Information & Communications Technology Authority

Public Consultation

on

Unbundling the Local Loop

(Ref: CD 2013-1)

Launch Date:	**27 May 2013**
Closing Date for comment:	**15 July 2013**
Closing Date for Reply comments:	**29 July 2013**

Regulatory Background

1. The Information and Communications Technology Authority's ("Authority") principle functions under section 9 (3) of the Information and Communications Technology Authority Law (2011 Revision) ("the Law") include:

   (a) [promoting] competition in the provision of ICT services and ICT networks where it is reasonable or necessary to do so; […]

   (g) [resolving] disputes concerning the interconnection or sharing of infrastructure between or among ICT service providers or ICT network providers;

   (h) [promoting] and [maintaining] an efficient, economic and harmonised utilisation of ICT infrastructure; […]

2. Section 65 (1) of the Law states that:

   65. (1) Subject to this section, a licensee that operates a public ICT network shall not refuse, obstruct or in any way impede another licensee in the making of any interconnection [or infrastructure sharing[1]] with its ICT network and shall, in accordance with this section, ensure that the interconnection [infrastructure sharing] provided is made at technically feasible physical points.[2]

3. Regulations 4 (1) and (2) of the Information and Communications Technology Authority (Interconnection and Infrastructure Sharing) Regulations, 2003 (the "Infrastructure Regulations")[3] state that:

   (1) In accordance with the provisions of section [65] of the Law, a licensee shall not refuse, obstruct or in any way impede another licensee in the making of any interconnection or infrastructure sharing arrangement.

[1] http://www.icta.ky/docs/Gazette/ICTA-%20Infrastructure%20Sharing%20Notice%20%28Definition%29.pdf.
[2] Section 65 (1) of the Law also applies to Infrastructure Sharing by virtue of: http://www.icta.ky/docs/Gazette/ICTA-%20Infrastructure%20Sharing%20Notice%20%28Definition%29.pdf (noting that sections 44 to 47 of the 2002 ICTA Law referred to in the linked Notice are sections 65 to 68 in the 2011 ICTA Law).
[3] http://www.icta.ky/docs/Regs/ICTA%20Interconnection%20&%20Infrastructure%20Regulations.pdf.

(2) A requester or responder shall not negotiate or propose to enter into an interconnection or infrastructure sharing agreement where the Authority determines that- […]

(d) the requested interconnection or infrastructure sharing is contrary to the laws of the Islands or the public interest.

4. Further, the Authority notes that Regulation 6 (j) of the Infrastructure Regulations sets out that:

(j) *interconnection and infrastructure sharing services shall be provided in a manner that –*

(i) maximises the use of public ICT networks and infrastructure;

(ii) minimises the potential for negative environmental impacts; and

(iii) enables the development of competition in the provision of public ICT networks and public ICT services in a timely and economic manner.

Background

5. On 14 February 2012, under the Information and Communications Technology Authority (Dispute Resolution) Regulations, 2003 (the "Dispute Regulations"), Digicel (Cayman) Ltd ("Digicel") submitted a dispute determination request to the Authority (the "Dispute") contending that a dispute had arisen between it and Cable & Wireless (Cayman Islands) Ltd ("LIME") relating to Digicel's request for access to LIME's unbundled *fixed wire* local loop.[4]

6. As a brief overview of the Dispute, Digicel had requested from LIME pursuant to the Infrastructure Regulations fully unbundled local loops: being, in summary, where Digicel would 'co-locate' its equipment within LIME's local exchange building at One Technology Square ("LIME's building"), Grand Cayman.[5] This would allow Digicel to take over the network connection between LIME's building and a retail customer's location.

[4] For a further explanation of what the local loop is, please see paragraphs 11 to 22 below.
[5] http://www.icta.ky/docs/Filings/Digicel_complaint_re_LIME_LLU/Determination_request_supporting_document_Digicel_letter_to_LIME_17_06_2011.pdf.

7. LIME in reply to that request stated that, "[…] *given the current competitive environment in the Cayman Islands, there is no public policy basis for LIME to be required to expend the time and resources needed to develop this service and the related facilities*";[6] thus declining Digicel's request. Digicel then submitted the Dispute to the Authority for determination.

8. On 13 December 2012, the Authority published its determination of the jurisdictional issues related to the Dispute.[7] As explained in that determination,[8] it remains for the Authority to consider the substantive question as to whether or not LIME should be required by the Authority to provide Digicel with a quote under the Infrastructure Regulations for the infrastructure sharing services Digicel has requested.

9. As noted at paragraph 3 above, Regulation 4(2)(d) of the Infrastructure Regulations allows the Authority to determine that the requested provision of a particular interconnection or infrastructure sharing service would not be in the public interest. For the reasons set out in the 13 December 2012 determination, the Authority has decided to consult on whether or not requiring LIME to unbundle the *fixed wire* local loop at this time is contrary to the public interest.

10. In looking at this issue, the Authority considers it relevant to evaluate the potential technological developments for the provision of voice and high-speed broadband[9] services in the next few years as well as what is in the marketplace at present. This is to ensure that any consequent decision will take into account foreseeable future technological developments as well as current competitive conditions. The Authority has decided that the consultation should not only cover the unbundling of *fixed wire* local loops but also *fibre* local loops.

The Local Loop

11. To explain some of the terminology used in this consultation document, the local loop ("Local Loop") is a reference to the last section of a telecoms network (sometimes also referred to as the "Last Mile"), which is usually the physical connection that runs from the Licensee's network

[6] http://www.icta.ky/docs/Filings/Digicel_complaint_re_LIME_LLU/Determination_request_supporting_document_LIME_letter_to_Digicel_28_11_2011.pdf.
[7] http://www.icta.ky/docs/Filings/Digicel_complaint_re_LIME_LLU/ICT_Decision_%202012-5.pdf.
[8] See for example paragraphs 58 to 63.
[9] For the definition of a high-speed broadband access service for the purposes of this document, please see paragraph 23.

equipment to the network interface device ("NID") where the Licensee's Local Loop connects to the retail customer's premises wiring.

12. Where there is reference to the *fixed wire* Local Loop, it is normally a reference to the fixed metallic wire (usually copper) connection that goes from the Licensee's local telephone exchange (the local exchange is usually a building that houses the electronic components that route the telephone calls/data) to the NID via a street cabinet.

13. A reference to the *fibre* Local Loop is normally a reference to the optical fibre that runs from a Licensee's local telephone exchange to the customer's premises optical network terminal ("ONT") (i.e. a NID) via optical network units ("ONU"), or something similar depending on the fibre technology used. This is sometimes referred to as fibre-to-the-premises ("FTTP").

14. There is also a *fixed wireless* Local Loop as operated by both Digicel and WestTel Ltd. (trading as "Logic"),[10] details of which are at paragraphs 29 and 30 below. However, the issue of unbundling the *fixed wireless* Local Loop does not form part of this consultation as access to the retail customer for such a network is not dependent on a physical wire/fibre to the retail customer's premises and such a network is easier to replicate.

15. Thus, from a basic level, each type of Last Mile network described above is similar in design, in that there is a physical link between the Licensee's network equipment to the retail customer's premises that other Licensees may want to access somewhere along that link.

16. Also, a Last Mile network can sometimes use a combination of the technologies; for example, where the fibre runs either to a street cabinet (this is sometimes referred to as fibre-to-the-node ("FTTN") or fibre-to-the-curb ("FTTC")) and the final connection is then made using fixed copper wire.

17. For the purposes of this document, the owner of the Last Mile of any telecoms network will be referred to as the "Local Loop Operator" or "LLO".

[10] Another ICTA Licensee, TeleCayman Limited, also operates a fixed wireless network. However, WestTel Ltd. purchased all of the outstanding and issued shares of TeleCayman Limited in 2013. As a consequence, in this document all references to Logic also include references to TeleCayman and its network. For further information, see http://www.icta.ky/docs/Gazette/2013_02_21_ICTA_to_WestTel_Javelin_re_s25%281%29_consent.pdf.

18. For *fixed wire*, LIME is the LLO. For *fibre*, there are potentially various LLOs. At present, Digicel,[11] Infinity Broadband Ltd. ("Infinity"),[12] LIME,[13] Logic,[14] and WestStar T.V. Ltd ("WestStar"),[15] are each licensed to roll out and operate a *fibre* network. Some of these have started to build out their networks across Grand Cayman. In addition, DataLink Ltd. ("DataLink")[16] is building a *fibre* network on which other Licensees can potentially rent capacity.

19. Unbundling the *fixed wire* and/or *fibre* Local Loop(s) would mean, in effect, allowing other Licensees to connect their networks to the relevant LLO's network so that those other Licensees would be able to access the retail customers of the LLO and offer such customers competing retail services over that 'local loop'.

20. For example, in relation to *fixed wire*, a Licensee could rent physical space within the LLO's local exchange building, where it would locate its own equipment to make the necessary network connection (which is what Digicel asked LIME for in the Dispute). This is sometimes referred to as "physical co-location" and Figure 1 below gives a high-level representation of it.

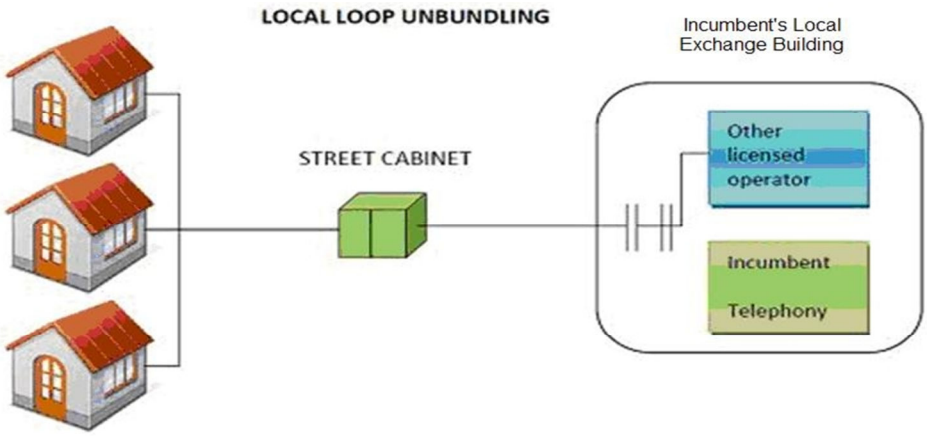

Figure 1[17]

[11] Licensed by Amendment No. 18 - http://www.icta.ky/docs/Licences/Digicel_Amend18.pdf, 9 February 2012.
[12] When licensed - http://www.icta.ky/docs/Licences/Infinity.pdf, 13 December 2004.
[13] When licensed - http://www.icta.ky/docs/Licences/CWLicence.pdf, 10 July 2003.
[14] Licensed by Amendment No. 8 - http://www.icta.ky/docs/Licences/WestTel_Amend8.pdf,16 August 2007.
[15] Licensed by Amendment No. 3 - http://www.icta.ky/docs/Licences/WestStar_Amend3.pdf, 5 July 2007.
[16] When licensed - http://www.icta.ky/docs/Licences/DataLink_Licence.pdf, 28 March 2012.
[17] Adapted from source material: Rutland County Council - http://www.rutland.gov.uk/digital_rutland/frequently_asked_questions/technical_faqs.aspx.

21. Similar to this is where another Licensee houses its equipment away from the LLO's local exchange building but connects to the LLO's local exchange building through external cables (this is sometimes referred to as "distant co-location"). The connection can also be made along the Local Loop by connecting to one of the street cabinets which form part of the routing from the local exchange to the retail customer's premises (this is sometimes referred to as "sub-loop unbundling").

22. In relation to *fibre*, one common type of *fibre* network is based on a Point-to-Multipoint architecture whereby a single fibre from the termination device in the exchange (called an optical distribution frame ("ODF" in a *fibre* context)) is shared by several retail customers through the use of a passive optical splitter which is used between the ODF and the retail customer's premises. The unbundling would typically be done at the passive optical splitter where the other Licensee would have to house its own connections between the exchange and the passive splitter.

Current available telecommunications networks

23. Having access to a robust network that allows for the provision of voice and high-speed broadband access services sufficient, at least, to allow retail customers to access and use websites and stream content directly is essential for investment in and the development of information society services (e.g. any service normally provided for remuneration, at a distance, by electronic means) in the Cayman Islands.

24. However, there are significant barriers to building a *fixed wire/fibre* network that provides direct access to the retail customer which arise from among other things the high capital cost of building such a network.

25. That said, there are now a variety of ICT Network technologies in the Cayman Islands:

    a. *Fixed wire* network;

    b. *Fixed wireless* network;

    c. *Fibre* network; and,

    d. *Mobile* network.

26. Each type of technology referenced above can provide a retail customer with voice and high-speed broadband access services, with download

data speeds at least capable of providing the services mentioned in paragraph 23 above.

Fixed Wire Network

27. A *fixed wire* network refers to the use of metallic wires, typically copper, to carry the voice and data signals from point A to point B; a high-level representation of such a network is at Figure 2 below.

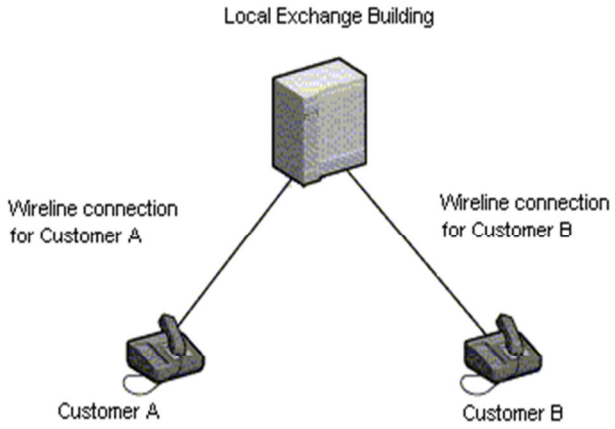

Figure 2

28. Such a network is capable of providing voice and high-speed broadband access services. Currently, LIME is the only Licensee who operates such a network in the Cayman Islands. In relation to broadband provision, LIME currently uses Asymmetric Digital Subscriber Line ("ADSL") technology to provide its retail customers with high-speed broadband access delivered over its copper telephone lines. This allows the broadband service to be provided simultaneously with the voice telephone service on the same copper telephone line. LIME's ADSL service is available in Grand Cayman and the Sister Islands.

Fixed Wireless Network

29. A *fixed wireless* network refers to the use of fixed (i.e. they typically do not move) wireless devices to connect between two fixed locations (e.g. between two buildings) with a radio or other wireless link. Again, such a network is capable of providing voice and high-speed broadband access services; a high-level representation of such a network is at Figure 3 below.

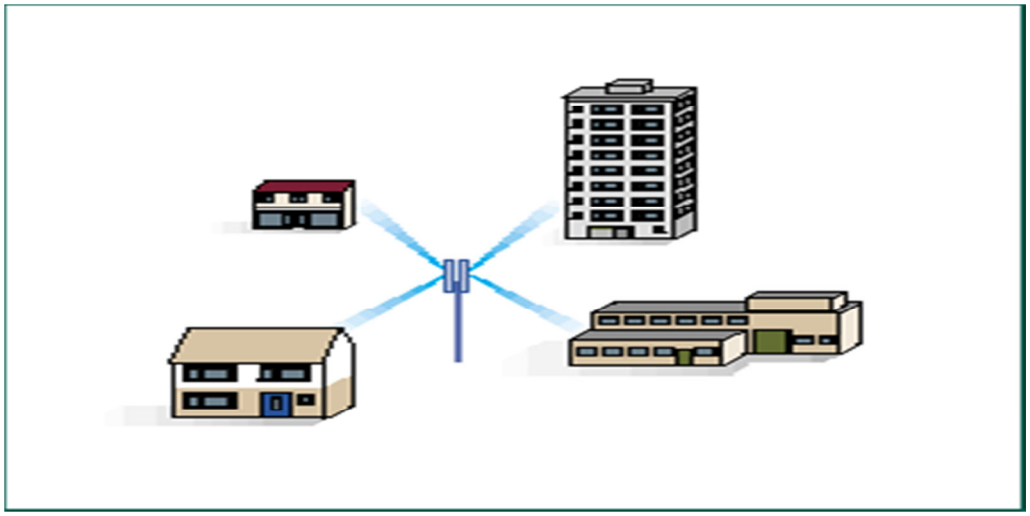

Figure 3[18]

30. In Grand Cayman, both Digicel and Logic provide voice and high-speed broadband services to their retail customers over a *fixed wireless* network. Currently, neither Licensee covers all of Grand Cayman or any of the Sister Islands.[19]

Fibre Network

31. Similar to a *fixed wire* network as set-out at Figure 2 above, a *fibre* network refers to the use of optical fibres (rather than a 'wire' such as copper) to carry the voice and data signals from point A to point B.

32. As previously mentioned, Digicel, Infinity, LIME, Logic and WestStar are all licensed to roll out and operate *fibre* networks across Grand Cayman. In addition, DataLink is building a *fibre* network on which other Licensees can potentially rent capacity.

33. Apart from LIME who of its own undertaking is adding to its current *fibre* network to support or replace parts of its *fixed wire* network, the Licensees referred to above have committed to set timescales for the roll out of their *fibre* networks which have been reflected in their Licences.[20]

[18] Network configuration of point to multipoint Fixed Radio Access systems - http://www.scotland.gov.uk/Publications/2001/09/pan62/pan62-.
[19] For their exact coverage, please contact each Licensee.
[20] Digicel - http://www.icta.ky/docs/Licences/Digicel_Amend20.pdf; DataLink - http://www.icta.ky/docs/Licences/DataLink_Licence.pdf; Infinity - http://www.icta.ky/docs/Licences/Infinity_Amend6.pdf; WestStar - http://www.icta.ky/docs/Licences/WestStar_Amend12.pdf; and, WestTel - http://www.icta.ky/docs/Licences/WestTel_Amend18.pdf.

While each of the referenced Licensees have an obligation to roll out their network throughout Grand Cayman (albeit with differing timescales), only Digicel (by 31 December 2016) and Infinity (by 31 July 2017) have a Licence requirement to roll out their *fibre* network in the Sister Islands, which is within four to five years' time.

Mobile Wireless Network

34. There are various *mobile* network technologies that allow for voice and data to be transmitted and received over the airwaves; a high-level representation of which is at Figure 4 below.

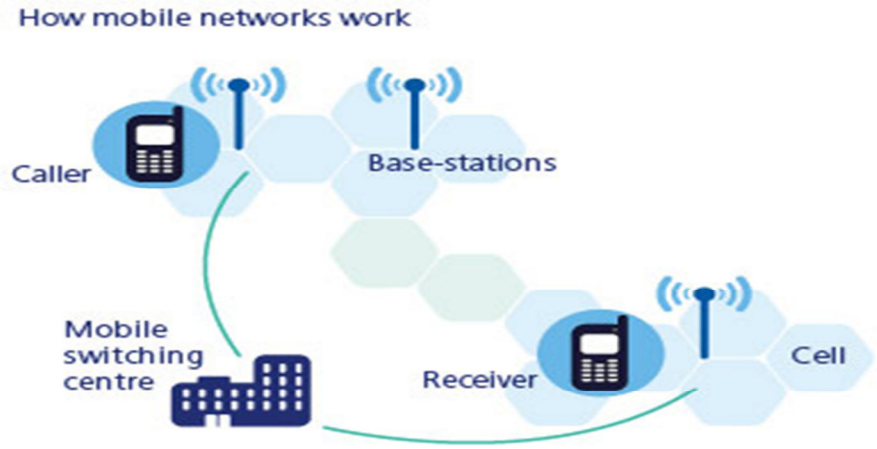

Figure 4[21]

35. Relevant mobile technologies are 2G, 3G and 4G (the 'G' refers to the generation of the underlying technology). Indeed, 2G was the first technology to provide for the digital encryption and transmission of voice. Both Digicel and LIME have 2G networks that cover the Cayman Islands.

36. Also, both Digicel and LIME have 4G *mobile* networks based on HSPA (Evolved High Speed Packet Access) technology which are capable of providing their retail customers with voice and high-speed broadband access services. Using this technology, Digicel provides selected coverage of Grand Cayman; whereas LIME is currently the only Licensee which provides 4G mobile coverage throughout the Cayman Islands.[22]

37. In addition, the Authority has concluded its consultation on its assignment policy for licensing the use of spectrum by Licensees in the 700 MHz spectrum band. In its 13 December 2012 decision on this

[21] http://www.gogsm.com/.
[22] For their exact coverage, please contact each Licensee.

issue,[23] the Authority concluded that any person wishing to apply for that spectrum must do so by 4 March 2013. The Authority has received applications for spectrum within that frequency band from Digicel and LIME.

38. The Authority is currently considering those applications and it is envisaged that, once the Authority assigns the 700 MHz spectrum, 4G mobile services based on LTE technology will be rolled out within the near future.

39. That said, it is not yet known whether any Licensees authorised to use the 700 MHz spectrum will have an obligation to roll out their network either across all of Grand Cayman and/or the Sister Islands.

40. Therefore, there are various types of networks in Grand Cayman that have been or are in the process of being rolled out which are capable of providing retail customers with voice and high-speed broadband access services. This, however, is not necessarily the case in the Sister Islands where only LIME currently provides both voice and high-speed broadband access services.

Considerations

41. This consultation seeks views on whether or not mandating LLU in the Cayman Islands for either *fixed wire* and/or *fibre* is contrary to the public interest. The following paragraphs set out broad high-level benefit and cost considerations identified by the Authority as being potentially relevant to these issues.

Potential benefits of mandating LLU

42. For the reasons explained above, mandating LLU may remove the need for other Licensees to duplicate the LLO's Last Mile network. In this way, mandating LLU may lower the economic barriers for other Licensees to enter into the provision of voice and high-speed broadband access services to retail customers. Also, sharing the network in this way has the potential benefit of sharing certain network operational costs between the other Licensees and the LLO for the running of the network, such as the business overhead costs of running and maintaining the local exchange building in which each would be located.

[23] http://www.icta.ky/docs/Decisions/2012-4%20700%20MHz/ICT%20Decision%202012-4%20Assignment%20of%20700%20MHz%20Spectrum.pdf.

43. If other Licensees were to start providing voice and high-speed broadband access services to retail customers, this may impose competitive pressures on the LLO to reduce its retail prices in order to compete with those other Licensees for retail customers. As a result, the LLO and the other Licensees may introduce new or improved ICT Services as they try and compete for retail customers by differentiating their service from their competitor's. Also, mandating *fixed wire* LLU now may bring about such consumer benefits earlier than waiting for the rollout of *fibre* to provide competition across Grand Cayman and the Sister Islands, the extent of which is still uncertain.

44. If LLU is mandated, Licensees would in effect be sharing parts of the same network and this would likely minimise some of the negative environmental impacts of building a telecommunications network caused by such things as the digging of roads and the building of exchanges to house additional telecoms equipment.

45. Finally, while mandating LLU requires intrusive regulation, because it in effect regulates the wholesale charge for providing access to the LLO's network, it has the potential of light-touch regulation along the rest of the market 'value chain' through to the retail price of the ICT services. This is because, over time as competitive supply expands, retail prices may be subject to sufficient competitive pressures so that no retail price regulation is needed.

Potential costs of mandating LLU

46. Mandating access to the property (i.e. the network) of a Licensee is intrusive regulation and may inadvertently distort competition in the market through, for example, the Regulator setting charges for access to that network at too low or too high a level. Therefore, regulation should only be imposed where it is necessary to do so. In this case, it may not be necessary to impose LLU in the Cayman Islands as there may be other comparable network alternatives available to Licensees to access retail customers which provide those customers with sufficient competitive alternatives for the provision of voice and high-speed broadband access services.

47. Also, mandating access to the *fixed wire* and/or *fibre* Local Loop may deter future investment by the LLO in its current/future networks given that it would be required to allow its competitors access to such networks at a cost-based wholesale charge. Such a lack of investment by the LLO in its network may also mean that the efficiency of that network would suffer as the LLO may not wish to update the technology in that network to allow for, for example, more network reliability and faster data

speeds. If this were to happen, innovation and competition in the provision of voice and high-speed broadband access services could potentially be stifled in the longer-term as the Cayman Islands would not in such circumstances keep pace with technological changes.

48. If LLU is mandated, the competitive conditions for using the LLO's network may be too favorable for other Licensees, at least in the short term, in comparison to them building their own networks. If this is the case, the other Licensees may not have an incentive to invest in building out their networks which may have a consequent negative effect on the establishment of effective facilities-based competition in the long term.

49. Finally, having alternative networks to use in the event of the failure of the LLO's networks, for whatever reason (such as flooding or human error through the accidental physical cutting of part of the network), would improve the resilience of communications for the Cayman Islands. In such circumstances, customers would be able to use other ways to communicate via their ICT Services until such a failure is resolved.

Requested Responses

50. The Authority welcomes comments along with supporting information, documentation, and detailed rationale on the following questions.

    a. What is your demand for *fixed wire* and/or *fibre* LLU? (When commenting on this question, please provide among other things your demand forecast particulars for the next five years, broken down by technology type, District and residential/business retail customers.)

    b. Are the networks described at paragraphs 23 to 40 above sufficiently similar to be considered capable of providing voice and high-speed broadband access services to retail customers that are a real competitive alternative to each other?

    c. Do you agree with the benefits of mandating *fixed wire* and/or *fibre* LLU in the Cayman Islands as outlined at paragraphs 42 to 45 above? Can you quantify any of the benefits referred to? Are there any other benefits?

    d. Do you agree with the costs of mandating *fixed wire* and/or *fibre* LLU in the Cayman Islands as outlined at paragraphs 46 to 49 above? Can you quantify any of the costs referred to? Are there any other costs?

e. Is mandating the provision of access to the *fixed wire* and/or *fibre* Local Loop in Grand Cayman and/or the Sister Islands contrary to the public interest?

f. Does any Licensee see any demand for *fixed wire* and/or *fibre* LLU in the Sister Islands if the Authority determines that *fixed wire* and/or *fibre* LLU should be mandated there but not in Grand Cayman?

g. Are there any other issues that the Authority should take into account as part of this consultation?

Procedure for Submissions

51. All submissions should be in writing and be received by the Authority by **5 p.m., 15 July 2013** at the latest. Any submissions received after this time and date *will not* be considered as part of this consultation.

52. The Authority will post all submissions received by it on its website and persons may file reply comments to those submissions by **5 p.m., 29 July 2013**.

53. The Authority will post all submissions received on its website as and when they are received by it. If you wish to claim confidentiality over the whole or parts of the submission, you must do so *at the same time* as your submission. Any requests for the confidentiality of information submitted to the Authority must be made under the Authority's Confidentiality Regulations 2003 (a link to which is at: http://www.icta.ky/docs/Regs/ICTA-20Confidentiality%20Regulations.pdf). The Authority refers your attention particularly to Regulations 4 (1) (b) and (c) of those Regulations which set out what needs to be included in such a request.

54. In addition, even where the Authority puts on the public record a redacted version of a submission, further disclosure may be required. For example, a third party can still make a request for the redacted information under the Confidentiality Regulations.

Submissions must be filed either:

By e-mail to:
consultations@icta.ky

Or by post:
Information and Communications Technology Authority
P.O. Box 2502
Grand Cayman KY1-1104
CAYMAN ISLANDS

Or by courier:
Information and Communications Technology Authority
3rd Floor, Alissta Towers
85 North Sound Road
Grand Cayman
CAYMAN ISLANDS

Or by fax to:
(345) 945-8284