



**Response to URCA's consultation on a  
FRAMEWORK FOR THE ESTABLISHMENT OF  
INTERNET EXCHANGE POINTS ("IXPs") IN THE  
BAHAMAS**

**ECS 07/2019**

Submitted to

The Utilities Regulation & Competition Authority

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## Introduction

Cable Bahamas Ltd. (CBL) is appreciative of the opportunity to respond to this Public Consultation.

Below you will find the response of CBL on URCA's consultation document on the framework for establishment of internet exchange points ("IXPs") in The Bahamas (ECS 07/2019).

## Answers to consultation questions

In the following comments CBL will follow the specific consultation question from the consultation document.

### **Consultation question 1: Context for the Consultation. Do you agree with URCA's justification for publishing this consultation on the establishment of local IXPs in The Bahamas?**

We agree with the assessment that an efficient, high quality and well performing digital infrastructure is essential to the development of the internet-based economy in The Commonwealth of the Bahamas and we support URCA in this objective.

Whether or not in the specific case of The Bahamas local IXPs will add to this goal and to what extent, has yet to be seen. Some of the examples in the report relate to different parts of the world; Asia and Africa for example, which may not represent the situation in The Bahamas. Also, the generic statements and conclusions from ITU and ADB, as mentioned in the report, have to be viewed from the specific situation in The Bahamas.

CBL has the following general remarks:

1. The report suggests that an IXP is cheap to set-up. However, there is a risk that the assumed costs may be heavily underestimated. If an IXP has as its role that which is "central to the digital infrastructure of a country", and it should enable the "huge potential for online services and applications to grow in The Bahamas", as stated in the report, it must be set up to the same high standards that are common in the other data centres and IXPs in, for example, the US. Of course, if the IXP plays such an important role, it cannot and may not become a single point of failure in the Bahamian digital infrastructure.
2. The statement that IXPs significantly reduce delays in networks and prevent the deterioration of internet performance, depends on the situation. While there are examples where this may be true, and some of those examples are mentioned in the consultation document, it does not mean this will be the case for The Bahamas given its close proximity to the Miami internet hubs. Round-trip measurements show average delays of less than 18 milliseconds to the US internet hubs and less than 23 milliseconds to large content providers (Google/YouTube, Facebook/WhatsApp, Amazon, Yahoo, Microsoft, Instagram, Netflix, etc.). Such low delays do not suggest there is presently a latency problem.

3. The consultation document states that IXPs significantly reduce the cost of handling internet traffic as it eliminates 'tromboning' of local internet traffic through foreign and usually far away internet exchanges. In general, this is true, however in the case of The Bahamas it is doubtful this statement holds. This is for two reasons: the proximity of the internet hubs in Miami and the very low share of local traffic in the total internet traffic of The Bahamas.
4. The report suggests you need an IXP to handle local internet traffic locally. Although it is in many cases the most economical way of handling local internet traffic, especially when there are a large number of ISPs, it is not a necessity. There can be direct interconnects between ISPs with private peering arrangements and/or IP Transit arrangements which serve the same purpose at significantly lower cost. CBL already has several of these types of relations in place and more can be introduced if needed.

**Consultation question 2: Demand for Broadband Connectivity in The Bahamas. Do you agree with URCA that there is high penetration of broadband access in The Bahamas?**

Yes, we agree and CBL shares URCA's goal of ensuring that consumers in The Bahamas are served with high speed and high-quality Internet connections now and going forward. This goal drives both CBL's investment strategy for its network and its commercial philosophy.

**Consultation question 3: Consumer preferences for online content and services. Do you agree with URCA that there is increasing local preferences for web content that have high demand for bandwidth and high sensitivity to latency?**

The vast majority of content in The Bahamas has its origins abroad. We currently do not see evidence of significant local web content that is also highly sensitive to latency. Also, local traffic only makes up a small amount of total traffic generated, again suggesting this is not a material problem.

Given the close proximity of The Bahamas to major internet hubs in the US, the additional latency for local traffic, due to its routing abroad, is in general not causing performance issues. The roundtrip delay to the US internet hubs used by CBL is less than 18 milliseconds on average. This is an acceptable delay for such traffic.

Popular web content from foreign providers is already hosted in-country by CBL in order to provide quality services to our end-user customers. CBL has arrangements with major content providers like Facebook and Google for this reason.

**Consultation question 4: Bandwidth Costs and Internet Traffic. Do you agree that the practice of routing local Internet traffic outside The Bahamas adds costs to the operations of local ISPs?**

Given the very low volume of local traffic, we do not recognize that international routing adds significant cost to our operation. The cost of a robust local IXP is likely to be significantly higher than the small incremental cost of routing local traffic abroad. This may change if and when the share of local content changes to more significant proportions, however, this is not currently forecast.

**Consultation Question 5: IXP Enabling Measures. Do you agree with the supporting measures URCA proposes to adopt to stimulate entry of IXPs in The Bahamas?**

In line with the principles of the free internet, it is our opinion that URCA should leave it to the ISPs in The Bahamas how they route their traffic and how they interconnect to exchange local traffic. When there is sufficient local content and associated local internet traffic, economics and logic will dictate the creation of an IXP in The Bahamas.

All of the major IXPs that "contributed to the development of an advanced Internet ecosystem and digital economy across Europe, North America and Asia" were founded by the market and the ISPs themselves.

**Consultation Question 6: Principles for Regulation and Other Measures. Do you agree with URCA's assessment of the enabling measures discussed?**

See previous answers.

**Consultation question 7: Objectives for Establishing IXPs in The Bahamas. Do you agree with URCA's objectives for the entry of IXPs in The Bahamas?**

We support the objectives in general, but have some doubts on the presumed benefits as outlined in our answers to the previous questions. Generally speaking, CBL does not believe there are material issues to be addressed and any issues present can be addressed more cheaply than through an IXP, for example, through private peering arrangements.

**Consultation question 8: Expected Benefits for IXPs in The Bahamas. Do you agree with the benefits URCA has identified for IXPs in The Bahamas?**

With respect to "Reduction of network's operational costs": as outlined in our previous answer we do not expect economic benefits in the short term due to the low volume of local internet traffic and the local caching of popular web content which is already in place. Local internet traffic only makes up a small amount of all traffic, and the estimated monthly savings of not routing this traffic through the US pop (i.e. transport costs and IP transit) is not significant.

With respect to "Enhanced Internet Reliability and Robustness": when the IXP is added to the existing network and available routings of CBL it may add some additional resilience for local internet traffic, however CBL has already taken many measures in the form of back-up and resilient links. In countries where local traffic *must* be routed locally in all cases, enforced by law, the IXP may even become a single-point-of-failure, depending on its design and set-up, and *reduce* reliability and robustness.

With respect to "Data Protection/Privacy": we recognize the importance of privacy and data protection. By the nature of how the internet works, routes for internet traffic constantly change. That's what makes the internet resilient. Not allowing international routes for local traffic would effectively mean that all existing international routes should be blocked for local traffic. This significantly reduces the "reliability and robustness" of the internet. Furthermore, many people in The Bahamas use globally available service from Google, Facebook, Amazon and many other service providers, that store their personal data already

outside The Bahamas. A local IXP will not change that and the impact of an IXP on data protection and privacy is therefore limited.

Conversely, CBL recognizes the benefit that an IXP, may be as part of a tech- and development hub in The Bahamas, and that it may enable the faster development of local content and local services. This is something CBL supports.

**Consultation question 9: IXP Policy Document. What is URCA’s role, if any, in the formation and/or approval of an IXP Policy document?**

CBL sees a need for further discussion between stakeholders in The Bahamas to identify and quantify the issues an IXP would address and then to determine the most cost-effective measures to address these issues, if any. CBL would welcome URCA’s involvement to facilitate such a discussion and resulting cost-benefit analysis.

**Consultation question 10: IXP Location, Decision-making, Business Model and Funding. Do you agree with URCA’s recommendations regarding IXP location, governance and decision-making, participation, business model and funding?**

We agree that an IXP should be carrier-neutral, independent and open to all players in the market. A not-for-profit membership model seems the best model.

**Consultation question 11: Assessment of Implementation Options for Local IXPs. Do you agree with URCA’s preferred IXP model for The Bahamas?**

As per our previous comments, CBL prefers the "market-led approach" or a "multi-stakeholder owned IXP".

**Respectfully submitted**

**On behalf of CBL**

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