed to the current reference in the draft regulation to "Licensed Operators providing WIS to GCC Operators" (which could be circumvented by re-filing).[69]

[68] Batelco submission, paragraph 55.

[69] Batelco submission, paragraph 59.

136. Batelco also claimed that the proposed restriction of the price floors to GCC countries could result in a deterioration of call quality due to a reduction in the use of direct GCC traffic routes.[70]

137. Batelco concluded that the scope of the proposed price floor should be global, or at least expanded to the Arab region throughout which there is a lack of differentiation in retail prices for calls to Bahrain compared to other GCC countries.[71]

138. Batelco also noted that the Authority's proposed price floors for the wholesale inbound service would be difficult to supervise, due to the Authority's limited visibility of the prices of non-dominant operators.[72]

139. In its submission, Zain proposed that the price floor should be set at the GCC approved rates of 8 US cpm for calls to fixed lines, and 10 US cpm for calls to mobiles for the following reasons:[73]

    a. Article 57(b) of the Telecommunications Law provides the option of benchmarking tariffs against comparable telecommunications markets, which Zain claims is the GCC market;

    b. if foreign operators increase their retail prices for calls to Bahrain, the retail prices are unlikely to be higher than for calls to other GCC countries, as the wholesale rate for calls to Bahrain will be the same as for other GCC countries;

    c. as most international inbound traffic into Bahrain comes from other GCC countries, the Authority can use the increase in wholesale rates (to GCC levels) to force other GCC operators to decrease their rates. According to Zain, establishing a price floor below the GCC level is unlikely to convince other GCC members to lower their wholesale inbound rates, as the Bahrain wholesale rate has been much lower than the wholesale inbound rates in other GCC countries for four years.

140. Zain also submitted that the price floor should apply to all international inbound traffic into Bahrain, and not just the GCC countries. According to Zain, a price floor applied only to GCC operators could be seen as uncooperative, and is also likely to encourage GCC operators to re-file their Bahrain traffic through other international operators to take advantage of lower wholesale rates. This may in turn degrade the quality of the call (due for example to longer routes and the use of more switching). In addition, if CLI numbers are used to identify where the call comes from (and hence which wholesale rate is applicable), the CLI could be manipulated by the offshore operators.

141. Zain concluded that price floors should be established for wholesale inbound services supplied by Bahraini Licensed Operators and should apply to all international calls coming into Bahrain. Zain proposed that such price floors should be set at 30.24 fils per minute (8

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[70] Batelco submission, paragraph 60.

[71] Batelco submission, paragraph 61.

[72] Batelco submission, paragraph 62.

[73] Zain submission, Section 4.4.

US cpm) for calls to fixed numbers, and 37.8 fils per minute (10 US cpm) for calls to mobiles.

142. While Viva's submission agreed with the conclusion that implementing a price floor will retain economic benefits within Bahrain, Viva argued that the price floor should apply to all international inbound traffic. In addition, Viva did not agree with the level of the price floor proposed by the Authority.[74]

143. Viva submitted that limiting the price floor to GCC countries only will create an arbitrage effect whereby GCC operators will purchase Bahrain inbound termination services from non-GCC foreign operators, rendering the regulation ineffective. Such behaviour will also reduce the quality of international calls, as there will be at least one additional hop, and may lead to the removal of CLI information which could create security concerns.

144. In addition, Viva noted that the vast majority of inbound traffic into Bahrain is from GCC countries, hence excluding non-GCC traffic from the regulation would not have any significant impact on the benefits received by Bahrain end users. Viva also noted that limiting the price floor to GCC operators only may negatively affect commercial relationships with GCC operators, as they may feel they are being unfairly treated.

145. Viva argued that the proposed price floors of 21 fils for calls to mobile and 14 fils for calls to fixed lines are not in line with the GCC recommendations of 37.65 fils (10 US cpm) for mobile and 30.12 fils (8 US cpm) for fixed. According to Viva, the proposed price floors are inconsistent with the Authority's earlier position in the GCC roaming recommendation. Viva submitted that the price floors should be set at 37.65 fils and 30.12 fils for inbound calls to mobile and fixed respectively.

146. SGS submitted that the Authority should consider extending the price floor to all countries and not just the GCC. According to SGS, a price floor applied only to the GCC countries may lead to calls originating in the GCC countries being transited through countries exempted from the price floor, thus avoiding the price floor.[75]

5.4.3 The Authority's analysis and conclusions

147. All of the submissions received commented on the proposed application of the price floor to traffic from GCC countries only. All parties recommended that the price floor be applied to all international incoming traffic.

148. The Authority considers that the arguments against the limitation of the price floors to GCC countries only are reasonable. In particular, a situation where non-GCC traffic can be conveyed into Bahrain at wholesale rates below the price floors proposed in the Draft Regulation is likely to result in GCC operators re-routing their traffic through non-GCC operators to take advantage of the lower rates. It may not be practical to prevent this from happening. As noted by the submissions, this would undermine the price floors and again result in value being transferred to foreign operators.

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[74] Viva submission, Section 5.

[75] SGS submission, page 8.

149. The Authority has therefore concluded that the price floors for wholesale inbound services should be applied to all international traffic coming into Bahrain.

150. Regarding the level of the price floor for wholesale inbound services, both Viva and Zain have submitted that the price floor should be set at the GCC agreed rates of 8 US cpm for calls to fixed, and 10 US cpm for calls to mobile. Batelco did not disagree with the price floor levels proposed in the Draft Regulation.

151. The price floors that were proposed in the Draft Regulation are approximately 50% below the GCC rates. The Authority based these rates on the average wholesale inbound service rates charged by Licensed Operators in 2010, and noted that higher rates risk pushing up retail prices. In its submission, Batelco refersto current wholesale inbound rates that are even lower than those provided by operators prior to the consultation, indicating that the increase in wholesale inbound rates as a result of the proposed floor may be greater than previously expected. Setting the floors at the GCC level could exacerbate the risk of even greater price increases, particularly by non-GCC operators.

152. As discussed above, wholesale inbound rates for calls into Bahrain have been falling in recent years. This is because the fixed and mobile call termination rates for international inbound traffic have moved to cost-based levels in Bahrain, and competition among Bahraini Licensed Operators has driven wholesale inbound rates toward more cost-oriented levels. As the price floors established in the Regulation are based on the average wholesale inbound rates charged by Bahraini Licensed Operators (in 2010), the floors preserve the level of cost-orientation that has been achieved for wholesale inbound rates.

153. The Authority has slightly amended the price floors proposed in the Draft Regulation, following confirmation from Batelco that the wholesale rates supplied by Batelco to the Authority in June 2011 contained an error.[76] Using the corrected wholesale rates from Batelco, the Authority has re-calculated the price floors, which as noted in the Draft Regulation – Explanatory Note are based on an average of the 2010 wholesale rates. As a result, the price floor for calls to fixed subscribers in Bahrain decreases slightly from 14 fils per minute, to 12 fils per minute, and the price floor for calls to mobile subscribers in Bahrain increases slightly from 21 fils per minute, to 22 fils per minute.

154. The Authority considers that the price floors for wholesale inbound services should be:

    a. 12 fils per minute for calls to fixed subscribers in Bahrain;

    b. 22 fils per minute for calls to mobile subscribers in Bahrain.

6 Conclusions

155. The Authority considers that the termination rates applying to international inbound traffic should be cost-based and consistent with the termination rates that apply to domestic traffic. Cost-based termination rates are consistent with the Authority's duties outlined in the Telecommunications Law. They will promote fair and effective competition in the

[76] email from Batelco (Chris Evans) to the Authority (Stephen Hudson), 7 March 2012.

supply of services that use termination services, which in the current case include wholesale inbound services supplied to foreign operators.

156. Following a request by some operators for regulatory review, the Authority considers that in these specific circumstances,it is appropriate to introduce a price floor applied to wholesale inbound services supplied to foreign operators in order to retain economic profit within Bahrain. In respect of the majority of international inbound traffic into Bahrain (from GCC countries), there is little evidence to indicate that users in Bahrain have benefited from the reductions in wholesale inbound rates that have occurred in recent years as termination rates applying to international inbound traffic have decreased. While there is more evidence suggesting that end users may have benefited in respect of non-GCC calls (in the form of lower costs of incoming calls), the Authority, following the public consultation, is of the view that it would not be practical to introduce and enforce a price floor for GCC traffic only.

157. In light of the above, the Authority concludes that the following will best satisfy the duties to promote effective and fair competition and protect the interests of end users in Bahrain:

    a. cost-based termination rates for international inbound traffic;

    b. above-cost price floorsapplying to all Bahraini Licensed Operators for wholesale inbound services:

        - 12 fils per minute for calls to fixed subscribers in Bahrain; and

        - 22 fils per minute for calls to mobile subscribers in Bahrain.

158. As outlined throughout thisExplanatory Note, the Authority's general duties are to promote fair and effective competition and to protect the interests of users of telecommunications services in Bahrain. This is generally done by ensuring that constraints on efficient competition are removed as far as possible and through fostering a regulatory and economic environment that will encourage tariffs to tend towards costs. However, in this specific contextthe Authority has observed that the reduction in wholesale tariffs has had limited effect in terms of benefitting the users of telecommunications services in Bahrain. This is because while the reductions in termination rates applying to international inbound calls into Bahrain have resulted in lower wholesale inbound rates paid by foreign operators, these reductions have not been passed on to foreign callers in such a way as to encourage an increase in call volumes to telecommunications users in Bahrain. The Authority notes that operators in some competitive markets do appear to have passed on the lower prices to their consumers (e.g. IA operators in the UK), however across the GCC region operators have uniformly elected to retain the benefit of these lower wholesale prices by not reducing the retail tariffs they charge their consumers for calls to Bahrain. It is due to these very unique set of circumstances that the Authority considers that the public interest will be better met by introducing a price floor for the specific wholesale inbound service described in this document.[77]

159. In the event that market conditions change, such as where the wholesale inbound rates paid by Bahraini Licensed Operators for outbound calls to other GCC countries are

[77]Whole Inbound Service 2 shown in Figure 1.

lowered, the Authority may consider reviewing its position on wholesale inbound services as appropriate.

Annex A: International inboundservices and call termination

161. This Annex sets out the network elements involved in the supply of international inbound services and call termination using Batelco as an illustrative example. A number of observations are also provided.

162. Table 3 summarises the network elements that are involved in bringing international traffic into Bahrain and terminating the traffic on Batelco's fixed network. Specifically, Table 3 shows Batelco's "International – Terminating (InPay)" service (referred to in Batelco's product mapping list and 2010 Routing Factor table as product code 100c). Under this service, Batelco conveys the incoming call over its international network and terminates the call on its fixed network. In other words, in terms of Figure 1, Batelco's "International – Terminating (InPay)" service is Batelco's "Wholesale Inbound Service 2".

163. Table 3also includes Batelco's international inbound fixed termination service (product code 951m), and Batelco's domestic fixed termination service (product code 950c).

Table 3: Network elements involved in supplying Incoming International Calls to Batelco Fixed, and PSTN Termination Services

	Incoming International Calls to Batelco Fixed	PSTN Termination: International Inbound Calls	PSTN Termination: Domestic Calls
Network Elements	**Product 100c**	**Product 951m**	**Product 950c**
IN01 International Switches	✓		
IN06 International cable – Voice	✓		
IN11 International satellite – Voice	✓		
CN26 UMG – International Switches	✓		
CN04 Soft switch (inc MRS)	✓	✓	✓
CN05 MSAN Traffic Sensitive	✓	✓	✓
CN06 Universal Media Gateway (UMG)	✓	✓	✓
CN07 ICG Soft Switch		✓	✓
CN20 Distribution – Core Link (Voice)	✓	✓	✓
CN22 Aggregation-Distribution Link (Voice)	✓	✓	✓
CN24 MSAN – Aggregation Link (Voice)	✓	✓	✓
CN30 MPLS Distribution Routers (Voice) - UMG	✓	✓	✓
CN39 MPLS Core Voice	✓	✓	✓
CN41 MPLS Aggregation (Voice)	✓	✓	✓
CN57 MPLS – Distribution Routers (Voice)	✓	✓	✓
CN90 Interconnect Specific	✓	✓	✓

Source: The Authority based on Batelco's Routing Factor Table (2010)

164. Batelco's wholesale inbound service (product 100c) brings the call into Bahrain and terminates it on Batelco's fixed network. The network elements of this service that are

shaded in Table 3 relate to the termination of the call, and correspond to the network elements that appear in the wholesale PSTN termination services (product 951m in the case of international-originated calls, and product 950c in the case of domestic-originated calls). The additional network elements in the wholesale inbound service (i.e. those that are not shaded) relate to the international links and facilities across which the call is brought into Bahrain.

165. A number of observations are evident from Table 3. First, as noted earlier, the PSTN call termination service (951m) is an important input that is used to deliver wholesale inbound services (such as Batelco's product 100c). The operator that supplies the wholesale inbound service requires PSTN termination, and adds its own international elements in order to supply the inbound service to the foreign operator. This highlights the vertical relationship implicitin Table 3, between the call termination service and the wholesale inbound service, where call termination is an 'upstream' input that is used by both Batelco and other operators to supply wholesale inbound services to foreign operators.

166. While the termination service on a specific network is a bottleneck in respect of calls to subscribers on that network (as per the 2003 and 2010 Dominance Determinations), there is a degree of competition emerging in respect of international facilities that can be used to convey calls into Bahrain.

167. Second, the network elements that are used in terminating domestically-originated traffic on Batelco's fixed PSTN (see product 950c) are identical to the network elements used to terminate international inbound traffic (product 951m). *Whether a call originates inside or outside of Bahrain has no bearing on the costs of terminating that call on Batelco's fixed network*. Once the call has been handed over to Batelco, the termination of an international inbound call will be no different from the termination of a domestic call.

168. A similar situation exists in the case of incoming international calls that terminate on a mobile network within Bahrain. Table 4 summarises the network elements involved in Batelco's "GSM Postpaid – International Incoming (Inpay)" service (300c)[78], which conveys international traffic into Bahrain and terminates the traffic on Bahrain's mobile network. Also shown in Table 4 is Batelco's international inbound mobile termination service (950n) and Batelco's domestic mobile termination service (950d).

[78]Batelco's product 300c relates to incoming international calls made to GSM postpaid. Batelco's product 301b relates to incoming international calls made to GSM prepaid. According to the 2010 Routing Factor table, both these international inbound services are identical in terms of the network elements used.

Table 4: Network elements involved in supplying Incoming International Calls to Batelco Mobile, and Mobile Termination Services

	Incoming International Calls to Batelco Mobile	Mobile Termination: International Inbound Calls	Mobile Termination: Domestic Calls
Network Elements	**Product 300c**	**Product 950n**	**Product 950d**
IN01 International Switches	✓		
IN06 International cable – Voice	✓		
IN11 International satellite – Voice	✓		
CN28MGW – International Switches	✓		
CN06 Universal Media Gateway (UMG)		✓	✓
CN07 ICG Soft Switch		✓	✓
CN27 UMG – MGW		✓	✓
MN01 Mobile Switching Centre Server (MSCS)	✓	✓	✓
MN03 Home Location Registers (HLR)	✓	✓	✓
MN04 Mobile Packet Backbone Network - MPBN	✓	✓	✓
MN05 Media Gateway (MGW)	✓	✓	✓
MN11 Base Station Controller (BSC)	✓	✓	✓
MN12 Base Transceiver Station (BTS)	✓	✓	✓
MN13 GSM 3G Radio N/W Controller-RNC	✓	✓	✓
MN14 GSM 3G HSDPA Radio Base Stations-Node B	✓	✓	✓
MN18 RNC - MGW	✓	✓	✓
MN19 Node B - RNC	✓	✓	✓
MN20 Mobile BTS - BSC	✓	✓	✓
MN21 Mobile BSC - MGW	✓	✓	✓
CN90 Interconnect Specific	✓	✓	✓

Source: The Authority based on Batelco's Routing Factor Table (2010)

169. In the case of international inbound calls to a Batelco mobile subscriber, the wholesale inbound service (300c) uses largely the same network elements as the mobile call termination services, plus the international network elements used to convey the call into Bahrain.

170. As was the case for international inbound calls to Batelco fixed subscribers, it is clear from Table 4 that the network elements used to terminate domestic calls on Batelco's mobile network (product 950d) are identical to the network elements used to terminate international inbound calls (product 950n). *Whether a call originates inside or outside of Bahrain has no bearing on the costs of terminating that call on Batelco's mobile network*. Once the call has been handed over to Batelco, the termination of an international inbound call will be no different from the termination of a domestic call.

Annex B: Summary of operator arguments made prior to the issuance of the consultation on 26 January 2012

171. A number of Licensed Operators have provided their views on the need for regulatory intervention in relation to international inbound termination services.

172. Within the context of the review of its RO, Batelco has submitted that international inbound termination rates should be increased, or alternatively that a price floor should be established for international inbound rates charged to foreign operators.

173. In addition, the Authority requested information and views from a number of Licensed Operators in its 6 June 2011 letter. The Authority received responses from Batelco, Zain, Viva, Etisalcom, Kalaam, and Menatelecom.

174. The following is a summary of the views received from these operators.

Batelco'sposition

175. In recent years Batelco has been arguing for an increase in the termination rate that applies to international inbound traffic. Batelco has argued that such an increase is justified for a number of reasons, including the need to contribute to the funding of an "access deficit"; to minimize arbitrage opportunities; to prevent value-transfer to foreign operators; and to ensure that Batelco is adequately compensated for its investment risk.

176. In its 2010 RO submission, Batelco also put forward an alternative to a buffer on termination rates, specifically that a price floor be set for all international inbound rates charged to foreign operators.[79]

177. The arguments raised by Batelco are summarised and discussed below.

Access deficit

178. Batelco has argued that international inbound termination rates should be increased above cost, so that the resulting surplus earned on terminating international calls can be used to fund an 'access deficit'.[80] This amounts to foreign operators and subscribers cross-subsidising the provision of below-cost access to Bahrain consumers.

Arbitrage

179. Batelco has complained about the glide-path by which the buffer between international inbound termination rates and domestic termination rates was gradually eliminated between 2007 and 2010. Specifically, according to Batelco, the glide-path created an arbitrage opportunity for OLOs, whereby the OLOs can undercut the rates offered by

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[79] Batelco 2010 RO submission, Annex G "International Inbound Rates – Summary Rationale for a Buffer", page 3.

[80] Batelco submission on 2006 Draft RIO Order, 10 July 2006, paragraph 70.

Batelco to foreign operators for its Wholesale Inbound Service.[81] The OLOs could offer lower wholesale inbound rates, as the termination charge component that the OLO pays Batelco for call termination is the domestic termination rate plus the glide-path-determined buffer.

Value transfer and potential benefits

180. According to Batelco, the foreign operators that purchase wholesale inbound services have not passed the rate reductions on to their subscribers making the calls, but have instead retained the reductions in the form of higher margins earned on such calls.It argues that this is evident in the retail pricing of foreign operators for calls throughout the GCC region. For example, in its response to the Authority's 6 June 2011 letter, Batelco notes that incumbent operators in the GCC countries offer calls to Bahrain at the same rate as calls to Qatar, despite termination rates in Bahrain being substantially lower than in Qatar.
181. Batelco has submittedthat the foreign operators supplying retail calls to Bahrain have benefited from the reduction in international inbound termination rates in Bahrain, earning higher margins on calls into Bahrain rather than offering lower retail prices for such calls. Batelco has referred to this as a value transfer to the foreign operators which is not being passed on to end users in the form of lower retail prices for calls to Bahrain. As a result, the volume of international inbound traffic into Bahrain has not increased (as would have been expected if the retail price of calls to Bahrain had fallen), which implies that end users in Bahrain are not enjoying higher welfare from receiving more international calls.[82]

Batelco's investment Risk

182. According to Batelco,[83] the reductions in the level of international termination rates are not reflective of Batelco's substantial investment risk and are therefore inefficient. According to Batelco, service quality is jeopardised, and Batelco's incentives to commit to further investment are undermined.

Position of other operators

183. The option of increasing the termination rate applying to international inbound traffic was not supported by Menatelecom, Kalaam, and Etisalcom. According to these operators, the arbitrage concerns raised by Batelco do not justify the reintroduction of a buffer for international inbound termination rates.

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[81] Batelco RAO submission, 4 December 2008, "Annex H.Buffer rationale overview".

[82] Batelco RAO submission, 4 December 2008, "Annex H.Buffer rationale overview". See also Batelco submission on 2010 Draft RO Order, 7 November 2010, from paragraph 205.

[83] Batelco RAO submission, 4 December 2008, "Annex H Buffer rationale overview".

184. The introduction of a price floor for international inbound services was supported by Viva, Zain and Etisalcom, on the basis that this option would be most effective in terms of addressing arbitrage concerns and ensuring that benefits are retained within Bahrain.

The Authority's response

185. The arguments that have been advanced in support of an increase in international inbound termination rates or the setting of a price floor for inbound services relate to the need to finance an access deficit (Batelco), removing opportunities for arbitrage (Batelco), retaining benefits within Bahrain (Batelco, Viva, and Zain), and maintaining investment incentives (Batelco).

186. In relation to access deficit arguments, it is not clear that the arguments raised by Batelco still apply, considering in particular Batelco's response to the Draft Statement on tariff rebalancing.[84] In addition, the Authority's decision in 2011 to include a contribution to copper access network costs in a number of regulated access prices further diminishes the argument that there is an access deficit that needs to be funded by above-cost termination rates.[85]

187. In the Authority's view, there is no 'arbitrage problem' arising from the removal of the differential between termination rates for international and domestic traffic. The Authority notes that in this respect, Batelco's submissions are inconsistent, stating on the one hand that arbitrage opportunities have been created for OLOs as a result of the buffer level[86], and then claiming that an increase in the buffer would minimise the opportunity for arbitrage[87] (despite such opportunities being created by the buffer in the first place).

188. Arbitrage occurs where there is an opportunity to exploit price differences, and is motivated by the ability to buy a product or service at a low price, and sell it at a high price. For example, as long as a differential or buffer was in place between international termination and domestic termination rates, there may have been an incentive to bring in international traffic and re-route it as domestic traffic in order to take advantage of the lower termination rates applying to domestic calls.[88] The removal of the differential between international inbound and domestic termination rates if anything appears to have removed the potential for this kind of arbitrage. It therefore appears that any difficulty

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[84] The Authority "Rebalancing for Fixed Services and Price Monitoring Draft Statement", 31 May 2009, paragraph 52.

[85] The Authority "An Order issued by the Telecommunications Regulatory Authority ("TRA") on the Reference Interconnection Offer and Reference Access Offer of the Bahrain Telecommunications Company B.S.C ("Batelco")", 25 January 2011 (Ref MCD/01/11/006), from paragraph 419.

[86] Batelco 2008 RAO submission, "Annex H Buffer rationale overview", page 3.

[87] ibid, page 5.

[88] The service description of Batelco's international inbound termination service (see Batelco Reference Offer, Service Description 2-7) requires that the Access Seeker do all that it can to provide Calling Line Identification information to enable Batelco to derive the full number of the calling party (clause 3.10). This would enable Batelco to identify whether the call was an international or domestic call, and to therefore apply the correct termination rate. However, such information may not always be available, such as where the call is a VoIP call, in which case the international call might be 'disguised' as a domestic call.

thatBatelco has been experiencing as a result of the removal of the buffer is not one of arbitrage.

189. The Authority agrees with Batelco, Viva, and Zain that the benefits from lower wholesale inbound rates charged to foreign operators appear to have been mostly retained by the foreign operators, especially those in other GCC countries. The lack of evidence of lower retail call prices to Bahrain indicates that those operators have retained the lower wholesale charges in the form of higher profits on calls to Bahrain, and that users in Bahrain have not enjoyed benefits arising from lower costs of being called.

190. Regarding investment incentives, in 2006 the Authority determined termination rates for international inbound traffic that reflected the costs of supplying such termination services. These cost-based termination rates represented a significant reduction from the levels that were prevailing at the time. By setting rates that allowed Batelco to recover its costs of supplying the termination services, including a reasonable return on and return of capital, Batelco's incentives to continue to efficiently invest in its domestic network infrastructure were preserved.

191. The reduction in international inbound termination rates has led to a reduction in the rates for wholesale inbound services. While competitive pressures have resulted in Batelco responding by lowering its wholesale inbound rates, there is no evidence to suggest that Batelco has been forced to price its wholesale inbound services below cost and thereby undermine its incentives to invest. The fact that Batelco may now have to compete with other international facilities for international inbound (as well as international outbound) traffic is likely to be beneficial rather than detrimental, although as noted above, the beneficiaries of such increased competition have been the foreign operators who purchase the wholesale inbound services in order to complete calls into Bahrain.

192. In summary, of the arguments that have been put forward in support of regulatory intervention, the Authority accepts that there is little evidence to show that users in Bahrain have benefited from reductions in the cost of bringing calls into Bahrain and terminating them on fixed and mobile networks.

Annex C: Precedents in other countries

193. In a number of its submissions since 2006, Batelco has argued that there are internationalprecedents for the inclusion of a mark-up over domestic termination rates for the termination of international inbound traffic. For example, in its 2008 RO submission,[89]Batelco cited four examples in support of its argument for such a mark-up:

    a. Saudi Arabia, where all international inbound traffic must go through the international gateways of the incumbent (STC);

    b. Bangladesh, where a mark-up of US 27 cpm is added to the incumbent's PSTN termination rates;

    c. Pakistan, where a mark-up of US 5 cpm has been introduced;

    d. UAE, where the termination rates of Du, the other licensed operator, is set at Etisalat's rate.

194. Batelco has additionally referred to the examples of Sudan and India, where the termination rates for international incoming traffic were increased in 2009.

195. In the 2009 Draft Order, the Authority responded by stating that:[90]

> "It is important to understand the policy decisions and considerations which underpin the decisions in each of these countries where they are known and in the public domain. For instance in Pakistan the US 5 cent uplift was added not to protect international revenues but to fund the rural development of the telecommunications infrastructure."

196. While Batelco subsequently argued[91] that the Authority's response only addressed one of Batelco's examples, and that even that example (Pakistan) supported Batelco's position that international inbound rates have been set so as to contribute to the funding of local network infrastructure, the Authority notes that there are other examples in which a decision has been taken not to differentiate between termination rates applying to international and domestic traffic. Such jurisdictions include:

    a. *United Kingdom*: Batelco has acknowledged that termination rates in the UK are set at the same level for international and domestic traffic;[92]

    b. *Europe*: more generally in Europe there is no differentiation in termination rates for international and domestic calls in so far as a differential treatment is considered discriminatory and contrary to the operation of the internal market;

    c. *Singapore*: Batelco has acknowledged that termination rates in Singapore are set at the same level for international and domestic traffic;[93]

    d. *New Zealand*: in its recent determination on mobile termination rates, the Commerce Commission set the same rate for domestically- and internationally-originated voice calls and SMS;[94]

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[89]Batelco Reference Offer submission, 4 December 2008, Annex H "Inbound International Termination Rates", page 5.

[90]Draft Order, 6 July 2009, paragraph 67.

[91]Batelco submission, 6 August 2009, paragraph 70.

[92]Batelco submission, 30 September 2006, paragraph 68.

[93]ibid.

e. *Australia*: the service description of the MTAS does not include a distinction as to where the call is originated.[95]

197. This is consistent with what would be expected in a competitive market.

198. One further example of a jurisdiction where the regulator has recently considered the issue of wholesale inbound rates for incoming international traffic is Trinidad and Tobago. In February 2010, the Telecommunications Authority of Trinidad and Tobago (TATT) issued a final determination on the pricing rules and principles for the termination of international incoming traffic on domestic networks[96]. According to TATT, operators that are licensed to supply international telecommunications services[97] must charge a rate for the termination of international incoming traffic that is no less than the sum of the *domestic termination rate* plus relevant costs *associated with operating an efficient international network*. The relevant costs of operating an international network include the domestic and international switches, international connectivity, and interconnection links with the domestic networks.

199. TATT has therefore set a price floor in respect of the wholesale inbound service (service 2 shown in Figure 1) into Trinidad and Tobago. The price floor set by TATT is based on efficiently incurred costs associated with bringing the traffic into Trinidad and Tobago and terminating the traffic on the domestic networks.

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[94] The "Description of service" for the mobile termination access service (MTAS) in the New Zealand Telecommunications Act states that "For the avoidance of doubt, these {MTAS} services include the termination of internationally originated voice calls and SMS, and voice-over-Internet-protocol-originated voice calls, where these are handed over at a mobile switching centre in New Zealand". See Commerce Commission MTAS Standard Terms Determination (Decision 724), 5 May 2011, paragraph 9.

[95] In its Mobile Services Review, the ACCC referred to Access Seekers as being either domestic or international. See ACCC, Mobile Services Review, June 2004, page 229.

[96] TATT "Determination 2010/01 Under Sections 29(3) and 29(4) of the Telecommunications Act 2001 – Termination of International Incoming Telecommunications Traffic on Domestic Networks in Trinidad and Tobago", 3 February 2010.

[97] Such operators are referred to in the TATT determination as 'concessionaires'.