

ICT 2018 – 1 – Consultation A Broadband Policy for the Cayman Islands



**UTILITY REGULATION AND COMPETITION OFFICE
THE CAYMAN ISLANDS**

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ICT 2018 – 1 – Consultation

A Broadband Policy for the Cayman Islands

A. Background

1. The Utility Regulation and Competition Office (the '**Office**' or '**OfReg**') is the independent regulator established by section 4(1) of the Utility Regulation and Competition Law (2017 Revision) (the '**URC Law**') for the electricity, information and communications technology ('**ICT**'), water, wastewater and fuels sectors in the Cayman Islands. The Office also regulates the use of electromagnetic spectrum and manages the .ky Internet domain.
2. A critically important objective of the Office is to support a vibrant and prosperous digital economy, in which all consumers (individuals and businesses) in the Cayman Islands can readily and effectively participate, by promoting the development of modern, leading-edge ICT networks and services. Being a key means by which users access an array of services and service providers, broadband Internet access is an essential component of the digital economy.
3. OfReg's predecessor, the Information and Communications Technology Authority ('**ICTA**') did not explicitly and officially define "*broadband*". In the 2003 ICT licence issued to Cable and Wireless (Cayman Islands) Limited, now trading as Flow ('**Flow**'), the ICTA defined "*High-Speed Fixed Internet (both wireless or wireline)*" as being above 56 Kbps.¹ In the 2009 "Public Consultation on the Publication of ICT Statistics," the ICTA described "*broadband connections*" as those with download speeds equal to or greater than 256 kbit/s but did not explain why it adopted this this speed as the threshold for "*broadband*".²
4. Nor did the ICTA articulate an explicit vision for the development of broadband in the Cayman Islands. However, its vision can be gleaned from various licensing decisions. The ICTA issued ICT licences with network roll-out obligations which by now should have resulted in at least two fibre optic

¹ See page 39 of Annex 5 of the Flow ICT Licence.

http://www.ofreg.ky/ict/upimages/licencedocument/ViewLicencedocument_1417651056.pdf

² *Public Consultation on Publication of ICT Statistics*, CD 2009-2, 29 January 2009, at page 3.

<http://www.ofreg.ky/upimages/commonfiles/1417276388CD2009-2ICTStatistics.pdf>

cable networks in the Sister Islands and five on Grand Cayman, operated by competing broadband service providers.

5. The table below lists the dates by which C3, WestStar, Digicel, DataLink and Logic had originally agreed to install *Type D1- Fibre Optic Cable* networks sufficient to provide ICT services to 100% of the residents of Grand Cayman and/or the Sister Islands. These deadlines have been modified in some cases and the current coverage deadlines are listed in the table at paragraph 20 below. Flow operates on both Grand Cayman and the Sister Islands but its licence does not specify coverage obligations.

Licensee	Area	Initial Deadline for 100% Fibre Network Coverage at Issuance of Type D1 Licence
Digicel	Grand Cayman	31 December 2015
	Sister Islands	31 December 2016
Logic	Grand Cayman	08 February 2017
C3	Grand Cayman	12 December 2005
	Sister Islands	12 June 2007
WestStar	Grand Cayman	31 December 2014 ³
DataLink	Grand Cayman	31 December 2015

6. If this had been realised, consumers across the Cayman Islands would have experienced the result of what competition amongst service providers could bring in terms of choice and quality of broadband services, as well as other social and economic welfare benefits produced by competition, since as early as 2006. However, the broadband service providers have so far been delinquent in meeting their licence roll-out obligations, outside of certain areas on the west side of Grand Cayman.⁴ Despite roll-out requirements agreed by conditions of licence, they have not rolled out fibre optic cable networks across the country or, for those licensees who were limited to serving that island, across Grand Cayman).
7. In any event, OfReg considers that a vision and policy for the development of broadband networks and services must now be specifically articulated. Several licensees agreed to conditions of licence requiring them to install fibre optic cable networks sufficient to enable the provision of various ICT services. However, the term “fibre optic cable network” was not defined and the Office notes that whether a fibre optic cable network can deliver to

³ WestStar was initially issued a Type D1 Licence on 5 July 2007, but the obligation to provide 100% coverage was agreed on 9 February 2012.

⁴ These consist of the George Town, South Sound and Seven Mile Beach areas with some areas north into West Bay and east up to Prospect.

consumers the types of services needed in the digital economy depends greatly on the degree to which fibre optic technology has been deployed in the network. The technology chosen for the final link to the consumer's premises in particular (e.g. fibre versus copper) can severely limit the speed available to the consumer.

8. It is also necessary to define the minimum requirements for broadband service that should be universally available in order to enable users to participate fully in the modern digital economy. Active participation depends on the adequacy of download and upload speeds as well as sufficient data usage allowances and quality standards. It is not sufficient for broadband services to only be nominally available. In such circumstances, OfReg's objective would not have been achieved.

A.1 Issues to be Addressed

9. The issue to be addressed in this **ICT 2018 – 1 – Consultation**, therefore, is to determine the characteristics of a broadband Internet service in terms of specific download and upload speeds, data usage allowances and quality standards, which enable consumers and businesses to participate actively in the digital economy.
10. Depending upon the exact definition of "broadband Internet service" which is ultimately adopted, ICT networks which properly support those broadband services may still need to be built. OfReg will therefore also consider as necessary how to facilitate the construction of ICT networks to achieve the objectives for adequate broadband services which are to be defined following a determination in this consultation. This will be the subject of two additional public consultation proceedings. One of these will consider the deployment of ICT networks on the Sister Islands sufficient to provide adequate broadband services and the other will consider the deployment of ICT networks on Grand Cayman sufficient to provide adequate broadband services. OfReg considers the publication of these consultations and eventual decisions to be priorities on its agenda of issues.

B. Legal Framework

11. OfReg is guided by its statutory remit, notably as set out in the URC Law and the Information and Communications Technology Law (2017 Revision) (the '**ICT Law**'). In particular, the Office notes the provisions which follow.

12. **Section 6** of the URC Law states in part:

6. (1) *The principal functions of the Office, in the markets and sectors for which it has responsibility, are -*

[...]

- (b) to promote appropriate effective and fair competition;*
- (c) to protect the short and long term interests of consumers In relation to utility services and in so doing -*
 - (i) supervise, monitor, and regulate any sectoral provider, in accordance with this Law, the regulations and sectoral legislation and any general policies made by Cabinet in writing;*
 - (ii) ensure that utility services are satisfactory and efficient and that charges imposed in respect of utility services are reasonable and reflect efficient costs of providing the services; and*
 - (iii) publish information, reports and other documents relating to utility services; and*
- (d) to promote innovation and facilitate economic and national development.*

(2) *In performing its functions and exercising its powers under this or any other Law, the Office may -*

[...]

- (o) conduct research and studies into any matter or technology which may be relevant to its functions and publish its findings, if appropriate;*
- (p) assign resources and implement initiatives designed to enable the introduction of new and innovative technologies and systems in the markets and sectors for which it has responsibility;*
- (q) initiate and conduct inquiries and investigations into any matter or complaint, either on its own initiative or referred to it, which in the opinion of the Office, is not frivolous;*

[...]

- (dd) conduct public consultations;*
- (ee) require the production of documents and other information, conduct inspections and compel attendance at proceedings;*

(3) Without prejudice to subsection (1) or (2), the Office has power to carry on any activity which appears to it to be requisite, advantageous or convenient for or in connection with the performance of its functions or the exercise of its powers under this or any other Law.

13. Pursuant to **Part 11** of the URC Law, OfReg has a particular duty to promote innovation and facilitate investment in the economy of the Cayman Islands:

62. The Office shall have a duty to promote innovation within the sectors for which it has responsibility with a view to contributing to national economic competitiveness and development, and in doing so it may –

- (a) through its policies actively facilitate the development and introduction of relevant innovative technologies into the national economy;*
- (b) facilitate and adopt relevant programmes designed to prepare the current and future workforce to meet the needs of the society;*
- (c) leverage the advances in technology in the regulated sectors to advance national policy initiatives to enhance work place productivity and quality of life;*
- (d) design and implement programmes, including dedicated Universal Service funding mechanisms to achieve universal access to infrastructure and services in the sectors for which it has responsibility; and*
- (e) take such other initiatives as it considers to be consistent with its mandate to contribute to national development and economic growth.*

63. The Office may under this or any other Law formulate and implement programmes to achieve universal access to infrastructure and services in the sectors for which it has responsibility; and, in doing so, the Office may –

- (a) subject to sector policy, specify universal services and universal service obligations;*
- (b) provide for sectoral providers to be designated as having universal service obligations; and*
- (c) establish universal service funds which shall include the rules for contributions to and*

management of the funds, such funds to be managed by and accounted for by the Office.

14. **Section 9 (3)** of the ICT Law states in part:

[...] the principal functions of the Office are –

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

[...]

(d) to determine the categories of licences to be issued under this Law and the Electronic Transactions Law (2003 Revision);

(e) to license and regulate ICT services and ICT networks as specified in this Law and the Electronic Transactions Law (2003 Revision);

[...]

(h) to promote and maintain an efficient, economic and harmonised utilisation of ICT infrastructure; [...]

15. **Section 31** of the ICT Law states in part:

31. (1) A licence may be modified where the Office and the licensee, by agreement in writing, agree to modify the licence.

[...]

(3) Where the Office considers that a licence should be modified the Office shall give to the licensee a written notice that-

(a) sets out the proposed modification;

(b) states the reasons for the proposed amendment; and

(c) invites the licensee to show, within thirty days, why the licence should not be so modified.

(4) The Office may modify the licence if, after considering and having regard to all representations made within a period of not less than thirty days, the Office considers the licence should be modified –

(a) in the manner set out in the notice; or

(b) in some other manner consistent with the representations.

(5) If the Office decides to modify the licence, the Office shall give to the licensee a written notice stating how the licence has been modified.

C. Internet Service Providers in the Cayman Islands

16. OfReg has licensed a number of companies to provide *Type 9 – Internet Service Provider* (**ISP**) ICT services in the Cayman Islands. The ISPs currently active in the market⁵ include the following:

ISP	Date of Issue of Type 9 Service Licence
Cable and Wireless (Cayman Islands) Limited, d.b.a. Flow (Flow)	10 July 2003
Digicel Cayman Limited (Digicel)	17 October 2003
WestTel Limited, d.b.a. Logic (Logic)	12 February 2004
Infinity Broadband Limited, d.b.a. C3 (C3)	13 December 2004
WestStar TV Limited, d.b.a. Logic ⁶	09 February 2012

17. These companies provide Internet services at a range of speeds, prices and non-price terms and conditions, although not all speeds offered by any given ISP may be available in all areas served by that ISP.
18. These five companies have also been licensed to install and operate various ICT networks to enable the provision of Internet services. The relevant types of ICT networks are the *Type A – Fixed Wireline*, *Type B – Fixed Wireless*, *Type C – Mobile* and *Type D1 – Fibre Optic Cable – Domestic* ICT networks. A sixth company, DataLink Limited (**DataLink**), is also licensed to install and operate a Type D1 ICT network to provide wholesale services to other licensees. This may be summarised as follows:

⁵ OfReg has also issued Type 9 ICT service licences to United Telecommunications Services Ltd. (on 11 October 2004) and to the Government of the Cayman Islands (on 10 May 2004), however the Office is not aware that either offers Internet access services to the general public.

⁶ Logic's acquisition of WestStar was approved by the ICTA on 14 August 2014. <http://www.ofreg.ky/ict/upimages/commonfiles/141727969320140814ICTAtoBOTCATHoldingsLtdretransfershares.pdf>

Licensee	Type A	Type B	Type C	Type D1
Flow	X	X	X	X
Digicel		X	X	X
Logic		X		X
C3	X			X
WestStar		X		X
DataLink				X

19. OfReg notes that Flow and Digicel agreed to nationwide network roll-out obligations for their Long-Term Evolution (**'LTE'**) networks when they were awarded spectrum in the 700 MHz band (and also 1800 MHz band, in the case of Digicel) in 2013. However, the highest speeds available on LTE networks are typically not as high as those available on fibre-optic cable networks.
20. All but one of the *Type D1 – Fibre Optic Cable – Domestic* licensees have agreed to network roll-out obligations as conditions of licence. These conditions of licence typically⁷ require deployment of a fibre optic cable network sufficient to provide ICT services to 100% of the resident population of either the entire country or of Grand Cayman, depending upon the licensee. This is summarised in the table below:

Licensee	Area	Initial Coverage Deadline	Current Coverage Deadline ⁸
Flow	N/A	N/A	N/A
Digicel	Grand Cayman	31 December 2015	31 December 2015
	Sister Islands	31 December 2016	31 December 2016
Logic	Grand Cayman	08 February 2017	08 February 2017
C3	Grand Cayman	12 December 2005	31 December 2015
	Sister Islands	12 June 2007	31 July 2017
WestStar	Grand Cayman	31 December 2014	09 October 2018
DataLink	Grand Cayman	31 December 2015	31 December 2015

21. While most of these licensees have begun rolling out their fibre optic cable networks, those efforts to date have been limited to certain areas in the west

⁷ There are slight differences of wording among the various licences.

⁸ These are the deadlines set out as conditions of licence in the respective licences as of the date of this consultation.

- and south of Grand Cayman. As of January 2018, Logic’s fibre optic operating area, for example, includes parts of West Bay, George Town, Seven Mile Beach, South Sound, Prospect and areas west of Savannah.⁹ C3 covers a smaller area roughly covering the George Town, Seven Mile Beach, South Sound and Prospect areas.¹⁰
22. OfReg is of the view that failure to meet these licence obligations, as evidenced in the table above, as a serious breach by the licensees particularly in view of the immeasurable negative impact that such breaches may be having on the social and economic welfare of the residents of the Cayman Islands, on opportunities to further develop the economy, and on the state of the country generally.
 23. While Flow does not have any licence conditions regarding the roll-out of its fibre optic cable network, it has deployed a fibre network across Grand Cayman and Cayman Brac. OfReg notes that much of this network is a “Fibre-to-the-Cabinet” (**FTTC**) network, where the final connection to the subscriber is provisioned over copper wire. Its “Fibre-to-the-Home” (**FTTH**) network, where the connection to the subscriber is provisioned entirely over fibre optic cable and which supports the highest download and upload speeds, is limited to George Town, Seven Mile Beach, Bodden Town and selected locations elsewhere in Grand Cayman.
 24. The results of several years of efforts by ICTA (now OfReg) and by the industry have, therefore, been mixed. While Internet services using LTE technology are widely available across the country, download speeds are limited when compared to Internet services provided over fibre optic cable networks. Data allowances (i.e. usage) in service plans are also limited.
 25. Fixed line Internet access using fibre optic technology is available country-wide from one service provider only, using FTTC technology in most of the country. Only in a geographically restricted area in the western part of Grand Cayman are the higher speeds enabled by FTTH available, or is Internet access available from two or more service providers.
 26. OfReg considers that, as a result, not all consumers and businesses have access to the level of broadband services required to enable them to participate actively in the digital economy. It is therefore necessary to consider how to define such a broadband service, in terms of download and upload speeds, data usage allowances and quality standards.

⁹<https://www.logic.ky/fibre-coverage-map> . As noted earlier, Logic has acquired WestStar, including its network roll-out obligation.

¹⁰ <https://www.c3.ky/serviceareas>

D. Minimum Broadband Speeds

27. The digital economy is continuing to transform the way we live, work and interact with each other. Broadband services are particularly critical to the modern economy and to civil society and could well be considered essential utilities, alongside services such as water and electricity.
28. Consumers and businesses are using broadband to access an ever-increasing number of bandwidth-hungry services and applications. These include streaming of video and audio entertainment and communications services, access to data storage “in the cloud”, and a myriad of other business-enabling services. Each of these services and applications is sensitive to the characteristics of the connection being used for access, including the available download and upload speeds. However, more end-users are increasingly trying to access services and applications over the same broadband connection at the same time. This means that broadband connections must have ever-greater download and upload speeds for these users to have effective and useful access to services and applications.
29. As noted earlier, the Flow ICT Licence defined “*High-Speed Fixed Internet (both wireless and wireline)*” as being above 56 kbps, and the ICTA’s consultation on the publication of ICT statistics described “*broadband connections*” as equal to or greater than 256 kbit/s. While this may have been adequate when the licence was issued in 2003 or when the consultation was published in 2009, the Office considers that it is now outdated and is no longer in line with international standards. In light of advances in network technologies and dramatic increases in use of the Internet since then, Internet speeds at that level cannot support current needs nor be considered “high-speed”.
30. A number of jurisdictions have already examined the question of what should be the appropriate or minimum broadband speed necessary for their citizens to participate effectively in the economy and society of the future. These include the European Union, the United Kingdom, the United States and Canada.

D.1 European Union

31. In 2010, the European Commission issued its “Digital Agenda for Europe.”¹¹ This document sets out both a vision to transform the European economy and a comprehensive strategy to promote the development of ICT. The European Commission determined that the Member States need to develop and implement national broadband plans to achieve the Europe 2020 Strategy goal that “*all Europeans have access to much higher internet speeds of above 30 Mbps*” by 2020.”¹²
32. Six years later, in September 2016, the European Commission adopted an updated strategy on “Connectivity for a European Gigabit Society.”¹³ The European Commission noted that applications and services require greater speeds, quality and network responsiveness than in the past and that basic broadband is no longer sufficient for the digital economy:

*All European households, rural or urban, should have access to a minimum level of fixed or wireless connectivity. To be considered adequate in 2025, the connectivity will need to be of a much higher capacity than it is at present. Today, as Europe rolls out next generation fixed networks and 4G mobile, rural areas are lagging behind in both respects.*¹⁴

33. With this in mind, the European Commission set two strategic objectives for high speed broadband network development:

Strategic objective for 2025: All urban areas and all major terrestrial transport paths to have uninterrupted 5G coverage.
[footnotes omitted]

Intermediate objective for 2020: 5G connectivity to be available as a fully-fledged commercial service in at least one

¹¹ European Commission, “A Digital Agenda for Europe”, August 2010 (***Digital Agenda for Europe***) – [http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52010DC0245R\(01\)&from=EN](http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52010DC0245R(01)&from=EN)

¹² Digital Agenda for Europe, at page 19.

¹³ European Commission, “Connectivity for a Competitive Digital Single Market - Towards a European Gigabit Society”, September 2016 (***Connectivity for a European Gigabit Society***) – http://ec.europa.eu/newsroom/dae/document.cfm?doc_id=17182

¹⁴ Connectivity for a European Gigabit Society, at page 8.

*major city in each Member State, building on commercial introduction in 2018.*¹⁵

*Strategic objective for 2025: All European households, rural or urban, will have access to Internet connectivity offering a downlink of at least 100 Mbps, upgradable to Gigabit speed.*¹⁶

34. While this last objective is not predicated on any specific technology, the European Commission noted that the very high capacity networks required to achieve it will depend on fibre optic cable networks up to a fixed or wireless access point close to the end user.¹⁷

D.2 United Kingdom

35. In 2015, Ofcom in the United Kingdom conducted a broad strategic assessment of the fixed, mobile and content sectors, with a view to ensuring digital communications markets continue to work for all stakeholders. A key stated objective was to ensure “*the UK’s citizens and businesses are served by high-quality, widely available telecommunications, both fixed and mobile,*”¹⁸ and OfCom noted that its research suggested access speeds were more likely to affect the consumer experience when they fell below 10 Mbps.¹⁹
36. It reiterated this view in its initial conclusions on the Strategic Review, stating it would support the UK Government’s policy of a broadband universal service objective of 10 Mbps²⁰ (enshrined in legislation through the Digital Economy Act 2017²¹). This universal service objective would not be limited to any particular technology. However, OfCom acknowledged consumer demand for speed was increasing and in June 2015, 83% of

¹⁵ Connectivity for a European Gigabit Society, at page 7.

¹⁶ Connectivity for a European Gigabit Society, at page 8.

¹⁷ Connectivity for a European Gigabit Society, at page 4.

¹⁸ OfCom, “Strategic Review of Digital Communications – Discussion Document,” July 2015 (*‘OfCom Strategic Review’*), at page 3 – https://www.ofcom.org.uk/_data/assets/pdf_file/0021/63444/digital-comms-review.pdf.

¹⁹ OfCom Strategic Review, paragraph 7.36 at page 69.

²⁰ OfCom, “Making communications work for everyone – Initial conclusions from the Strategic Review of Digital Communications,” 25 February 2016, at page 27.

²¹ See section 1 of the Digital Economy Act 2017 which sets a minimum download speed of 10 Mbps. www.legislation.gov.uk/ukpga/2017/30/pdfs/ukpga_20170030_en.pdf

homes and small businesses had access to services with speeds of 30 Mbps or higher.²² Consequently, OfCom stated it would facilitate deployment of new technologies which would increase speeds and availability of broadband services.

37. Ofcom continues to focus on improving the coverage of communications services to meet the needs of consumers across the UK. In its Annual Plan 2017/18, Ofcom noted “[d]espite increased network investment, an estimated 1.4m, or 5% of, UK households are unable to receive a decent broadband speed of 10Mbit/s to allow effective access to the internet”²³ and stated that it will “implement any UK Government decision on a broadband Universal Service Obligation (USO) to improve the availability of decent broadband services to people and businesses across the UK.”²⁴

D.3 United States

38. In the United States, the Federal Communications Commission (**‘FCC’**) is required by statute to report annually on the availability and deployment of “advanced telecommunications capability,” which is considered to be broadband services enabling the origination and reception of high-quality voice, data, graphics and video telecommunications. In its 2015 Broadband Progress Report,²⁵ the FCC reviewed the types of usage consumers were making of broadband services, noting that households were relying on services and applications requiring faster broadband and that households were often seeking to access multiple services or applications at the same time over a single broadband connection. As a result, the FCC concluded that the then-standard for broadband (4 Mbps down and 1 Mbps up)²⁶ was no longer sufficient to permit end-users to access the various services and applications being offered.

²² By August 2016, this had increased to 88% of UK households. See Ofcom, “Communications Market Report: Scotland,” 4 August 2016, at page 53. https://www.ofcom.org.uk/data/assets/pdf_file/0024/43476/CMR_Scotland_2016.pdf

²³ Ofcom, “Annual Plan 2017/18,” 30 March 2017, paragraph 2.6 at page 7. https://www.ofcom.org.uk/data/assets/pdf_file/0027/99621/Annual-Plan-2017-18.pdf

²⁴ Ibid, paragraph 3.13 at page 10.

²⁵ Federal Communications Commission, “2015 Broadband Progress Report and Notice of Inquiry on Immediate Action to Accelerate Deployment”, GN Docket No. 14-126, released 4 February 2015 (**‘2015 Broadband Progress Report’**) – https://apps.fcc.gov/edocs_public/attachmatch/FCC-15-10A1.pdf.

²⁶ This standard had been set in 2010 in Federal Communications Commission, “Sixth Broadband Progress Report,” GN Dockets No. 09-51 and No. 09-137, released 20 July 2010 – https://apps.fcc.gov/edocs_public/attachmatch/FCC-10-129A1_Rcd.pdf

39. The standard for “advanced telecommunications capability” was changed to 25 Mbps download and 3 Mbps upload in 2015.²⁷ The FCC noted that broadband of this standard or higher was already available in 2015 to 83% of Americans,²⁸ although urban areas were disproportionately favoured (92%) compared to rural areas (47%). While the FCC did not have a statutory deadline or target date to ensure all Americans had access to broadband of this standard, it was required by statute to take immediate action should advanced telecommunications capability not be deployed in a reasonable and timely fashion. The FCC also noted that its determination regarding the availability of advanced telecommunications capability was based on fixed broadband services, as it felt it did not have access to reliable data on mobile or satellite services.
40. In its next Broadband Progress Report the following year,²⁹ the FCC noted that mobile broadband needed to be considered an important component of advanced telecommunications capability. Because fixed and mobile broadband were not functional substitutes, had different capabilities and characteristics, and served different needs for consumers, the FCC determined that access to advanced telecommunications capability required access to both fixed and mobile broadband services.³⁰ However, while the FCC retained its standard for fixed broadband, it did not set a speed standard for mobile broadband as it did not have evidence sufficient to allow it to do so.³¹
41. The Office notes that the FCC retained the current standard for fixed broadband of 25 Mbps download and 3 Mbps upload in its 2018 Broadband Progress Report.³²

²⁷ 2015 Broadband Progress Report, at paragraph 45.

²⁸ 2015 Broadband Progress Report, at paragraph 51. By 2016, this had increased to 90%.

²⁹ Federal Communications Commission, “2016 Broadband Progress Report”, GN Docket No. 15-191, released 29 January 2016 (**‘2016 Broadband Progress Report’**) – https://apps.fcc.gov/edocs_public/attachmatch/FCC-16-6A1.pdf.

³⁰ 2016 Broadband Progress Report, at paragraph 40.

³¹ 2016 Broadband Progress Report, at paragraph 58.

³² Federal Communications Commission, “2018 Broadband Progress Report”, GN Docket No. 17-199, released 2 February 2018 (**‘2018 Broadband Progress Report’**), paragraph 21 – https://apps.fcc.gov/edocs_public/attachmatch/FCC-18-10A1.pdf

The Office notes that, while the FCC also reviewed mobile broadband, it did not set a speed standard.

D.4 Canada

42. In December 2016, Canada reviewed its vision for broadband networks as part of a comprehensive review of its policies on “basic service” and its universal service objective.³³ The Canadian Radio-television and Telecommunications Commission (‘**CRTC**’) had previously set in 2011, as its target for broadband Internet access services across Canada, speeds of 5 Mbps download and 1 Mbps upload by 2015.³⁴ However, the CRTC observed that “Canadians will increasingly need access to broadband Internet access services to effectively participate in the digital economy,”³⁵ especially those Canadians living in rural and remote areas. In order to achieve this, the CRTC established the following universal service objective, that:

*Canadians, in urban areas as well as in rural and remote areas, have access to voice services and broadband Internet access services, on both fixed and mobile wireless networks.*³⁶

43. The CRTC also examined the characteristics of broadband Internet access services that would meet the needs of Canadians, determining that these included download and upload speeds, data allowance, and quality of service that were of a sufficient level to access the services and applications that they needed. (Issues relating to data allowances and quality of service are considered later in this document.) With respect to download and upload speeds, the CRTC recognized that mobile and fixed networks had different characteristics. The CRTC also noted that 82% of Canadians already had access to fixed broadband speeds of at least 50 Mbps download and 10 Mbps upload.³⁷ To reflect these two facts, the CRTC established two

³³ Canadian Radio-television and Telecommunications Commission, “Modern telecommunications services – The path forward for Canada’s digital economy,” Telecom Regulatory Policy CRTC 2016-496, December 2016 (‘**CRTC USO Policy**’) – <http://www.crtc.gc.ca/eng/archive/2016/2016-496.htm>

³⁴ Canadian Radio-television and Telecommunications Commission, “Obligation to serve and other matters”, Telecom Regulatory Policy CRTC 2011-291, 3 May 2011 – <http://www.crtc.gc.ca/eng/archive/2011/2011-291.htm>

³⁵ CRTC USO Policy, at paragraph 33.

³⁶ CRTC USO Policy, at paragraph 37.

³⁷ This figure had increased to 84% as of 31 December 2016. See Canadian Radio-television and Telecommunications Commission, *Communications Monitoring Report 2017*, 9 November 2017, at page 281 – <https://crtc.gc.ca/eng/publications/reports/PolicyMonitoring/2017/cm2017.pdf>

different criteria for determining whether the universal service objective had been met, one for mobile networks and the other for fixed networks:

[T]he latest generally deployed mobile wireless technology should be available in Canada not only in premises, but on as many major transportation roads as possible.³⁸

Canadian residential and business fixed broadband Internet access service subscribers can access speeds of at least 50 Mbps download and 10 Mbps upload.³⁹

44. While a target date was not established for the mobile criterion, the CRTC expected fixed networks with the required characteristics would be available to at least 90% of Canadians by 2021 and to the remaining Canadians by 2026 to 2031.⁴⁰

D.5 Summary

45. The broadband network speed targets of these countries, as well as those of other selected jurisdictions, are summarised in the table below.

³⁸ CRTC USO Policy, at paragraph 64.

³⁹ CRTC USO Policy, at paragraph 80.

⁴⁰ CRTC USO Policy, at paragraph 114.

Jurisdiction	Date Issued	Minimum Download Speed	Minimum Upload Speed	Target % of Population	Target Date
United States	February 2015	25 Mbps	3 Mbps	100%	N/A
Italy ⁴¹	March 2015	30 Mbps	N/A	100%	2020
		100 Mbps	N/A	85%	2020
New Zealand ⁴²	October 2015	10 Mbps	N/A	100%	2025
		50 Mbps	N/A	99%	2025
United Kingdom	February 2016	10 Mbps	N/A	100%	N/A
Germany ⁴³	March 2016	1 Gbps	1 Gbps	100%	2025
European Union	September 2016	100 Mbps	N/A	100%	2025
Canada	December 2016	50 Mbps	10 Mbps	90%	2021
				100%	2026-2031

E. Data Allowances and Caps

46. Download and upload speeds are not the only important characteristics of a broadband service in determining whether it is adequate in enabling users to participate fully and effectively in the digital economy. Data allowances and/or throughput are also critical factors to consider.
47. Data allowances (often, for example, calculated on a monthly basis for postpaid mobile services) can be useful features. They can be used as differentiating factors in a competitive market by enabling service providers to offer a range of different plans at different prices and data allowances, thereby giving consumers greater choice. Setting a maximum data allowance can also be critical for managing usage of limited shared capacity, for example, in mobile radio access networks.
48. However, data allowances can also have the effect of limiting an end-user's access to on-line services and applications. In the event a user has consumed the allowance in his/her 'post-paid' monthly data package prior

⁴¹ Italian Government, "Strategia italiana per la banda ultralarga", 3 March 2015 – http://www.agid.gov.it/sites/default/files/documenti_indirizzo/strategia_bul_nov_2014.pdf. English version at <http://www.infratelitalia.it/wp-content/uploads/2015/03/Strategy.pdf>

⁴² New Zealand Government Press Release, "Ambitious Target Set for Rural Broadband", 6 October 2015 – <https://www.beehive.govt.nz/release/ambitious-target-set-rural-broadband>

⁴³ http://www.bmwi.de/Redaktion/DE/Publikationen/Digitale-Welt/digitale-strategie-2025.pdf?__blob=publicationFile&v=8

- to the end of the month, the cost of additional data can be prohibitively high and lead to unexpectedly high bills or ‘sticker shock.’ End-users concerned about exceeding their data allowances may, therefore, limit their use of on-line services and applications, which in turn limits their participation in the digital economy.
49. An alternative approach sometimes employed by service providers is to reduce or “throttle back” the download speeds available to end-users when they have consumed their entire data allowance. While this approach may address issues relating to sticker shock, it may also serve to severely constrain the online activities of the end-user since many services and applications require sufficient download speeds in order to be used.
 50. This issue has been considered in a number of jurisdictions. For example, while the FCC may not yet have made any determinations on whether availability of advanced telecommunications capabilities requires any particular level of data allowance, it has stated that data allowances are relevant factors:

We believe that usage allowances go primarily to the question of whether advanced telecommunications capability is available; usually, more data can be purchased from the provider, thus making it more appropriate to consider the price of the service and the usage allowance together. However, to the extent that usage allowances affect the usability of a service, they could also be relevant to whether a service meets the definition of advanced telecommunications capability.⁴⁴ [footnotes omitted]
 51. Similarly, the CRTC considered the issue in its review of the universal service objective. The CRTC noted the increasing requirements of websites and on-line services for significant amounts of download and upload capacity, but also noted that consumers in rural areas often do not have access to an unlimited data broadband plan, which impedes innovation and productivity in those areas. While the CRTC did not establish requirements regarding data allowances in broadband plans, it considered that the lack of an unlimited data allowance option in rural and remote areas served to limit consumer choice. As a result, it established as a criterion for determining whether the broadband universal service objective had been met, whether or not an unlimited plan was available:

⁴⁴ 2015 Broadband Progress Report, at paragraph 110.

Canadian residential and business customers can subscribe to fixed broadband Internet access service that includes the option of unlimited data allowance.⁴⁵

F. Quality Standards

52. Quality of the service is also a relevant factor in determining whether a broadband service is adequate to meet the needs of end-users. Many services require quality broadband connections with low latency in order to function properly. “Real-time” services and video streaming, for example, are particularly sensitive to the quality of the broadband connection being used to access them.
53. In the United States, a broadband service of advanced telecommunications capability must be of “high-quality” in order to be considered “available” to consumers. The FCC has acknowledged this in both its 2015 and 2016 Broadband Progress Reports:

We consider the quality of broadband services that are deployed and made available to consumers as part of our section 706(b) analysis. As explained above, the definition of advanced telecommunications capability provides that the services identified must be “high-quality.” A service is not “deployed” or “available” if the services [sic] does not allow the consumer to “originate and receive” high-quality services as specified in section 706(d)(1). We must consider the quality of service routinely available, and not what might be available hypothetically or under ideal conditions. For example, inconsistent speed or excessive congestion that prevents consumers from having reliable VoIP calls or the ability to take online courses is service that cannot be said to be “deployed” or “available.” These factors are therefore important indicators of whether advanced telecommunications capability is available to all Americans.⁴⁶ [footnotes omitted]

...we continue to recognize the importance of low latency, high consistency broadband networks for the deployment of advanced telecommunications capability...⁴⁷

⁴⁵ CRTC USO Policy, at paragraph 97.

⁴⁶ 2015 Broadband Progress Report, at paragraph 102.

⁴⁷ 2016 Broadband Progress Report, at paragraph 63.

54. However, the FCC concluded that it did not yet have data in sufficient geographic granularity to set standards for latency, consistency, or other quality of service measurements in determining whether services of advanced telecommunications capabilities are available to Americans.
55. The CRTC in Canada has also determined that reliable, high-quality broadband services are necessary for consumers to participate in the digital economy. However, it deferred the question respecting appropriate service quality metrics until it obtains more evidence from the industry.⁴⁸
56. OfReg is also of the view that the broadband services provided to consumers and businesses in the Cayman Islands must be of high quality. However, since this issue is being addressed in a separate consultation on Internet Service Provider Standards Regulations, it does not need to be addressed here.

G. OfReg's Preliminary View and Consultation Questions

57. In light of the information provided above, OfReg proposes to determine, subject to consultation, that its objective for broadband in the Cayman Islands should be the following:

All Type 9 – Internet Service Provider licensed ICT service providers must offer broadband Internet access services to all residents of the Cayman Islands, defined as services with download speeds of 100 Mbps and upload speeds of 50 Mbps or higher, with at least one of their broadband service plans at this speed or higher offering an unlimited data allowance.

58. OfReg considers that, subject to consultation, these proposed download and upload speed objectives should be achievable in a reasonable period of time by the ISPs currently operating in the Cayman Islands. OfReg notes that these speeds are in line with those set out in other countries (see the table at paragraph 45 above). Further, extending this requirement to all ISPs and to all regions of the Cayman Islands would ensure all consumers benefit from competition and choice. OfReg considers, subject to consultation, that these proposed download and upload speed objectives could reasonably be achieved within a three (3) year period.
59. Accordingly, the Office proposes to determine, subject to consultation, that:

⁴⁸ CRTC USO Policy, at paragraphs 103-111.

All Type 9 – Internet Service Provider licensed ICT service providers shall offer “broadband Internet access” services, as defined above, within three (3) years of the date of the Office’s determination

60. The proposed download and upload speed objectives are forward-looking and aim to meet the needs of the market over a reasonable period of time. OfReg notes that the need for greater download speeds has clearly been increasing over time. This has been acknowledged by the United States, the European Union and Canada, all of which have revised their speed targets upwards over time.
61. OfReg also considers that the need for greater upload speeds will most likely increase at an even greater rate than that for download speeds over the foreseeable future due to several factors. Consumers are increasingly using their Internet access services for applications which are more dependent on upload capabilities than applications they have used in the past. As cloud-based services become more prevalent, consumers will be uploading more information, instead of simply downloading what is already available on the Web, and will therefore require correspondingly faster upload speeds. Audio and video communication services like Skype, GoToMeeting, Facetime and WhatsApp also require faster upload speeds in order to be effective. As well, the “Internet of Things” can be expected to place even greater demand on the upload component of broadband access services. While OfReg does not consider that its broadband speed objectives must be perfectly symmetric (i.e. having equal download and upload speeds) at this time, the difference between download speed and upload speed should be lower than it has been historically to accommodate changing consumer usage patterns.
62. With respect to data allowances, OfReg notes that one option would be to require all ISPs to offer unlimited data with every single service plan that is offered at download speeds of 100 Mbps or higher and upload speeds of 50 Mbps or higher. However, OfReg recognises that one of the desirable outcomes of competition is the availability of a range of choices for consumers such that ISPs offer various plans with different prices, speeds and data allowances in order to meet the needs of different segments of the market. By not requiring all Internet service plans of every ISP to include unlimited data allowances but instead to mandate that at least one such plan of each ISP has an unlimited data allowance, OfReg hopes to foster both innovation and competition while not imposing onerous regulatory obligations. The requirement that each ISP offer at least one plan with both the target speeds (or higher) and unlimited data allowance is intended to ensure all consumers have access to their choice of service that best meets their needs in the digital economy.

63. OfReg points out that this broadband objective would not prevent ISPs from offering Internet access services at lower download or upload speeds for consumers who do not require higher speeds. These services would fall outside of the definition of “broadband” Internet services. Nor would this broadband objective prevent ISPs from offering broadband services with limited data allowances for consumers who do not require unlimited data, provided they offer at least one broadband plan with unlimited data.

Question 1: What should OfReg consider to be appropriate minimum download and upload speeds? What factors should OfReg take into account in determining appropriate minimum download and upload speeds?

Question 2: What should OfReg consider to be an appropriate data usage allowance, and why?

Question 3: Should OfReg apply the same criteria to broadband delivered over fixed network technologies as over mobile network technologies when determining whether its objective has been achieved?

Question 4: Should OfReg’s broadband policies be technology-neutral? Can OfReg’s objective be achieved whether broadband is delivered over fixed network technologies or over mobile network technologies, or can only one technological platform be deemed adequate to achieve the stated objective?

Question 5: What is a reasonable time frame for achieving the broadband objective? Explain in detail along with supporting documentation.

Question 6: Should OfReg have different broadband objectives in different areas of the Cayman Islands? If yes, explain in detail why.

64. At this time, subject to consultation, OfReg proposes to impose these broadband objectives as conditions of licence on licensees providing *Type 9 – Internet Service Provider* ICT services in the Cayman Islands. OfReg’s concern and objective is to ensure that adequate broadband services are made available to all consumers and businesses in the Cayman Islands, regardless of where they reside or are located, within a reasonable timeframe. Accordingly, the Office proposes to determine, subject to consultation, that:

The broadband Internet access service objective and deployment timeframe shall be imposed as conditions of licence, pursuant to section 31 (3) of the ICT Law

Question 7: Do you agree with OfReg’s proposal to impose the broadband objectives as conditions of licence on *Type 9 – Internet Service Provider* ICT service licence holders? If not, explain your reasoning in detail.

65. OfReg expects that the requirements of consumers and businesses in the Cayman Islands will change over time, and the characteristics of broadband services which are sufficient to meet these needs will also change. OfReg therefore intends to review the market and its broadband objectives in the future as warranted. OfReg’s preliminary view, subject to consultation, is that it should review its broadband objective in three to five years, and in any event no later than the conclusion of the period it determines following this consultation to be a reasonable time frame for achieving the broadband objective. Accordingly, the Office proposes to determine, subject to consultation, that:

The Office shall review its determination regarding “broadband Internet access” services within three (3) years of the date of the Office’s determination

Question 8: Do you agree with OfReg’s proposal to review its broadband objective in three to five years, and in any event no later than the conclusion of the period determined for achieving the broadband objective? If not, explain your reasoning in detail.

H. Section 7 Statement

66. As noted above, **section 7 (1)** of the URC Law states that prior to issuing an administrative determination of public significance, the Office shall “*issue the proposed determination in the form of a draft administrative determination.*” For greater clarity, the Office’s proposed administrative determinations in this **ICT 2018 – 1 – Consultation** are:

- a. **All *Type 9 – Internet Service Provider* licensed ICT service providers must offer “broadband Internet access” services to all residents of the Cayman Islands, defined as services with download speeds of 100 Mbps and upload speeds of 50 Mbps or higher, with at least one of their broadband service plans at this speed or higher offering an unlimited data allowance;**

- b. **All Type 9 – Internet Service Provider licensed ICT service providers shall offer “broadband Internet access” services, as defined above, within three (3) years of the date of the Office’s determination;**
- c. **The broadband Internet access service objective and deployment timeframe shall be imposed as conditions of licence, pursuant to section 31 (3) of the ICT Law; and**
- d. **The Office shall review its determination regarding “broadband Internet access” services within three (3) years of the date of the Office’s determination.**

J. How to Respond to this Consultation

67. All submissions on this consultation should be made in writing and must be received by OfReg by email to consultations@ofreg.ky by **5 p.m. on 18 April 2018** at the latest. When responding, please repeat the question above the corresponding response to each question.

68. OfReg will post any comments received on its website www.ofreg.ky by **5 p.m. on 2 May 2018** and respondents may file reply comments to these submissions by **5 p.m. on 16 May 2018**. Parties who submit reply comments are to send a copy to all parties who filed comments at the same time the reply comments are submitted to OfReg.

69. Submissions may be filed as follows:

By e-mail to: consultations@ofreg.ky

Or by post:

Utility Regulation and Competition Office
P.O. Box 2502
Grand Cayman KY1-1104
CAYMAN ISLANDS

Or by courier:

Utility Regulation and Competition Office
3rd Floor, Alissta Towers
85 North Sound Road
George Town
Grand Cayman
CAYMAN ISLANDS

70. If a respondent chooses to file any information in confidence with OfReg it should, *at the time of making its filing*, file redacted versions for the public record along with the reasons for each confidentiality claim and the other requirements for confidentiality claims as specified in **section 107** of the URC Law and in the Information and Communications Technology Authority (Confidentiality) Regulations 2003.⁴⁹ OfReg refers respondents particularly to Regulations 4 (1) (b) and (c) of those Regulations which set out what needs to be included in such a request.
71. The Office reminds interested parties that, in accordance with the Consultation Procedures Guidelines,⁵⁰ if they choose to apply to the Office for an extension of the time to file comments or reply comment, they must do so no less than four (4) days before the day of the existing deadline and include a complete and detailed justification for the request.
72. Where applicable, applicants must also copy all other respondents to this consultation *at the same time* as they apply to the Office. The other respondents may comment on the application for an extension within two (2) days of submission of the application, copying the applicant and all other respondents *at the same time*.
73. The Office reserves the right not to accept applications for extensions that do not satisfy these requirements. However, at no time will the Office accept an application for an extension submitted after the deadline in question has passed.
74. OfReg expects to issue a Determination on the matters addressed by this Consultation by **the end of the 3rd Quarter of 2018**.

⁴⁹ <http://www.ofreg.ky/upimages/commonfiles/1506776718ICTAConfidentialityRegs2003.pdf>

⁵⁰ See <http://www.ofreg.ky/upimages/commonfiles/1507893545OF20171DeterminationandConsultationProcedureGuidelines.pdf>

Appendix

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List of Consultation Questions

Question 1: What should OfReg consider to be appropriate minimum download and upload speeds? What factors should OfReg take into account in determining appropriate minimum download and upload speeds?

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Question 5: What is a reasonable time frame for achieving the broadband objective? Explain in detail along with supporting documentation.

Question 6: Should OfReg have different broadband objectives in different areas of the Cayman Islands? If yes, explain in detail why.

Question 7: Do you agree with OfReg's proposal to impose the broadband objectives as conditions of licence on *Type 9 – Internet Service Provider* ICT service licence holders? If not, explain your reasoning in detail.

Question 8: Do you agree with OfReg's proposal to review its broadband objective in three to five years, and in any event no later than the conclusion of the period determined for achieving the broadband objective? If not, explain your reasoning in detail.