

The Bahamas Telecommunications Company Ltd.

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June 24, 2011

Mrs. Kathleen Riviere-Smith
Director of Policy & Regulation
Utilities Regulation & Competition Authority
UBS Annex Building
East Bay Street
Nassau, Bahamas

Dear Mrs. Riviere-Smith,

Re: BTC's Response to Public Consultation ECS 8/2011

BTC hereby encloses its submission on URCA's Public Consultation on Number Portability.

BTC is obliged for URCA's extension of the deadline for submissions.

Yours sincerely,

A handwritten signature in blue ink, appearing to read 'Felicity L. Johnson', followed by a long horizontal line extending to the right.

Felicity L. Johnson
Vice President, Legal Regulatory & Interconnection
& Company Secretary

FLJ/ksw

Enc.



The Bahamas Telecommunications Company Limited

Response To

URCA Public Consultation ECS 8/2011
Number Portability for The Bahamas

By E-mail to: info@urcabahamas.bs

24 June 2011

I. Introduction

1. The Bahamas Telecommunications Company Limited (“**BTC**”) is pleased to provide the following responses to the Utilities Regulation and Competition Authority (“**URCA**”) consultation document titled ‘*Number Portability for the Bahamas*’ (the consultative document) published 15 April 2011.

2. The following is the executive summary of BTC’s position and BTC’s response to the questions asked by URCA.

II. Executive Summary

3. BTC embraces the commencement of URCA's evolutionary process regarding Service Number Portability, which will enhance competition within the communications sector and therefore introduce cost savings to our customers. Further, despite the technical and economic feasibility concerns BTC is of the view that the customer's experience would be further enhanced with the single number and personal mobility concept. BTC anticipates that number portability, appropriately deployed, will allow customers to change their service provider and retain their telephone number while simultaneously facilitating greater competition in the industry.

Although BTC embraces URCA's proposal to introduce the concept of Service Number Portability, BTC is mindful of the fact that any proposal must be subject to technical and economic feasibility and introduced in a robust fashion. BTC is of the view based on industry experience that URCA's proposed Call Forwarding as an interim solution is an inferior solution which potentially deprives customers of an equivalent quality of service, and puts competitors at a disadvantage, which would result in an inefficient use of telephone numbers and network resources. As a result, BTC is unable to support URCA's proposal.

4. BTC also highlights its concern in this submission that Fixed Number Portability (FNP) which is likely to precede Mobile Number Portability (MNP) could be more costly because the relevant cost can only be recovered from fixed line customers.

BTC therefore suggests that it might be worth considering introducing FNP and MNP simultaneously in order to minimize the costs- an important consideration for the industry and customers.

5. Any proposal advanced by URCA which would result in BTC investing resources in a short term solution, to the detriment of investing in a long term solution would be diverting limited resources to two solutions, and in the opinion of BTC inefficient in the context of the Communications Act.

6. BTC supports URCA's proposed framework for a Number Portability Working Group (NPWG) and sees this Group as a valuable resource for URCA in this complex exercise and further proposes the establishment of additional support for its Terms of Reference inclusive of subcommittees, protocols for raising issues, recommendations and documentation of positions and rules by which the NPWG will resolve deadlocks. BTC also anticipates that the NPWG will have the ultimate responsibility for identifying and recommending the most suitable technical solution for Number Portability in The Bahamas.

7. In conclusion, BTC's expectations with regard to URCA's Number Portability initiative, are that it will inevitably result in competition advancement and in the customer's experience being enhanced through choice and flexibility. The customer will

be the principle benefactor with the emergence of this added dimension in the evolution of the communications sectors and certainly, in this business it is all about the customer!

III. Response to Questions

Question #1

Do you agree with URCA's proposal to introduce service provider number portability for fixed communications services as soon as economically and technically feasible and, subject to further consultation with interested parties, for mobile communications services in time for the introduction of competition in mobile communications? If you disagree, please provide reasons.

8. BTC is of the view that while a formal cost/benefit analysis is required, it might be more cost effective to implement both fixed and mobile number portability at the same time.

9. URCA has stated that its ¹*'broad objective is to achieve fixed number portability as quickly as possible...'*; however, BTC is aware of a 2003 memorandum drafted by Neustar personnel, where it was noted: "Implementation of NP within a national telephony infrastructure entails potentially significant changes to numbering administration, network element signaling, call routing and processing, billing, service management, and other

¹ Pg.31, URCA, Number Portability for the Bahamas, ECS 8/2011, Published 15 April 2011

functions”.² BTC therefore cautions URCA to consider carefully, all options prior to advancing a particular solution.

10. BTC fully agrees with the Neustar statement and notes that it has been advised that this is consistent with the experience of its sister company in the Cayman Islands. It is also important to note that the Cayman experience highlights that every segment or department of operations would, in some way, be impacted by the implementation of Number Portability. This is precisely why section 80(1) of the Communications Act (the “Act”) requires URCA specifically to consider number portability and to issue a determination in light of the rules for regulation set out in section 5 of the Act and in particular so far as the rules assist with the implementation of the electronic communications policy objectives one of which is to enhance the efficiency of The Bahamas’ electronic communications sector and the productivity of the Bahamian economy (Section 4.a.i), whilst ensuring that the regulatory measure introducing such innovations is efficient and proportionate for their purpose and introduced in a manner that is transparent, fair and nondiscriminatory (Section 5.c).

11. In particular, the telephone number, traditionally a hierarchical physical routing address, must see its two functions separated, and must be transformed into a virtual address for dialing purposes separate from the network routing address. This involves a

² RFC 3482, “Number portability in the GSTN: an Overview”, M. Foster, T. McGarry and J. Yu, February 2003

fundamental change in the basic use and administration of a telephone number, and will not be a simple matter to implement.

12. The extent of the changes brought about by number portability means that it will take time to establish the framework and to implement. Accordingly BTC agrees that URCA's proposal to introduce service number portability must be subject to economic and technical feasibility. In this regard, it is important that Number Portability be introduced in a robust fashion and in a manner which builds the confidence of consumers. It is for this reason that BTC does not support any interim technical solutions which could compromise the viability of number portability in the long run.

13. BTC agrees with URCA that there are significant aspects of Mobile Number Portability (MNP) which cannot be defined with any level of assurance until additional entrant(s) are in the market. Accordingly, it is agreed that MNP should be introduced when new entrants are in the market.

14. BTC's conclusion is not that FNP can be introduced without reference to MNP. Bearing in mind that what could work on a fixed network might not be operable on a mobile network, BTC submits that it is important that URCA and operators minimize the chances for future duplication of effort and costs.

15. Since Fixed Number Portability (FNP) is projected to precede MNP there is the potential for FNP to be more costly, because the relevant cost can only be recovered from fixed line customers. It is worth contemplating introducing FNP and MNP at the same time in order to minimize the costs. In as much as URCA has taken the position that a formal / cost benefit analysis is not required, it is worth reconsidering the effects of how cost can be minimized for the industry and customers, generally.

Question #2

Do you agree that location portability should be mandated at the Local Charging Area level? If you disagree, please provide reasons.

16. Location portability should be mandated at the Local Charging Area only after a technical assessment has been done of the ability of the companies to provide the service. BTC is happy to augment the services offered to its customers given that the provision of location portability is feasible.

Question #3

Do you agree with URCA's proposal that number portability at the National level should be left to the discretion of the operator and subject only to the Operator's ability to satisfy URCA that the user will be able to identify the charges for calls to ported numbers? If you disagree, please provide reasons.

17. BTC disagrees that Number Portability at the National level should be left entirely to the discretion of the operator and subject only to the ability to identify call charges, as number portability affects all operators, and even an "internal" matter may affect the design of inter-operator number portability, or affect other operators. For example,

URCA needs to consider the impact of allowing a consumer to port a number from one operator who does not offer national portability to a second who does, and then to port back to the first operator after having moved their number out of the local calling area while with the second operator. These are matters that are, in BTC's view, best left to the NPWG to consider.

Question #4

Do you agree with URCA's proposal to prohibit the porting of numbers between fixed and mobile communications services at this time? If you disagree, please provide reasons.

18. BTC agrees with URCA's proposal to prohibit the porting of numbers between fixed and mobile communications services at this time. In addition to customer confusion, service portability is likely to generate complaints and billing disputes.

Question #5

Which of the methods of service provider number portability would be most suitable for implementation in The Bahamas?

19. BTC is of the view that it is premature at this point to say which method of service number portability is most suitable for implementation in The Bahamas, and is of the view that this determination should be made by the Number Portability Working Group (NPWG). URCA has already carried out an assessment of the various methods of portability and assessed their advantages and disadvantages. Just like URCA, BTC recognizes that an All Calls Query (ACQ) method of implementation using a centralized

database is the most commonly deployed system. Clearly, this is a superior, robust approach which eliminates the dependence on a competitor to route calls or provide routing information.

20. Even so BTC understands from the consultative document that URCA intends to establish a Number Portability Working Group (NPWG) and that the Terms of Reference of the NPWG is to, inter alia, make recommendations on '*...the technical solution (s) for service provider number portability to be implemented in The Bahamas....*' As part of the objectives of the NPWG, BTC anticipates that together the most suitable technical solution for the Bahamas will be identified.

Question #6

In the event that call forwarding is not considered an appropriate long-term solution, would it be appropriate having regard to the stated desire for number portability to be implemented as soon as possible to implement number portability using call forwarding as an interim solution?

21. BTC recognizes that it might appear at first glance very attractive to implement Call Forwarding as an interim solution with which to facilitate number portability. The argument that Call Forwarding would facilitate competition and bring choice to customers sounds persuasive. But Call Forwarding is a disappointing, inferior solution for delivering number portability in both the long-term and as an interim solution. This was recognised by the regulator in Cayman, the Information Communications Technology Authority (ICTA), in its conclusion that³ *Thirdly remote call forwarding*

³ ICTA, Public Consultation on Local Number Portability (CD (2004) 3), August 30, 2004, at p. 4.

and direct inward dialing (DID) are alternatives for an LNP-like function. This latter alternative is not in wide use and is generally considered inferior to the database approach.’ It is also highly instructive to note that the vast majority of the countries listed in Table 2 of the consultative document have implemented an ACQ solution, and none have adopted a call forwarding solution.

22. URCA itself has concluded that the significant disadvantages of Call Forwarding for the purposes of Number Portability are as follows:

- The call to a ported number does not go directly from Originating Network to Recipient Network, the routing of a ported call is not optimized nor efficient, “tromboning” occurs, which involves additional transit/interconnect charges.
- The Originating Network is dependent on the Donor Network for the call handling and the Donor Network typically does not provide this service for free.
- The Originating Network has no control over the quality of service provided by the Donor Network.
- Caller Line Identity (CLI) information is not passed on to the recipient in a call forwarding arrangement.
- Because of the high network usage for calls to ported numbers, call forwarding is suitable where only a small volume of numbers might be ported.

23. These disadvantages and the complexity, costs and inefficiencies, would only be magnified if a customer ports onward to a third or fourth operator.

24. An interim solution like Call Forwarding can only be implemented with reference to the implementation date for the long term solution. Until there is a reasonable understanding of how long it will take to implement FNP properly, one cannot implement Call Forwarding, because it is meant to be a temporary solution.

25. The significant disadvantages of Call Forwarding identified by URCA means that Call Forwarding is also a potentially costly interim solution. It is conceivable that at the same time resources are being invested in Call Forwarding, resources will also have to be invested in the long term solution. In addition, trying to implement a short term interim solution actually depletes the resources available to invest in the long term solution, and URCA runs the risk of both the short-term and long-term solutions being implemented poorly.

26. BTC believes that the unnecessary duplication of effort to provision Call Forwarding for LNP while also committing resources to develop an efficient, robust solution is disproportionate. This is contrary to URCA's own position to be '*... mindful of the requirements of section 5 of the Comms Act and its responsibility to introduce regulatory measures that are efficient and proportionate to their purpose and to introduce such measures in manner that is transparent, fair and non-discriminatory*'.

27. Calling Forwarding as an interim solution then is not merely as simple as activating the feature in the network, where available. There are costs to be recovered for the interim solution and how those costs would be recovered and from whom has to be agreed. ⁴On-switch solutions that incur high additional conveyance cost can impact the demand for number portability. The recommendation is to implement a more efficient solution.

28. BTC cannot say categorically whether the proposal of an interim solution, Call Forwarding in this case, is indicative of URCA's view on the demand for porting. Call Forwarding as acknowledged by URCA is suitable for small volumes of porting. If there is a miscalculation and the volume of ports is significant and therefore the number of calls to ported numbers, this could overwhelm the ability of BTC to provide sufficient capacity. Note that this is not just with regards to absolute capacity for Call Forwarding but also includes the engineered capacity for each of BTC's switches, which can support only so many call-forwards at any given time. Where it is that demand for porting is high and requires an expansion of BTC's interconnection capacity, such an expansion might not be possible in the short run. BTC also questions whether this would be the result of an efficient and proportionate regulatory measure.

⁴ Pg. VI, Final Report for DGXIII of the European Commission, Published by Europe Economics & Arcome, Vo.I, October 1999.

29. With Call Forwarding, a policy decision has to be made as to whether it is acceptable to port numbers without CLI since some applications rely on CLI. CL is becoming particularly important for emergency calls. It is possible that the functionality could be developed for Call Forwarding but this is at a yet unknown cost and the benefit of the spend would have to be assessed. Nor has URCA addressed the matter of customer confusion arising from the delivery of the ported number to Caller ID rather than the original directory number assigned to the customer.

30. Technical solutions will also have to be found to facilitate the billing of international calls as the Recipient Operator will be unable to bill for international incoming calls destined for its customer because the call would have been sent to the Donor Operator who would then forward the call to the recipient Operator. To the Recipient Operator the call would appear to be a domestic call.

31. BTC believes strongly that FNP should be done properly and that the risk inherent in Call Forwarding may cause customers to have such a poor view of FNP that when the long term solution is implemented, there is a lack of enthusiasm on the part of customers.

32. A key disadvantage of Call Forwarding which URCA failed to coherently articulate is the lack of service equivalence. When customers port, they have the expectation of porting to a better service but to no less than an equivalent service and certainly not to a worse service. However by virtue of the limitation of Call Forwarding

as a solution for fixed number portability, a customer who ports should expect to encounter call delays, be unable to reach emergency service and still have family and associates learn the number that appears on Caller ID. How is this a good solution for customers when they are worse off? How does it help competition when the service facilitated by Call Forwarding is not competitive?

33. This does not achieve the vision of URCA that ⁵:*'A competitive electronic communications sector should offer customers an environment where the available choice of service providers results in lower prices, improved service offerings, and enhancements to the customer service experience. This is because in order to attract customers, operators must strive to gain competitive advantage, which usually takes the form of better prices and/or service quality than customers' existing service provider. Similarly current service providers must improve their service offerings to the public'.*

34. It should then come as no surprise that where porting does not measure up to customer expectations that customers lose interest in the facility, and the investment by operators in that facility is wasted. The solution to providing consumers with real choice and facilitating competition is the introduction of a robust, efficient solution. BTC suggests that URCA look to the recent events in Kenya to appreciate the damage that can be caused to consumers and to the credibility of operators and regulators by an improper implementation of number portability.

⁵ Pg.11, URCA, Number Portability for the Bahamas, ECS 8/2011, Published 15 April 2011

35. It is also known that when an on-switch solution incurs high additional conveyance charges, it can affect the take-up of the service.

36. In the very early days of number portability, the pioneers – Singapore, the United Kingdom, Hong Kong- did use Call Forwarding as an interim solution and at that time the technology available to support number portability was nascent. URCA will note that interim solutions, like Call Forwarding, are no longer implemented as is evident from URCA's 'Table 2 – Number portability solutions in select countries' where none of the selected countries use Call Forwarding for routing fixed or mobile calls from ported numbers. Rather regulators and Working Groups are using the sophisticated technology that is available and avoiding diverting resources to solutions that are not robust. This is the approach that BTC proposes is best.

37. Finally, as referenced by URCA, section 79 of the Act requires efficient use of numbers and requires that number portability be taken into account in numbering by providing as follows:

(1) URCA shall publish a numbering plan for carriage services and may make rules pursuant to that plan for the allocation of numbers to licensees and the use and assignment of those numbers to licensees.

(2) In preparing the numbering plan referred to in subsection (1), URCA shall

(c) promote the efficient use of numbering, taking into account if technically feasible the need to ensure that number allocation is made on a non-discriminatory basis geographically amongst different islands in The Bahamas and within the islands;

38. Call Forwarding uses number resources inefficiently because two telephone numbers are needed for call forwarding to work – the directory number assigned to the customer by the Donor Operator and the corresponding directory number (ported number) in the Recipient Operator’s network. This is in conflict with Section 29(2) (c) of the Act to *‘promote the efficient use of numbering...’*

Question #7

Do you agree with URCA’s analysis and proposal that the issue of whether a clearinghouse should be established locally, outsourced to an external third party, or in partnership with regional regulators and operators in other Caribbean jurisdictions, should be considered and recommended by the NPWG? If you disagree, please provide reasons.

39. In BTC’s view, this seems to be a commercially driven decision. We are not certain that a mandate determining who can own the database and where it can be located, will achieve URCA’s objective(s). BTC’s concern is that a competent database vendor provide the service. In other Caribbean countries like Cayman, an RFP was published, proposals were received and a vendor is to be selected according to the criteria established in the RFP. Any vendor, whether domestic or overseas, could submit a proposal.

Question #8

Do you agree that service provider number portability in The Bahamas should be Recipient initiated? If you disagree, please provide reasons.

40. In establishing porting processes, it is common for these processes to be Recipient led. This arises from the thinking that the Recipient Operator, who is gaining a customer, would be eager to complete the porting while, on the other hand, the thinking is that the Donor Operator, who is losing a customer, may not act with the same urgency. In BTC's view, whether the process is Donor led or Recipient led, the customer's instructions to port should be fulfilled in the agreed timeframe.

Question #9

Do you agree with URCA's proposal to prohibit the Donor from contacting the customer for retention purposes for a period of at least two (2) years following the introduction of service provider number portability?

41. URCA's proposal to prohibit the Donor Operator from contacting a customer for a period of at least two (2) years is egregious. BTC is uncertain if URCA's reference is to the original Donor Operator or any Donor Operator, since a customer can port from Operator A to B and so on. BTC readily recognizes that winback should be prohibited while a customer's number is being ported but before the porting process is complete, and in some instances, the porting rules will prevent a customer from porting to another provider within a specific timeframe of weeks.

42. While not due to contact with the customer, there are also instances where a customer will port back to their original provider (Donor Operator) where for technical reasons they are unable to access the service of the provider to which they have ported their number (Recipient Operator).

43. URCA's proposal is very specific to the Donor Operator. Yet, if a robust approach FNP is implemented, all fixed line operators will receive the information that the number has been ported to another network. Does that mean that the customer could port to another fixed line provider but not the original Donor Operator? All providers are competing on quality / service and price points and customers have the option to port to avail themselves of the best service for them. To prohibit the original Donor Operator from trying to winback that customer, after the customer has ported, denies that customer the opportunity of a better choice as much as it denies the original Donor Operator the opportunity to compete. BTC finds URCA's proposal unacceptable.

Question #10

Do you agree that maximum timeframes for service provider porting should be implemented and mandated by URCA, and that the NPWG should be tasked with making recommendations to URCA on those timeframes? If you disagree, please provide reasons.

44. For porting benefits to be delivered uniformly, there must be agreement on a definitive porting timeframe. A maximum timeframe for porting can then be extrapolated from the definitive porting timeframe to allow for exceptional circumstances. However, timeframes that are feasible depend on a number of factors internal to operators that URCA is not likely to fully know. The operators themselves may not fully appreciate all of these factors at this time. BTC agrees that the NPWG would be best placed to make this recommendation to URCA since the NPWG would have the required expertise.

Question #11

Do you agree with URCA's proposal that the relevant principles for cost recovery should be cost causation, relevant cost, cost minimisation, reciprocity, effective competition, practicability, and distribution of benefits? If you disagree, please provide reasons.

45. BTC agrees with the principles for cost recovery of cost causation, relevant cost and cost minimization. The Company has concerns about the proposal of reciprocity, effective competition, practicability and distribution of benefits as principles for cost recovery because these are notoriously difficult to quantify. And the tendency for regulators is to cause the operators to absorb a significant amount of these costs as benefits.

46. No doubt because of the practical difficulty of quantifying these principles, regulators in other European countries, as contained in ⁶'Table 6 - Cost Allocation and Recovery for Number Portability' – Finland, France, the Netherlands, Sweden- have focused on principles which can be quantified. Their cost recovery principles are a combination of cost orientation, reasonable cost and cost minimization,

47. Therefore BTC is of the view that the URCA's proposed principles for cost recovery is just a proposal since as indicated previously there are other legitimate options which are more practical in application. Discussion of the costing principles, or in any event, those that are contentious should be reserved for the study of the NPWG.

⁶ Pg. 50, URCA, Number Portability for the Bahamas, ECS 8/2011, Published 15 April 2011

Question #12

Do you agree that detailed consideration of the actual costs and consideration of detailed mechanisms for cost recovery should be referred to the Number Portability Working Group which should make detailed recommendations to URCA consistent with the principles set out in the consultation document? If you disagree, please provide reasons.

48. BTC agrees that the consideration of the detailed costs and the mechanism for recovery should be referred to the NPWG. As stated in the response to Question 11, BTC recommends that the contentious cost principles – reciprocity, effective competition, practicability and distribution of benefits – be also submitted for the detailed review of the NPWG.

Question #13

Do you agree with the appointment, the composition and the Terms of Reference of the Number Portability Working Group as proposed by URCA? If you disagree, please provide reasons.

49. The framework that URCA has proposed is acceptable. This framework will be further enhanced by, and it is proposed that URCA make explicit provision for:

- the formation of and appointment of representatives to sub-committees;
- the protocol for raising issues and exchanging and documenting positions and recommendations
- the establishment of rules regarding how the NPWG can resolve deadlock;
- The providers to invite members of their organization to any meeting of the NPWG where that employee is an expert in the matter under discussion.

50. Where deadlock is resolved by voting, care must be taken by URCA that the voting mechanism is equitable and does not disadvantage any stakeholder.

IV. Closing Remarks

51. In conclusion, BTC wishes to emphasize the importance of a positive customer experience in the process of number portability implementation. The technical nature of this process means that great care must be taken to select the right method of service number portability, taking into consideration the experiences and mistakes of the industry. BTC advocates a level playing field for all operators and looks forward to having representation on the NP Working Group which will advise on all aspects of this process inclusive of the customer experience.

52. BTC expressly states that failure to address any issue raised in this consultative document does not necessarily signify its agreement in whole or in part with URCA's position. BTC reserves the right to comment on any issue raised in the consultation at a later date.

BTC thanks URCA for the opportunity to participate in the consultation.

**Submitted by: Legal, Regulatory and Interconnection Division
The Bahamas Telecommunications Company Limited (BTC)
June 24, 2011**