

LIME's RESPONSE TO
TELECOMMUNICATIONS REGULATORY COMMISSION
VIRGIN ISLANDS

CONSULTATION DOCUMENT
on

INTERNET TRAFFIC EXCHANGE

June 8th, 2010
Reference Number: C/1/2010

LIME

Landline | Internet | Mobile | Entertainment

By e-mail to: consultations@trc.vg

Introduction

Reference is made to the Telecommunications Regulatory Commission's ("**Commission**", **TRC**) document (ref. C/1/2010) on Internet Traffic Exchange proposed as a part of the Telecommunications Code (the "**Code**") and published by the Commission on June 8, 2010. Cable and Wireless (BVI) Limited, trading as LIME ("**LIME**") is pleased provide comments on the proposed Code.

As the (TRC) is aware LIME has been actively involved in the deliberations on the internet Exchange Point (IXP) in the BVI as a part of the industry team deliberating on the matter. The TRC would also know that in recent times LIME has decided to evaluate the best approach to providing IXPs.

LIME realises that there was an understanding by the TRC that an IXP would be installed by LIME by June 30, 2010. LIME regrets this misunderstanding, yet this could not have been achieved, given that to date core requirements for the IXP have not been satisfied. LIME continues to be an active participant in the deliberations on the establishment of an IXP in BVI or to serve the BVI.

The Commission noted in its consultation document a number of benefits of establishing an IXP in the BVI. These include:

- 1) Increased resiliency of the national Internet network.
- 2) Increased quality of the Internet services.
- 3) Improved protection of privacy and business secrets.
- 4) New innovative services.
- 5) Incentives for content providers to bring their content to the Virgin Islands and invest here.
- 6) The territory becomes more attractive for providers of international capacity.

- 7) Provides a platform for further strengthening of the Internet and telecommunications infrastructure.
- 8) Puts the Virgin Islands on the Internet map.

LIME does agree that an IXP has the potential to deliver benefits. LIME's concerns surround the sustainability of the IXP and therefore the ability to deliver the benefits identified.

There are several models for establishing an IXP and they all have benefits and constraints. While governments and regulators encourage and facilitate the establishment of IXPs, it is rare for any government or regulator to mandate rather than facilitate an IXP and to seek to regulate an IXP rather than treating it as a private arrangement among suppliers.

LIME's specific comments and concerns with the draft Code are set out below.

Scope of the IXP

The Commission has proposed that the IXP be established to exchange "local Internet traffic", which is defined as "Internet traffic that originates and terminates in the Virgin Islands". LIME understands that both conditions must be met for the traffic to be considered "local", in other words, traffic that either originates only or terminates only in the BVI, but does not both originate and terminate in the BVI, would not be exchanged via the ISP.

LIME agrees, therefore, with this definition and proposed scope. Allowing transit traffic to be exchanged via the IXP would be unusual and would significantly increase the scale, scope and cost of the IXP, and render it prohibitively expensive.

We note, however, that section 5(1) as drafted might reduce the resiliency of the national Internet network by setting up the IXP as a single point of failure. This is because the clause requires public suppliers ("shall") to exchange local traffic at the IXP "without sending such traffic abroad". This means that, if the IXP or if an ISP's link to the IXP were to fail, ISPs would

not be permitted to send traffic to other local ISPs via their overseas transit providers. While section 8 allows the Commission to waive the section 5(1) requirement, not all failures will be “force majeure”, and section 8 requires an ISP to apply to the Commission, the Commission to deliberate, and then to issue a determination. All of this takes time, and in the mean time some or all of the national Internet network would be unable to communicate with other parts of the national Internet network. LIME believes a more appropriate rule would be that ISPs be required to use the IXP as a “preferred” route for sending local Internet traffic to other local ISPs, and recommends that the Commission reconsider the wording of section 5(1). This alternative rule would allow ISPs to use other links to exchange traffic, if circumstances made it necessary to do so.

Definition of Users

The TRC defines the purpose of the IXP in section 2 of the Code to be ‘...*the exchange of Internet traffic between the users of public suppliers licensed in the Virgin Islands*’. A ‘user’ is defined in the *Telecommunications Act 2006* as follows:

“user” means a customer or a subscriber of a telecommunications network or a telecommunications service and includes a customer who is

- (a) An operator of a telecommunications network; or
- (b) A provider of telecommunications services.

LIME agrees that the purpose of the IXP should be the exchange of Internet traffic among users in the BVI. However, that does not mean any and all users should be permitted to connect to the IXP. LIME notes that section 6(3) would require the IXP to “be open to all interested parties, including persons that are not public suppliers”. In other words, persons who are not ISPs would be permitted to connect to the IXP, if the draft Code were to be implemented as drafted.

LIME’s view is that the members of the IXP should be public suppliers of internet service, consistent with the approach taken by some IXPs. A key technical requirement of an IXP is that

the ISPs connecting to it must run BGP on their networks. This means that only those ISPs with their own Autonomous System (“AS”) number and at least a /24 network can connect to the IXP.

Directive From the Authority

The Commission states in the Code that its expectations are that:

- A public facility shall be established through the collaboration of public suppliers (section 6(1));
- Parties shall devise a mutually agreed method of governance (section 6(2));
- The IXP should be operational no later than one (1) calendar month from the effective date of the Code (section 6(5)).

LIME is ready and willing to discuss these matters with other ISPs in the Virgin Islands, and in fact has attended several meetings of the BVI IXP working group. However, the Commission has provided no basis for its time frame for one (1) month subsequent to the effective date of the Code for the IXP to be operational. Nor has the Commission attempted to evaluate how long the requirements it has stated will take to be fulfilled. LIME submits that, given that the ISPs have not yet determined the technical requirements of the IXP, nor how to pay for the one-off acquisition and recurring maintenance costs, or ordered the equipment, it is premature for the Commission to stipulate one month for the IXP to be operational.

LIME is of the view that what is required at this stage is a requirement for more of a consultation on the IXP model, requirements for the model and the timeframes, with the Commission reserving the right to make such instructions as are necessary to ensure the IXP becomes operational in a timely manner. This is the type of collaborative approach that is required to make the IXP a reality and a success.

Requirement for Charge-Free Exchange of Traffic

The Commission proposes in section 5(2) that ISPs connecting to the IXP exchange traffic on a free-of-charge basis:

(2) No compensation shall be paid or requested by public suppliers or any other person connected to the Facility for Internet traffic exchanged in accordance with the obligation set out in subsection (1).

LIME submits that this is confusing the purpose of an IXP (to facilitate the exchange of Internet traffic) with a particular charging model. It may be that the ISPs choose to adopt a charge-free exchange of traffic, but this is an issue that should properly be left to the parties to agree.

The charge free exchange of traffic or “peering” as it is known in the industry is usually an agreement entered into between operators of networks that exchange roughly similar amounts of traffic. Charge-free peering can be facilitated within or outside of an IXP – in other words, there is no necessary connection between peering and IXPs, but an IXP often becomes a more cost-effective way of peering where more than two providers are interested in doing so. Where there is a traffic imbalance, that is one Internet provider sends far more traffic to the network of another provider, then operators usually charge each other, or charge for the net difference. LIME is willing to peer on a charge-free basis with operators with whom it exchanges roughly equal amounts of Internet traffic.

LIME also recommends that any peering agreements among the ISPs connected to the IXP should contain the following terms and conditions, if the IXP is to achieve the benefits set out by the Commission in the consultation document:

- The peer must have a valid 2 byte AS number assigned by the relevant registrar (ARIN);
- The peer must have a minimum of a /24 network assigned by the relevant registrar (ARIN);
- The peer must have all advertised routes registered in a registrar’s routing database;

- The peer will not advertise private IPs via BGP peering sessions;
- Route filters will be used to ensure only valid routes are exchanged;
- Transit traffic will not be allowed;
- The peer must advertise the same routes at all IXP peering points; and
- The peer must have a 24/7 NOC for fault response and resolution.

This list is not exhaustive and the ISPs may determine that other terms and conditions are also required, after further discussions of the BVI IXP working group.

Common Cost

LIME notes that the Commission proposed in section 7 that the capital and operating costs of the IXP be borne by the ISPs and shared in a manner to be agreed by the ISPs. While LIME does not disagree that at least some of the common operating and capital costs should be borne by those connected to the IXP and that each operator bears its own cost, including the cost to access the IXP, LIME notes that the IXP is being established in the public interest (see in particular benefit number 8 listed above), and therefore some of the costs should be borne by the public. In this regard, the Government had previously offered to provide an ISP-neutral location for the IXP, including any necessary power and environmental requirements. LIME submits that this offer was reasonable and appropriate, and would facilitate the implementation of the IXP. This is without prejudice to LIME's position that it would also be appropriate for the public to share the capital cost of the IXP as well.

Technical Solution

It is important to have the right technical solution for the IXP to function effectively. LIME is currently assessing this matter. However, as noted earlier, the ISPs in the Virgin Islands have not yet agreed on the appropriate technical solution for an IXP in BVI.

Concluding Remarks

LIME proposes that the TRC acts in a facilitative role which is best practice for the creation of ISPs rather than seek to regulate IXPs which is not industry best practice.

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