November 11, 2010

Mr. Usman Saadat,
Chief Executive Officer,
Utilities Regulation & Competition Authority,
UBS Annex Building,
East Bay Street,
Nassau.

Dear Mr. Saadat,

Re: Public Consultation on the Draft Reference Access and Interconnection Offer ("RAIO") of the Bahamas Telecommunications Company ("BTC"), hereinafter referred to as (the "Consultation")

Please find below the further comments of Systems Resource Group Limited ("SRG"), d.b.a. IndiGO Networks® ("IndiGO"), with respect to the above Consultation, and in reply to the responses submitted by the Bahamas Telecommunications Company Limited, Cable Bahamas Ltd. and LIME.

Except where detailed below, SRG relies on its original submissions dated October 26, 2010.

Consultation Question 2:
Do you agree that BTC should remove any obligations on other operators which are inappropriate and unnecessary to manage the interconnection regime in The Bahamas?

SRG has consolidated its additional submissions with respect to reciprocity in its answer to question 4.

Consultation Question 3:
Do you agree that BTC should fully justify any reciprocal clauses that remain in the RAIO?

SRG has consolidated its additional submissions with respect to reciprocity in its answer to question 4.

Systems Resource Group Limited · Centreville House
Collins Avenue · P.O. Box N-3920
Nassau, The Bahamas · Phone: (242) 677 1000
Fax: (242) 677 1050 · www.indigonetworks.com

Seventeen Centre
P.O. Box F-43397 ·Freeport
Grand Bahama, The Bahamas
Phone: (242) 688 1000 Fax: (242) 688 1050

Consultation Question 4:
Do you agree that BTC should remove from its RAIO any reciprocal charging obligations on other operators?

SRG accepts the principle that some clauses in any interconnection agreement arising from the final RAIO will need to be reciprocal in nature, for example equal rights with respect to filing of disputes, or credit and collections. However, SRG does not accept the position advanced by both BTC and LIME that the termination rates should also be reciprocal.

The common argument of BTC and LIME for reciprocity on termination rates appears to be based on the position that, i) OLOs have SMP in their own call termination market, ii) that they should therefore be required to provide termination at cost based rates, and iii) the most appropriate rates to use are the benchmark of BTC's cost orientated rates. With the greatest respect, this argument is flawed:

- There are no separate fixed voice markets that are defined by service provider, but rather a single fixed voice market in which BTC has dominance.
- BTC controls the fixed voice market, and has set the retail price in the intra-island market to zero.
- In the event of asymmetric termination rates, it is within BTC's control to exercise the power to impose off-net termination retail rates on its customers, indeed both BTC and LIME make reference to such in their responses; BTC in the second bullet on page 14, and LIME in the first bullet of page 4. As explained by SRG in its original submissions[1], off-net billing by BTC would be highly detrimental to the competitive position of an OLO.
- Market forces will therefore act as a brake upon the OLO from setting termination rates that would be to their own competitive detriment.

SRG reasserts its position that reciprocal termination rates would be inappropriate except in the unique case of bill and keep.

However, SRG is concerned by comments made by each of BTC[2] and Cable Bahamas[3] that suggest that BTC may not agree with an OLO's termination rates and that any disagreement would result in either a delay to execution of a consolidated agreement based on the RAIO, or if the agreements are to be separate, absence of agreement by BTC to terminate on the OLO's network. Given the implications, SRG is of the view that BTC must be compelled to originate calls on its network for termination on an OLO's network, and does not believe that the situation outlined by BTC and Cable Bahamas can be allowed to arise. The following points are pertinent:

- Under condition 11.1 of the Individual Operating Licence ECS 10/2009, all operators, including the OLO and BTC, are required "in good faith to negotiate [and] conclude … agreements with any Other Operator for Interconnection".

[1] Answer to question 16, SRG response dated October 26, 2010
[2] BTC response, bullet three, page 14
[3] Cable Bahamas' response, last sentence in second paragraph, page 4

- The OLO is not required to adhere to any pricing principle in setting its termination rates.
- BTC is not in a position to disagree with an OLO's rates, unless they can be shown to have not been offered in good faith. The rates are the rates. As described above, BTC has the power to set off-net tariffs in the event that it believes that the OLO has acted unreasonably in setting rates.

Consultation Question 5:
Do you agree that BTC should include in its RAIO the ability of OLOs in The Bahamas to terminate incoming international calls on BTC's network?

SRG notes the opposition of LIME to BTC being required to terminate inbound international calls from OLOs. The argued position is that allowing new service providers to enter the market for inbound termination will lead to a long term lowering of the international settlement price, which would be detrimental to the Bahamian economy. In other words, the argument is that in this case competition should be deliberately stifled.

The rationale of LIME is that stifling of competition is acceptable in the case of inbound international, because the Bahamian consumer doesn't pay. It is only the foreign consumer calling into the Bahamas who will suffer from the artificially high rates to do so. And then the economy will benefit through the influx of foreign exchange.

SRG believes that LIME's argument is misguided.

For years, until the very recent past, The Bahamas had the lowest inbound settlement rates in the region, and adopted a termination model that was similar to that of North America, where settlement rates are not only low, but equally so for both fixed and mobile networks. For example, it is reasonable to expect a blended fixed and mobile rate of less than 1.5 cents per minute to terminate in the United States or Canada. Even in mainstream Europe, where mobile settlement rates are higher than fixed, the rates are generally proportionate, with fixed termination at around 1 cent, and peak rate for major mobile carriers typically between 5 and 9 cents.

The Caribbean, where Cable & Wireless has been the historical monopolist, is another matter. In countries such as Jamaica, Barbados and the Turks & Caicos for example, settlement rates for fixed and mobile hover around 5 and 19 cents respectively. Of course, today's fixed settlement rate is a long way from the 19 cent rate that LIME describes as being lost in Jamaica since 2001, but such rates were unsustainable, not only because of the action of the FCC that was described by LIME, but also because of international downward trends. LIME may argue that the resultant loss to the Jamaican economy was high, but with respect those days are gone, and one can't help but form the view that the loss was more to the bottom line of Cable & Wireless, as the recipient of the foreign settlement, than the Jamaican economy.

In the very recent past BTC has strayed from its historical practice of a modest across the board settlement rate and replaced it with high rates that are similar to those in the Caribbean as outlined above, which differentiate between fixed and mobile. The effect may be a boost to the bottom line of BTC, but SRG disputes the view that it is at no cost. Nothing is free, and high international settlement rates do have implications for The Bahamas.

Given the past prevalence of international callback services in The Bahamas, it is ironic that today, with the proliferation of voice over internet services such as SRG's Onephone, a foreign consumer calling into The Bahamas would be better off asking their Bahamian counterpart to call them back. In other words, it is now cheaper to call internationally from The Bahamas than for a call to be placed into The Bahamas. The subliminal message is that it is expensive in The Bahamas. Tourists will have an immediate negative impression of high cost when calling to make a hotel reservation. Offshore financial services firms will consider that the cost for their clients to contact them is now uncompetitive with, say, Bermuda where the blended termination rate is around 3 cents. Whilst BTC and its new owner to be may accumulate more profit, the fact is that the Bahamian economy is bearing an unquantifiable cost, which raises questions with regard to the productivity of the Bahamian economy, one of the objectives of the government's electronic communications policy as described in section 4(a)(i) of the Act.

LIME and BTC have proposed different mechanisms for protecting BTC from competition with respect to the international settlement rate. For its part, LIME, has proposed that if international inbound be permitted at all, it only be done so on a cost orientated basis to an elite club of infrastructure owners (of which SRG notes that it would at least be a member). BTC has effectively proposed that it alone set the rate in Miami and that it resell international inbound at a small margin of 1.11 cents per minute. BTC attempts to justify its position by comparison with iBasis using an inappropriate gross margin per minute calculation that conveniently overlooks the fact that the market volume of iBasis is 3.9 ***billion*** minutes per year, veritably dwarfing the inbound market of The Bahamas.

It is SRG's position that both of these positions are unacceptable. Neither of them represent competition, and in the case of LIME, restriction of interconnection services to some operators would be discriminatory and therefore in breach of the Act and BTC's Individual Operating Licence.

SRG does not believe that there is a case for preventing competition in international inbound.

- As BTC indicated in its response, SRG today provides international inbound services to its international partners and in doing so terminates minutes on BTC's network. What BTC omitted to mention is that SRG has been doing so for at least 5 years under the terms of the existing interconnection agreement between SRG and BTC, and not under a retail minus model as part of a commercial offering. In other words, the situation that BTC is trying to avoid already occurs, and has been in place for 5 years without any negative consequences, apart perhaps from BTC wanting the whole pie instead of simply the lion's share.

- Not only does competition already exist between SRG and BTC, but also via grey routes that are encouraged by high prices in the market. A grey route is easy for a quasi operator to establish with an internet connection on one side, a T1 on the other and an inexpensive piece of switching/routing equipment in between. Such a setup may be of questionable legality, but any doubt of their existence can be dispelled by a review of Vonage's retail rates for calling The Bahamas, which are significantly less than BTC's settlement rate. Minutes from Vonage are undeniably being terminated in the country, but not by either of BTC or SRG unless Vonage is suffering a significant loss on every call. The reality is that the termination is happening over a grey route.
- That grey routes exist is not in doubt, but market forces work as a brake on their activity because their reliability, measured by the Answer/Seizure Ratio, is poor. Quality is also highly sporadic. For bottom of the market services like Vonage where low cost is the only marketing message, that may be acceptable, but it would certainly not be, and is not, acceptable for mainstream international service providers with a focus on quality of service. The same service issues would be true of the "margin gatherers" that LIME mentions in its response. With the high settlement rates put in place by BTC they may seek to offer services, but the market will act as a brake on their overall impact due to quality and reliability.
- A lowering of the international inbound rate through competition would have the benefit of distinguishing The Bahamas from the high cost Caribbean region, and benefiting from the adoption of more equitable rates in line with major international jurisdictions.

For the above reasons, SRG respectfully stands by its earlier submission that BTC must be required to offer international inbound under its RAIO at cost orientated prices.

Consultation Question 8:
Do you agree that BTC must:
(i) add a RAIO call termination service for calls to freephone numbers on its network; and
(ii) remove the RAIO charge for call origination from BTC's mobile network to freephone numbers on an OLOs network if BTC charges for such airtime?

With respect to freephone services, there appears to be an amount of confusion in the responses. In SRG's view, there are three scenarios that need to be addressed:

1. A call originates on BTC's network that is destined for a freephone number on an OLO's network. This is similar to any other off-net call that originates on BTC's network. BTC routes it to the relevant operator over the interconnect between the parties. The only difference is that regardless of the domestic termination rate imposed by the OLO on BTC, in the case of a freephone number there will be no charge because the freephone subscriber will pay the OLO. BTC will levy an origination charge reflective of the inter-island cost incurred. There should be no charge by BTC for intra-island origination, since BTC does not make a retail charge for local calls.

2. A call originates on an OLO's network for termination at a freephone number on BTC's network. In a similar manner to the above, the OLO will charge an origination fee to BTC reflective of its inter-island and intra-island interconnection rates. BTC will not charge the OLO for terminating the call because they will recover the cost from the freephone subscriber.
3. A call originates on an OLO's network for termination on another OLO's network. As described in SRG's original submissions the originating OLO will send the call to BTC who will act as the central clearing house. With respect to billing:
   a. The originating OLO charges its freephone origination fee to BTC.
   b. BTC transits the call to the terminating OLO with no charge to the originating OLO.
   c. BTC charges both the transit fee and the freephone originating fee to the terminating OLO.

Consultation Question 11:
Do you agree that BTC should remove any call handover requirements from the RAIO and that BTC should amend the RAIO to the wording proposed by URCA?

In light of the fact that BTC has only proposed two points of interconnection, SRG questions the applicability of BTC's comment that "calls to emergency services [which] should be handed over on the island where they are originated".

Consultation Question 12:
Do you agree that the following terms should be incorporated in BTC's RAIO:
- Joining Circuit, meaning the T1 capacity provided over a PoI;
- Joining Path, meaning the higher level transmission bearer; and
- Interconnect Route Traffic, meaning the group of 64kbit/s channels over which a given type of interconnect traffic is directed. A Traffic Route will usually be carried over two diverse Joining Paths for security and may even have an overflow via another PoI to cope with unusual traffic flows?

SRG welcomes BTC's comments as follows:

> "BTC has almost completed its next generation network roll out, and it is likely that interconnection will be implemented directly between IP networks. No new operator would construct a non-IP network today. In this world, the minimum Ethernet transmission capacity is a T1 and 64K channels are not used".

As raised in SRG's original submissions, and as a consequence of the above, SRG therefore expects that in addition to SS7 the final RAIO will contain interconnection based upon Session Initiation Protocol ("SIP").

Consultation Question 16:
Do you agree that BTC should continue to offer free local calls given the non-zero RAIO charge for intra-island interconnection?

SRG appreciates the candour BTC has shown in its response by making clear that its tariffs are unbalanced, and that the provision of local calls at no charge is a) below cost, and b) cross subsidised by other parts of BTC's operations. In particular:

- On page 30 BTC referred to its "material access deficit";
- On page 31 BTC states that "there are currently significant cross-subsidies running through BTC's business as a consequence of BTC's historic pricing practices".

LIME would appear to be in agreement, in stating on page 12 of its response that:

> "there is a clear risk in The Bahamas that the retail prices for access and local calls do not cover the substantial costs of providing these services".

In such circumstances, SRG reiterates the position taken in its original submission, that for as long as BTC continues to offer free local calls at below cost there can be no sustainable competition in the event that BTC is permitted to impose cost based termination rates for intra-island calls in its RAIO.

URCA might consider what would happen in a situation where non-zero termination rates were permitted and a subscriber were to leave BTC and join a competitor:

- While the consumer is a BTC subscriber, BTC cross subsidises local calls from another line of business.
- When the customer leaves, BTC is now benefiting from the saving it makes by no longer having to provide the cross subsidy.
- BTC further benefits through the termination charges that will now accrue to it as the consumer makes calls from the OLO to customers on BTC's still dominant network.
- The OLO to which the consumer has switched is damaged through providing service because it has to set its prices at below cost to meet the zero market rate that is cross subsidised by BTC.

It is difficult to think of a more bizarre set of circumstances. BTC would be in the ludicrous position of not only profiting from one of its subscribers leaving to join another operator, but also benefiting through the damage caused to its competitor. Such a situation cannot be allowed to exist.

SRG has reviewed the proposal of Cable Bahamas in its response. If URCA chooses to adopt it as an alternative to the proposal submitted by SRG in its original submission, SRG would agree with its approach.

> "If BTC's current local access tariff is not compensatory, URCA must require BTC to rebalance its tariffs in order to allow for the development of sustainable competition on The Bahamas market. Until URCA confirms that BTC local rates are compensatory, local interconnection charges should be zero-rated".

Consultation Question 19:
Do you agree that mobile termination charges should not be included in the final RAIO except for incoming international calls to mobiles (delivered via an OLO)?

It would seem that BTC is alone in seeking to justify double dipping with respect to recovery of its costs for mobile termination; once from the party receiving the call and once again from an OLO. It is noteworthy that even LIME on page 13 of its response has opined that "an MTR from the fixed line OLO to mobile would not be essential".

In support of its argument BTC quotes the guidelines to SMP operators, as expressed in the last paragraph of section 4.2 of the Final Access and Interconnection Guidelines ECS 14/2010. BTC is relying on the fact that those guidelines state that charges by an SMP should be cost orientated, but BTC has glossed over the fact that with specific reference to cost orientation URCA states that this enables an operator to "recover the efficiently incurred costs". Leaving aside the question of efficiency, it is undeniable that BTC has already recovered its costs, and should not therefore be seeking to do so again in applying a termination rate to the fixed OLO.

Moreover, BTC has given no explanation why it is now seeking to backtrack on the clear wording in Annex G.3 of its draft RAIO, which states that the charge would only apply "in the event that inbound retail call charges to mobile users (MPP) are discontinued".

SRG does not agree with the position of Cable Bahamas on page 11 of its response that in the event that MPP were discontinued in favour of Calling Party Pays, a cost orientated termination rate could be included in the RAIO. Cable Bahamas has overlooked the implications arising from BTC's confirmation that tariffs remain unbalanced (see the answer to question 16, above). In such circumstances SRG reiterates the position taken in its original submissions that OLOs should not suffer a non-zero intra-island rate to terminate on BTC's mobile network whilst unbalanced tariffs persist and BTC does not charge its own fixed customers to originate intra-island calls to mobile subscribers. SRG considers that any failure by URCA to adhere to that principle would be fatal to competition.

With respect to international termination to mobile numbers, SRG refers URCA to its response to question 5, above.

Consultation Question 21:
Do you agree that BTC should publish charges for joining services for all available links in its RAIO?

SRG has reviewed BTC's charges for Joining Circuits under the proposed amendment to Annex G.12. In the round, SRG considers them to inadequate and unreasonable.

In addition to points made by SRG in its original submissions with respect to joining and points of interconnection, SRG comments as follows:

- The tables are labelled as being applicable to Joining Circuits, but actually appear to be for Joining Paths.
- There is no analysis of cost associated with the one-off charges for Joining Paths, which conflict unfavourably with prior commercial pricing quoted by BTC for fiber installation and termination.
- There is no pricing shown for Joining Circuits.
- As a principle, per mile charging is unreasonable given that BTC has restricted points of interconnection to only two locations.
- There is no analysis that shows how costs are being shared between the parties.
- There is no explanation of who bears the cost of termination equipment on each network.
- There is no separate charging with respect to Grand Bahama and New Providence that would properly reflect the differing cost structure in each location.
- There is no description of what would happen in migration of existing Joining Paths and Circuits.
- Use of IP technology contradicts the specification of SS7 in the draft RAIO.
- There is no justification for any monthly recurring charge for Joining Paths except for maintenance, which should be at cost and not based upon an unrelated RIO-5 in Jamaica.

Consultation Question 23:
Do you agree with URCA's approach that where BTC has used the AS model for developing interconnection tariffs, these tariffs be used for 2010 and adjustments for efficiency be incorporated, in parallel with production of the AS model based on 2010 financials, from 2011 onwards?

In its response, BTC has strongly objected to URCA's introduction of the question of efficiency into its analysis. However, BTC must acknowledge that URCA is required to consider the question of its "efficiently incurred costs" under the aforementioned section 4.2 of the Final Access and Interconnection Guidelines ECS 14/2010.

BTC's objections, broadly supported by LIME, are based upon its oft repeated argument that The Bahamas is unique as an archipelagic nation for which BTC provides service to small communities across expensive under-sea cable networks. SRG accepts that no two nations are alike, but would comment as follows:

- SRG does not believe that BTC operates a nationwide, all sub-sea cable network. SRG believes that BTC operates an inter-island network that is mixed between microwave and submarine cable.
- When BTC expanded its inter-island submarine fibre network a few years ago, its much publicised comments at the time were that the investment would allow BTC to expand high speed data services to additional family island locations. BTC presumably engaged on that network expansion, and its associated capital expenditure, based upon a sound business plan

that reflected the anticipated increase in data traffic together perhaps with some improvement in mobile service. It would not be credible to think that the infrastructure investment was made based upon an increase in fixed line business, and OLOs should not be expected, via inappropriate cost allocations, to contribute to network investment made by BTC for its own benefit in entirely different markets.

- There are a great many countries where fixed telephony service is a universal service obligation that has to be carried to small remote communities over difficult terrain. That terrain may not be water, but it is equally problematic, maybe even more so, to deliver service across mountainous or heavily forested rural areas that are often over great distances.
- BTC's insistence that Caribbean states should be used as the benchmark is not helpful. Many Caribbean states stand accused of having a long history as inefficient telecommunications monopolies, and can hardly be held up with much in the way of credibility as a benchmark standard of efficiency. Moreover, the Caribbean states that are identified by BTC, such as Jamaica, are no more archipelagic than Guernsey, Jersey and Malta, all island states to which BTC objects as benchmark comparatives.

Consultation Question 30:
Do you agree/disagree with URCA's identification of the issues and URCA's recommendations on the individual clauses in the draft RAIO?

SRG relies on its original submissions, with the caveat that appropriate clauses should be amended to reflect the matters detailed above.

Respectfully submitted.

Yours sincerely,

Paul Hutton-Ashkenny
President