Market Review of the Electronic Communications Sector

Final Report, Decision & Order
Date: 1 September 2020
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definitions</td>
<td>5</td>
</tr>
<tr>
<td>1 Executive summary</td>
<td>12</td>
</tr>
<tr>
<td>1.1 Summary of key concerns/market failures</td>
<td>16</td>
</tr>
<tr>
<td>1.2 How the RA seeks to address these concerns (remedies)</td>
<td>18</td>
</tr>
<tr>
<td>1.3 The new remedies compared to the 2013 remedies</td>
<td>19</td>
</tr>
<tr>
<td>1.4 Next Steps</td>
<td>23</td>
</tr>
<tr>
<td>2 Introduction</td>
<td>24</td>
</tr>
<tr>
<td>3 Background</td>
<td>28</td>
</tr>
<tr>
<td>4 Legislative context</td>
<td>33</td>
</tr>
<tr>
<td>5 Summary and discussion of responses to the Consultation Document</td>
<td>38</td>
</tr>
<tr>
<td>6 Summary and Discussion of Responses to the Preliminary Report</td>
<td>40</td>
</tr>
<tr>
<td>6.1 Market definition: stakeholder responses to the Preliminary Report and the RA’s opinion on the responses</td>
<td>41</td>
</tr>
<tr>
<td>6.1.1 Broadband market definition</td>
<td>41</td>
</tr>
<tr>
<td>6.1.2 Mobile market definition</td>
<td>42</td>
</tr>
<tr>
<td>6.1.3 Fixed voice market definition</td>
<td>43</td>
</tr>
<tr>
<td>6.1.4 Business connectivity market definition</td>
<td>45</td>
</tr>
<tr>
<td>6.1.5 Subscription TV market definition</td>
<td>48</td>
</tr>
<tr>
<td>6.2 SMP: stakeholder responses to the Consultation Document and the RA’s opinion on the responses</td>
<td>49</td>
</tr>
<tr>
<td>6.2.1 General SMP comments received from stakeholders and the RA’s response to them</td>
<td>49</td>
</tr>
<tr>
<td>6.2.2 Market specific SMP comments received from stakeholders and the RA’s response to them</td>
<td>57</td>
</tr>
<tr>
<td>6.3 Remedies: stakeholder responses to the Preliminary Report and the RA’s opinion on the responses</td>
<td>63</td>
</tr>
<tr>
<td>6.3.1 General issues on approach to remedies raised by stakeholders and the RA’s response</td>
<td>63</td>
</tr>
<tr>
<td>6.3.2 Remedy-specific comments raised by stakeholders and the RA’s response to them</td>
<td>69</td>
</tr>
<tr>
<td>7 Market Definition Conclusions</td>
<td>90</td>
</tr>
<tr>
<td>7.1 Approach to market definition</td>
<td>91</td>
</tr>
<tr>
<td>7.2 Broadband</td>
<td>91</td>
</tr>
<tr>
<td>7.3 Mobile</td>
<td>94</td>
</tr>
</tbody>
</table>
Tables and figures

Table 1.2 OneComm and Digicel Group fibre broadband retail prices 2020 ........................................ 16
Table 1.3 SMP findings and main concerns ................................................................. 16
Table 1.4 Remedies to address the concerns ................................................................. 18
Table 1.5 – 2020 remedies compared with 2013 remedies .............................................. 20
Table 1.1 - Summary of market definitions, SMP and remedies ........................................ 25
Table 6.1 Updated ROCE of OneComm and Digicel......................................................... 53
Table 6.2 Updated ROCE of OneComm and Digicel adjusted for goodwill ....................... 54
Table 6.3 WACC (pre-tax nominal) for telecom service companies in Bermuda ............... 56
Table 6.4 - OneComm and Digicel fibre broadband retail prices 2020 .............................. 59
Table 7.1 - Relevant market definitions ........................................................................... 90
Figure 7.1 - Graphical Depiction of broadband network structure, including ISP and Access distinction ................................................................. 92
Table 7.2 - Business connectivity (leased line) market definitions .................................... 100
Table 8.1- Relevant markets and SMP operators ............................................................ 102
Table 8.2 - Relevant markets and SMP operators ............................................................ 108
Table 9.1 - Remedies in the broadband markets .............................................................. 119
Table 9.2- Remedies in mobile markets .......................................................................... 126
Table 9.3 - Remedies in the fixed voice markets .............................................................. 129
Table 9.4 - Remedies in business connectivity markets .................................................. 131
DEFINITIONS

4G: Fourth generation of mobile communications technology standards, including the Long-Term Evolution (“LTE”) technology standard, which provides faster mobile data speeds than the 3G standards.

Access services: The service which links an end-user to the services of an Internet Service Provider (“ISP”). The link in question comprises local access, backhaul and data stream aggregation, terminating at an ISP’s premises.

Accounting Separation: An obligation set forth in the Market Review of the Electronic Communications Sector General Determination to produce financial statements that report the performance of each Product Group of an SMP operator. Accounting Separation enables the RA to monitor whether an operator with SMP is compliant with certain price-based obligations, such as to ensure prices are cost orientated.

Access and interconnection (“A&I”): The physical and logical linking of public electronic communications networks (and any other networks specified by the RA) by the same or a different sectoral provider in order that facilities or services offered by one sectoral provider may be made available to another sectoral provider, under defined conditions, for the purpose of providing electronic communications services.

RA: The Regulatory Authority of Bermuda, or “RA”.

Average revenue per user (“ARPU”): A measurement used to indicate the average monthly revenue earned from a subscriber.

Backhaul: Relates to the transmission of data between the core or backbone network and the network “edge”. Examples of backhaul include the transmission of data from mobile telephony masts to data centers to enable end-users of mobile services to access the Internet.

Bill and Keep: An approach to call termination pricing whereby communications providers make no payments to each other for call termination (that is, where termination rates are zero).

Bluewave: A provider of Wi-Fi-based high-speed Internet to residents and businesses in Bermuda. Bluewave is the brand name of Telecommunications Networks Limited, which is owned by East End Group Limited.

Broadband: An Internet service or connection generally defined as being “always on”, providing a bandwidth greater than narrowband.

Bundle: Communications services sold together in a package (e.g. broadband and mobile phone, or broadband and subscription TV), in contrast to each service sold on a stand-alone basis.

CAPEX (capital expenditure): Funds used by an entity to acquire, upgrade, and maintain assets such as property, industrial buildings, or equipment.

Chains of substitution: These exist when end-users perceive variants of a specific product type to be reasonably substitutable. For example, if there are three speeds of broadband in the market...
(20Mbps, 30Mbps and 40Mbps), consumers may be willing to switch between them if the price of one increased. If a consumer was on the 30Mbps tariff, and that tariff increased significantly, the consumer might switch down to the 20Mbps tariff if the cost saving was worthwhile.

**Churn:** In this context, means the number of customers lost.

**Coaxial cable:** A transmission line that consists of a tube of electrically conducting material surrounding a central conductor held in place by insulators and that is used to transmit telegraph, telephone, television, and Internet signals.¹ Used by cable networks alongside fibre-optic to deliver broadband services, as well as television services, directly to homes. Coaxial cables are capable of delivering superfast broadband speeds.

**Communications Operating Licence (“COL”):** An individual or class licence granted for the provision of some or all regulated electronic communications services.

**Common costs:** Costs an entity incurs in relation to the provision of multiple services.

**Core network:** The backbone of a communications network, which carries different services such as voice or data.

**Cost causality:** The attribution of costs to components, services and business divisions strictly in accordance with the activities that cause those costs to be incurred.

**Cost Orientation:** The principle that the price charged for the provision of a service should reflect the costs incurred in providing that service.

**Customer premises equipment (“CPE”):** Electronic equipment that is located in a customer’s premises such as an Internet modem or PayTV set-top box.

**Digicel Group:** A group of companies that includes the following Integrated Communications Operating Licence (“ICOL”) holders: Telecommunications (Bermuda & West Indies) Limited, Transact Limited and Bermuda Telephone Company Limited.

**Digital Subscriber Line (“DSL”):** A family of technologies generically referred to as DSL, or xDSL, capable of transforming ordinary phone lines (also known as “twisted copper pairs”) into high-speed digital lines that support advanced services such as fast Internet access and video-on-demand. ADSL (Asymmetric Digital Subscriber Line), HDSL (High data rate Digital Subscriber Line) and VDSL (Very high data rate Digital Subscriber Line) are all variants of DSL.

**DOCSIS (Data Over Cable Service Interface Specification):** A telecommunications standard used to provide Internet access via a cable modem.

**Ducts:** Existing trenches and pipes which hold copper and fibre lines.

**Duct access:** When the owners of ducts and trenches let other service providers pay to access the owners’ ducts and trenches.

Earnings before interest and taxes ("EBIT"): A financial measure of an entity’s operating performance.


EOO: Equivalence of outputs. Services provided to access seekers are no different to those that SMP operators supply to their own business divisions.

EU: European Union.

Ex ante remedy: A regulatory obligation imposed by the RA on one or more sectoral providers with significant market power in order to prevent anti-competitive conduct and promote competition.

Ex post rules: Rules set by the RAA and imposed by the RA (in accordance with sections 84-86 of the RAA) prohibiting certain types of anti-competitive conduct. The RA may take enforcement action against any sectoral provider which violates those prohibitions, after the violation has occurred.

Fully Allocated Costs ("FAC"): An accounting method for attributing all the costs of a company to defined activities such as products and services. Typically, this method will follow the principle of cost causality.

Fibre-to-the-premise ("FTTP"): A form of fibre-optic communication delivery in which an optical fibre is run directly into a customer’s premises.

FibreWire: Broadband services provided by OneComm as part of its upgraded broadband network that is capable of offering download speeds of over 200 Mbps.

FRAND: Fair, reasonable and non-discriminatory.

Generally accepted accounting principles ("GAAP"): A collection of commonly followed accounting rules and standards for financial reporting.

Gigabyte ("GB"): A measure of digital data size. A multiple of the unit byte for digital information. A gigabyte is approximately one billion bytes. A byte is 8 bits.

GDP: Gross domestic product.

General Determination ("GD"): A statutory instrument made pursuant to section 62 of the Regulatory RA Act 2011 ("RAA"). The General Determination is applicable to all sectoral participants, or to such sub-category of sectoral participants as falls within the scope of the statutory instrument.
**Headline broadband speed**: The theoretical maximum data speed that can be achieved by a given broadband connection.²

**HDS**: High Demand Spectrum.

**HDS-1**: The process for the assignment of HDS-1 Frequencies.

**HDS-1 Frequencies**: The HDS-1 Lots in the 850 MHz, 700 MHz and 2100 MHz bands designated by the RA as suitable for assignment through HDS-1.

**International financial reporting standards** ("IFRS"): A collection of internationally commonly followed accounting rules and standards for financial reporting.

**Integrated Communications Operating Licence** ("ICOL"): A licence granting the licensee the right to establish, construct and operate one or more electronic communications networks and to provide electronic communications services, on an integrated basis, within the territorial limits of Bermuda and between Bermuda and other countries.

**International Comparison Program** ("ICP"): Led by the World Bank, this program collects and compares price data and gross domestic product ("GDP") expenditure to estimate and publish purchasing power parities ("PPPs") of the world’s economies.

**Internet**: A global network of networks, using a common set of standards (e.g. Internet protocol), accessed by users with a computer or other devices via a service provider.

**Internet protocol** ("IP"): A family of protocols describing software that tracks the internet address of nodes, routes outgoing messages and recognizes incoming messages.

**Internet protocol television** ("IPTV"): Television and/or video signals that are delivered to subscribers or viewers using Internet protocol ("IP"). IPTV is typically used in the context of streamed linear and on-demand content, but also sometimes for downloaded video clips.

**Internet Service Provider** ("ISP") services: The provisioning of access to local and international Internet networks together with the provisioning of Internet services such as web hosting and email accounts.

**Key Performance Indicator** ("KPI"): In the context of this document a measurable value that demonstrates how effectively key objectives are achieved.

**Leased line**: A transmission facility that is leased by an end-user from a public Electronic Communications service provider which is dedicated to that user’s traffic.

**Link Bermuda Limited** ("Link"): A local company granted an ICOL, formerly Cable & Wireless.

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² A number of factors may result in a given customer not experiencing this headline speed in practice. These factors include the quality and length of the physical line from the node to the customer.
Long-run incremental costs ("LRIC"): The costs caused by the provision of a defined increment of output, taking a long-run perspective, assuming that some output is already produced. The “long run” refers to the time horizon over which all costs (including capital investment) are variable.

Margin squeeze test: An assessment of the margin that exists between the wholesale and retail prices set by an entity, in order to determine whether the prices are set so that an efficient entity purchasing the wholesale product would be unable to earn a reasonable return.

Mbps: Megabits per second, a measure of data transfer speed. A transfer speed of 1 Mbps is equal to one megabyte per second.

Minister: The Minister of Home Affairs.

Mobile voice call termination ("MCT"): A wholesale service offered by a mobile service provider to connect a customer, i.e. a call recipient, on its network.

Mobile virtual network operator ("MVNO"): An entity that provides mobile telephony services to its customers, but which does not have allocation of spectrum or its own wireless network.

Ofcom: Office of Communications, the national regulatory authority for the broadcasting, telecommunications and postal industries of the United Kingdom.

One Communications ("OneComm"): A group of companies that includes the following ICOL holders: BDB Ltd., Bermuda Digital Communications Ltd., Logic (formerly Bermuda Cablevision Limited) and Cable Co. Ltd., collectively operating under the brand name One Communications.

Operating expenditure ("OPEX"): The costs of the day-to-day operation of an entity, such as staff costs, repairs and maintenance expenditure, and other overheads.

Over-the-top ("OTT"): The delivery of audio-visual content over the “open” Internet rather than over a managed IPTV architecture or through traditional satellite or antenna-based broadcast technologies.

PayTV: Subscription-based television services.

Predatory pricing: Pricing below a particular measure of cost which may incur short-term losses in order to eliminate, discipline or discourage one or more actual or potential efficient competitors.

Preliminary Consultation Document: The document published by the RA on 17 October 2017, titled the “Review of the electronic communications sector: Ensuring the delivery of benefits for Bermuda via regulation”. The document sets out the RA’s view, at that time, on which electronic communications markets in Bermuda may require ex ante regulation. The document also sets out the RA’s first consultation on the Sectoral Review.


Price purchasing parity ("PPP"): The rates of currency conversion that equalize the purchasing power of different currencies by eliminating the differences in price levels between countries. In
their simplest form, PPPs are simply price relatives that show the ratio of the prices in national currencies of the same good or service in different countries.

RA: The Regulatory Authority of Bermuda.

RAA: The Regulatory Authority Act 2011.

Reference access and interconnection offer (“RAIO”): An offer to provide Access and Interconnection services and facilities being offered, setting out the particular components according to market needs and all of the terms and conditions for Access and Interconnection to be satisfied by a sectoral provider wishing to enter into an Access and Interconnection agreement.

RFI: Request for information.

RIO: Reference interconnection offer.

Consultation Document: The document published by the RA on 15 February 2019, titled the “Review of the electronic communications sector: Ensuring the delivery of benefits for Bermuda via regulation”. The document sets out the RA’s view, at that time, on which electronic communications markets in Bermuda may require ex ante regulation.

Sectoral Review: In the context of this document, the 2018 comprehensive review of the Electronic Communications sector pursuant to section 17 of the RAA.

Significant market power (“SMP”): A position of economic strength in the relevant market or markets that affords an entity, either individually or jointly with others, the power to behave to an appreciable extent independently of competitors, customers and ultimately consumers, which may provide a basis for the imposition of ex ante remedies.

Small but Significant Non-transitory Increase in Price (“SSNIP”): A concept used in assessing relevant economic markets, based on identifying the smallest market within which a hypothetical monopolist or cartel could impose a profitable significant increase in price.

Substitutability: Where an increase in the price of one product would lead consumers to switch to other competing products or services (“demand-side substitutability”) or lead producers to switch rapidly into the supply of the good in question (“supply-side substitutability”).

Superfast broadband: Sometimes known as next generation broadband, superfast broadband delivers headline download speeds of at least 30 Mbps.³

Tariff: Refers to all relevant characteristics of a service. For example, a pre-pay mobile tariff comprises not only the monthly price, but also the included voice, text and data allowances. In

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³ Superfast broadband is the term used by Ofcom in the UK for broadband with download speeds of 30Mbit/s and above (see for example the definition in Ofcom’s latest ‘Connected Nations’ report). This definition is also consistent with the definition of ‘superfast broadband’ by the EU, with the European Digital Agenda adopting this as the name for broadband capable of speeds on 30Mbit/s or more, where there is a target for every European to have access to at least 30Mbit/s connectivity by 2020.
addition, the cost for incremental usage of services, the quality and speed of the service, and service/cancellation fees are all also components of the tariff.

**Throttling**: The intentional slowing of an Internet service.

**VAT**: Value-added tax.

**Virtual unbundled local access (“VULA”)**: A broadband access remedy that requires a network operator to provide access to its superfast broadband network. VULA provides a connection from the nearest “local” aggregation point to a customer’s premises.

**Weighted Average Cost of Capital (“WACC”)**: The rate that a company is expected to pay on average to all its security holders to finance the company’s assets.

**Wi-Fi**: Short-range wireless technologies that allow an over-the-air connection between a wireless device and a base station, or between two wireless devices. Wi-Fi has a range from the base station of approximately 30 meters indoors, and around 1 kilometre outside.

**Wireless broadband**: Also known as “fixed wireless”, wireless broadband that provides Internet connectivity via a wireless radio receiver rather than a physical wire connection. Similar to Internet access via a mobile device (e.g. 4G), wireless broadband technology can offer superfast broadband speeds, allowing it to compete directly with other modern broadband technologies such as coaxial cable and fibre.

**World on Wireless Ltd (“WoW”)**: A local company granted an ICOL offering subscription television services.
EXECUTIVE SUMMARY

1. The RA concluded the last review of the Bermuda Telecoms Market in 2013, in which a number of markets were found to not be effectively competitive. As a result, various ex ante remedies were adopted for application to operators found to possess Significant Market Power (SMP). The 2013 remedies included, among other things, tariff notification requirements, obligations in relation to bundling, wholesale access requirements and price controls.

2. Since 2013 the electronic communications sector has undergone a number of changes. Given the evolution of the sector since 2013, the RA has considered whether, for those markets that continue to be characterized by significant market power, any of the relevant 2013 remedies retain continued utility and vitality in Bermuda today. In addition to assessing whether the existing remedies are fit for purpose, the RA has considered the administrative cost of monitoring and enforcing these remedies as compared to any corresponding consumer benefits. Taking these factors into account as well as the evolution of regulatory approaches in benchmark jurisdictions, the Authority has focused on regulatory solutions going forward that it considers proportionate and necessary to prevent or deter anti-competitive effects in the relevant SMP markets.

3. Some of the regulatory innovations that are being adopted in this Final Decision – for example, regulatory oversight based on cost accounts that comply with prescribed accounting separation rules⁴ – will require approximately a year for the necessary cost and revenue data to be collected and reported by the SMP operators and then evaluated by the RA. During the transition to this new regulatory regime, the RA has determined that it must remain in a position to enforce a limited subset of the 2013 obligations applicable to fixed broadband markets, which raise particular regulatory concerns as discussed below. These carry-over obligations (the “Transitional Remedies”) will remain in effect until the RA is satisfied that the new regulatory obligations adopted in (or following from) this Final Decision are capable of being implemented effectively. The RA has carefully calibrated the Transitional Remedies so that they apply only to those relevant markets, and specific services within those markets, that are necessary to protect competition and consumers during the transition to the new regulatory regime that will be implemented pursuant to this Final Decision.

4. Based on the RA’s review of the relevant markets, it is notable that since completion of the 2013 market review, there has been a considerable increase in consolidation in Bermuda’s electronic communications sector. As a result, electronic communications markets are now more concentrated. This market consolidation has resulted in the emergence of two large groups of companies:

   i. BDB Ltd., Bermuda Digital Communications Ltd., Logic (formerly Bermuda Cablevision Limited), and Cable Co. Ltd. operating under the brand name One Communications, collectively “OneComm”; and

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⁴ These accounting separation rules are set out in the attached Final Instructions on Accounting Separation, which form part of this Final Decision.
ii. Telecommunications (Bermuda & West Indies) Limited ("Digicel"), Transact Limited, and Bermuda Telephone Company Ltd, collectively “Digicel Group”.

5. Together, OneComm and Digicel Group account for the vast majority of revenues in the electronic communications sector. Furthermore, looking across all electronic communications markets, the RA observed, based on the data provided by stakeholders, that over time the total share of revenues between OneComm and Digicel Group in the electronic communications sector have been closely aligned, and as of Q4 2017 were close to 50%.\(^5\) Both players have a significant role in the mobile and broadband markets. For instance, OneComm and Digicel Group together accounted for about 98% of all revenues in broadband markets, based on Q4 2017 data.\(^6\)

6. A key concern is that in the absence of alternative competitors, players that hold a position of SMP in a market (or where two companies jointly have SMP\(^7\)) would be in position to set high prices and achieve excessive profits, to the detriment of consumers in Bermuda. The RA is also concerned that absent ex ante obligations, potential competitors are unable to obtain wholesale inputs on terms that enable them to compete with the two incumbents.

7. Concerns of joint SMP are particularly relevant in the broadband and mobile markets, where (consistent with Section 23(3) of the ECA):

- OneComm and Digicel Group make up over 95% market share in these markets showing the relevant markets are highly concentrated;
- market shares are closely aligned and each operator has a relatively high and stable market share;
- barriers to entry are high due to the significant investment costs involved together with a high minimum efficient scale and an inability for operators to gain wholesale access to existing networks on terms that would allow them to be competitive at the retail level; and
- retail prices that have been closely aligned.

8. The market position of these operators has also lead to:

- high historical retail prices—benchmarking analysis suggests that Bermuda’s retail prices for broadband and mobile services has historically been higher than in

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\(^5\) Preliminary Report, paragraph 82.

\(^6\) Preliminary Report, paragraph 81.

\(^7\) Joint SMP does not require, or imply, that the sectoral providers are engaging in illegal collusion but refers to whether they constitute a collective entity relative to their competitors, trading partners and customers in a particular market.
comparable countries which can be informative in assessing whether or not there is evidence of previous anticompetitive behavior.\(^8\)

- excessive profits—previous profitability analysis conducted by the RA showed that the operators were making excessive profits (with ROCE significantly above any reasonable WACC estimate) for the years 2013-2015.\(^9\) Updated profitability analysis (2016-18 continue to show high ROCE in the mobile markets (e.g. BDC ~40-45%) and even at the company level (Digicel Group and OneComm Bermuda segment), ROCE is still reasonably high at around 18%-22%. This remains high relative to an estimated WACC of around 8.7%.

- difficulties experienced by rival operators, whether access-based or end-to-end networks, in gaining significant shares in the market\(^11\)

9. Notwithstanding the above, the RA does recognize that a number of developments in Bermuda’s electronic communications sector have occurred over the past few years, and that some of these developments have helped to improve consumer outcomes. For example, the roll-out of broadband network upgrades has led to faster internet connection speeds (allow customers to achieve broadband speeds up to, and in excess of, 100Mbps). Similarly, the launch of 4G mobile services has improved island-wide mobile connectivity with a minimum average data download rate of 15Mbps.\(^12\)

10. While international benchmarking analysis conducted by the RA in 2017 suggested that Bermuda had the most expensive broadband across 13 similar countries and that the average price for broadband was more than double that in countries such as Jersey, Maldives, the Isle of Man and Malta, investment in fibre networks has allowed consumers to receive higher quality services (e.g. higher broadband speeds) for similar prices.

11. For example, a OneComm customer paying $170 previously got an advertised download speed of 15 Mbps, but after the network upgrades, in 2018, customers could receive an

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\(^8\) The RA assessed broadband and mobile services offered by OneComm and Digicel Group in 2017 and observed that the prices were well above those observed in comparable countries. For example, international benchmarking analysis conducted by the RA in 2017 suggested that Bermuda had the most expensive broadband across 13 similar countries. Furthermore, the average price for broadband was more than double that in countries such as Jersey, Maldives, the Isle of Man and Malta. This result was similar for the mobile sector, in which Bermuda appeared to be one of the most expensive countries in the cohort of benchmarked comparators.

\(^9\) While the RA recognizes the limitations in the underlying data and the need to benchmark ROCE figures against an entity's own WACC, the RA considers that the significant divergence between the ROCE values for OneComm and Digicel Group and a benchmark rate computed across USA telecoms operators by a leading university is evidence that levels of profit by OneComm and Digicel Group could be excessive; and therefore, indicative of SMP.

\(^10\) However, the RA recognizes that these are historical ROCE figures, and that the figures correspond to a period before the investment program on the fixed and mobile telecoms infrastructure.

\(^11\) While we acknowledge that the broadband market has seen entry by Telecommunications Networks Limited doing business under the brand name “Bluewave”, which provides Wi-Fi-based high-speed Internet to residents and businesses on the island, there remain concerns regarding Bluewave’s ability to become a sustainable operator in the long run. This is indicated by Bluewave’s very low market share, at less than 1% as of the end of 2017, as set out in paragraph 326 of the Second Consultation. In addition, as the RA understands, Bluewave does not offer services over a large portion of the island; and therefore, it does not compete on an island-wide basis.

\(^12\) Final Decision on the Award of Spectrum Pursuant to the RA’s Request for Applications for the Assignment of Designated HDS-1 Frequencies in the 850 MHz, 700 MHz and 2100 MHz Bands, Annex 2, page 6
advertised download speed of 50 Mbps for the same price. In 2020, this same price gives the customer an advertised download speed of 100 Mbps.

12. The RA does not discount the possibility that network upgrades could be the result of a degree of contestability and recognizes that investment by operators is an important development in the market, which over time may result in competitive dynamics that deliver good outcomes for consumers without the need for regulation.

13. However, the RA has no conclusive evidence to suggest that Digicel Group and OneComm are now charging prices at acceptable levels relative to costs (and as noted above, updated profitability analysis suggests the operators are still making significant return). Furthermore, the RA also notes that investment on its own as a result of technological change does not guarantee that markets will tend towards effective competition.

14. The concern around joint SMP is not simply about individual instances of contestability but about the stability of a market structure that gives rise to the risk of tacit coordination—joint SMP does not require, or imply, that the two sectoral providers are engaging in illegal collusion, but refers to whether there is “tacit coordination” between them, relative to their competitors, trading partners and customers. In accordance with section 23(3) of the ECA, joint SMP may be found if: (i) the relevant market is concentrated; (ii) each provider has a high and stable share of the market; (iii) significant and enduring barriers to entry exist; and (iv) there are grounds for thinking that these factors, together with others, are likely to give rise to tacit coordination and thereby prevent, restrict or distort competition.

15. For example, the market developments in recent years regarding broadband and mobile network upgrades have been symmetric in that both OneComm and Digicel Group have upgraded fixed and mobile networks at similar times and to similar levels of network capability, enabling them to offer comparable services. As such, it is not clear that the recent technological changes have increased the level of contestability in the markets nor whether they have removed the incentives and ability of the two major operators to tacitly coordinate in the market.

16. Indeed, regarding the newer broadband tariffs, the RA analysed the tariffs advertised by OneComm and Digicel Group on their respective websites, as at January 2020. The data clearly indicates that prices remain closely aligned between OneComm and Digicel Group, as shown in the table below:

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15 The RA notes that the 4G mobile network roll out will have been determined, in part as a result of coverage obligations on licence conditions (not competitive pressure).

16 Preliminary Report, paragraph 84.
Table 1.1 OneComm and Digicel Group fibre broadband retail prices 2020

<table>
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<th>Download speed (Mbps)</th>
<th>OneComm FibreWire tariff</th>
<th>Digicel Group Fibre tariff</th>
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<tr>
<td>100</td>
<td>$170.00</td>
<td>$170.00</td>
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<td>200</td>
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<tr>
<td>300</td>
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17. With the network upgrades now largely complete, looking forward, the RA considers that market conditions are such that the scope for tacit coordination continues to exist. In other words, the recent network investments have resulted in a similar market structure to that which existed before the investments, i.e. two large operators which offer very comparable broadband services in terms of product characteristics and prices, and which account for the vast majority of revenues in the market. Therefore, the RA continues to hold the view that while market outcomes may have improved in the last few years, there is currently significant evidence indicating that a number of markets (including broadband and mobile) are not effectively competitive nor are they likely to be by the end of the market review period.

18. The RA has also identified Digicel Group as having SMP in the retail fixed voice, retail high-speed leased lines outside of the City of Hamilton and wholesale high-speed leased lines outside the City of Hamilton owing to its conclusions that Digicel is the dominant provider of these services.

19. Based on the above findings the RA is seeking to adopt a set of measures that are proportionate and targeted at striking the right balance between protecting competition, providing smaller licensees with a fair opportunity to compete, and providing SMP operators with commercial flexibility to experiment with pricing and earn fair returns.

1.1 Summary of key concerns/market failures

20. In the context of the above, the table below summarises the results of the SMP assessment and the main concerns in each of the markets where SMP has been identified:

Table 1.2 SMP findings and main concerns

<table>
<thead>
<tr>
<th>Service Type</th>
<th>Relevant markets</th>
<th>SMP finding</th>
<th>Market failure / concern</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broadband</td>
<td>Retail provision of fixed broadband</td>
<td>OneComm and Digicel Group joint SMP</td>
<td>Excessive retail pricing, predatory pricing and/or co-ordinated pricing</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Concerns about anti-competitive bundling</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Concern that consumers may be forced to purchase other services that they would otherwise not have</td>
</tr>
<tr>
<td>Service Type</td>
<td>Relevant markets</td>
<td>SMP finding</td>
<td>Market failure / concern</td>
</tr>
<tr>
<td>----------------------</td>
<td>----------------------------------------------------------------------------------</td>
<td>--------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Wholesale provision of fixed broadband</td>
<td>OneComm and Digicel Group joint SMP</td>
<td>wanted to buy from the same service provider (or at all)</td>
<td>Lack of incentives to provide wholesale access Competitors unable to obtain wholesale inputs on terms that enable them to compete with the two incumbents (e.g., margin squeeze)</td>
</tr>
<tr>
<td>Mobile</td>
<td>Retail mobile services</td>
<td>OneComm and Digicel Group joint SMP</td>
<td>Excessive retail pricing, predatory pricing and/or co-ordinated pricing Concern that consumers may be forced to purchase other services that they would otherwise not have wanted to buy from the same service provider (or at all)</td>
</tr>
<tr>
<td>Wholesale mobile access</td>
<td>OneComm and Digicel Group joint SMP</td>
<td>Lack of incentives to provide wholesale access Competitors unable to obtain wholesale inputs on terms that enable them to compete with the two incumbents</td>
<td></td>
</tr>
<tr>
<td>Fixed Voice</td>
<td>Retail fixed voice services (i.e. call origination)</td>
<td>Digicel Group single SMP</td>
<td>Excessive retail prices</td>
</tr>
<tr>
<td>Subscription television</td>
<td>Retail subscription TV services</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Business connectivity</td>
<td>Retail, low-speed leased lines in the city of Hamilton (25Mbps and below)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Retail, low-speed leased lines outside of the City of Hamilton (25Mbps and below)</td>
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<td>-</td>
</tr>
<tr>
<td></td>
<td>Wholesale low-speed leased lines in the city of</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Service Type</td>
<td>Relevant markets</td>
<td>SMP finding</td>
<td>Market failure / concern</td>
</tr>
<tr>
<td>--------------</td>
<td>---------------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>Hamilton (25Mbps and below)</td>
<td>Wholesale low-speed leased lines outside of the City of Hamilton (25Mbps and below)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Hamilton (25Mbps and below)</td>
<td>Retail high-speed leased lines in the City of Hamilton (above 25Mbps)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Hamilton (25Mbps and below)</td>
<td>Retail high-speed leased lines outside of the City of Hamilton (above 25Mbps)</td>
<td>Digicel Group single SMP</td>
<td>Excessive retail prices</td>
</tr>
<tr>
<td>Hamilton (25Mbps and below)</td>
<td>Wholesale high-speed leased lines in the city of Hamilton (above 25Mbps)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Hamilton (25Mbps and below)</td>
<td>Wholesale high-speed leased lines outside of the City of Hamilton (above 25Mbps)</td>
<td>Digicel Group single SMP</td>
<td>Lack of incentives to provide wholesale access to competitors unable to obtain wholesale inputs on terms that enable them to compete with the two incumbents (e.g., margin squeeze)</td>
</tr>
<tr>
<td>Off-island connectivity</td>
<td>The provision of off-island connectivity (i.e. international data transmission)</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

1.2 How the RA seeks to address these concerns (remedies)

21. The table below outlines how (by introducing or retaining certain regulatory remedies) the RA proposes to take steps to address the concerns identified above:

Table 1.3 Remedies to address the concerns

<table>
<thead>
<tr>
<th>Market failure/concern</th>
<th>Proposed Solution</th>
<th>Supporting remedies</th>
<th>How this will help?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excessive retail pricing Predatory pricing</td>
<td>Cost oriented prices</td>
<td>Accounting separation</td>
<td>Reduce the ability of SMP operators to set prices that can act to distort or restrict competition and exploit consumers. E.g., excessively high pricing and excessively low (“predatory”) pricing</td>
</tr>
<tr>
<td>Market failure/concern</td>
<td>Proposed Solution</td>
<td>Supporting remedies</td>
<td>How this will help?</td>
</tr>
<tr>
<td>------------------------</td>
<td>-------------------</td>
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<td>---------------------</td>
</tr>
<tr>
<td>Lack of incentives to provide wholesale access</td>
<td>Obligation to provide wholesale access on FRAND terms (including no margin squeeze)</td>
<td>Accounting separation Publish KPIs</td>
<td>Will allow and actual and potential competitors to enter the market on terms that should enable them to compete at the retail level</td>
</tr>
<tr>
<td>Coordinated pricing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Competitors unable to obtain wholesale inputs on terms that enable them to compete with the two incumbents</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concerns about anti-competitive bundling</td>
<td>Obligation to offer broadband on a stand-alone basis Obligation to offer mobile services on a stand-alone basis</td>
<td>Accounting separation</td>
<td>By imposing the obligation to offer broadband and mobile services on a stand-alone basis, the RA would be ensuring that customers have the full range of options when choosing their service provider or providers.</td>
</tr>
<tr>
<td>Concern that consumers may be forced to purchase other services that they would otherwise not have wanted to buy from the same service provider (or at all).</td>
<td></td>
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</tr>
</tbody>
</table>

1.3 The new remedies compared to the 2013 remedies

22. Where the RA identifies SMP, it is keen to ensure that any remedies proposed are effective, and strike an appropriate balance given the nature of the competition concerns, as well as the possible distortions that the intervention may create, for example to investment incentives.

23. Where the RA identifies SMP, it is keen to ensure that any remedies proposed are effective, and strike an appropriate balance given the nature of the competition concerns, as well as the possible distortions that the intervention may create, for example taking into account the impact on investment incentives.

24. In this regard, the package of remedies proposed by the RA in the current market review takes into account experience gained over the past several years and taking into account the administrative burdens on the RA, the efficacy of the past remedies in light of enforcement challenges and the impact on SMP operators, consumers and competition in the relevant markets. Compared with the remedies of 2013, the proposed remedies are aimed at moving away from a system of regulation that required pre-authorisation and pre-notification, as well as detailed pricing and bundling rules, towards a monitoring regime that places greater emphasis on transparency and financial reporting obligations.

25. The net effect is a regulatory regime that, notwithstanding some upfront costs to set up the reporting obligations, will be substantially less burdensome (for both the operators and the RA) and better tailored to the identified concerns in line with experience gained and market developments. The table below illustrates the difference between the 2013 and 2020 remedies and the changes proposed under the new regime.
### Table 1.4 – 2020 remedies compared with 2013 remedies

<table>
<thead>
<tr>
<th>2013 Remedies&lt;sup&gt;17&lt;/sup&gt;</th>
<th>2020 remedies</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Retail price caps</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For fixed narrowband access and local calls, retail supply of leased lines:</td>
<td>No retail price caps on each and every product.</td>
<td>The 2013 price control remedies do not have a direct relationship to the costs of providing electronic communications services. In contrast, the Cost Orientation obligation is intended to protect consumers by preventing SMP operators from setting prices that are substantially and persistently above the costs of provision, including costs of capital, that would result in profits that exceed what would be expected in a competitive market. Cost orientation can also protect against excessively low (“predatory”) pricing, where the concern is about the potential exclusion from the market of efficient competitors or new entrants.</td>
</tr>
<tr>
<td>• Retail prices shall be capped such that, in any given year, prices may increase by no more than the change in the prior year’s Consumer Price Index (“CPI”), plus 2%, absent an affirmative showing by BTC that prices are not recovering historical costs</td>
<td>A cost orientation obligation (assessed at the product group level) giving greater degree of flexibility while still protecting consumers from excessive pricing. Compliance will be assessed with reference to costing data produced by SMP operators in line with the Accounting Separation obligation.</td>
<td>Compared with prescriptive price controls, a much more flexible Cost Orientation remedy strikes the right balance between protecting consumers and providing SMP operators with commercial flexibility to experiment with pricing and earn fair returns.</td>
</tr>
<tr>
<td>For retail fixed broadband access and ISP:</td>
<td>There will be a time lag in the RA’s ability to regulate based on implementation of the Accounting Separation obligation, and during that period the data to assess cost orientation will not be in place. Therefore, the RA considers it appropriate to continue with a retail price cap for a subset of retail fixed broadband services for a transitional period (as described in more detail below).</td>
<td></td>
</tr>
<tr>
<td>• Price per Mb/s may not increase (unless an affirmative showing that prices are not recovering cost).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>For retail subscription television services:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Retail prices shall be capped such that, in any given year there shall be no adjustment for inflation, nor shall any additional adjustment factor be applied, absent an affirmative showing that prices are not compensatory.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annual price cap reporting requirements were also required.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Tariff filing notice requirements</strong></td>
<td>No need for tariff filing notice requirements, providing operators with full flexibility subject to the other obligations.</td>
<td>Requiring the operators to inform the RA of all tariff changes could act as a disincentive to change prices and to react quickly to any competitive pricing in the market.</td>
</tr>
<tr>
<td>For fixed narrowband access and local calls, retail fixed broadband, retail supply of leased lines, retail subscription television services.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>2013 Remedies</th>
<th>2020 remedies</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Exception during transitional period for a subset of retail fixed broadband services (as described in more detail below)</strong></td>
<td>Under the new remedies, operators should be free to alter their tariffs subject to complying with the general cost orientation principles, as well as the obligation not to engage in a margin squeeze.</td>
<td></td>
</tr>
<tr>
<td><strong>Wholesale access prices</strong>&lt;br&gt;For wholesale fixed narrowband access services, wholesale fixed broadband access services, low speed leased lines, wholesale market for transmission of subscription TV services, wholesale prices set at retail minus 15%.</td>
<td><strong>Obligation to provide access on FRAND terms (which includes the obligation not to cause a margin squeeze), with opportunity for access seekers to raise a dispute to the RA.</strong>&lt;br&gt;The RA expects that the margin between retail and wholesale prices should exceed 15% but does not seek to mandate a specific figure, preferring instead a case-by-case analysis based on the evidence presented by the parties</td>
<td><strong>The take-up of wholesale access products to date has been limited, with ICOLs citing a number of price and non-price reasons for this.</strong>&lt;br&gt;Setting clear guidance on the price and non-price terms that access products should be provided on, but allowing the flexibility to account for the specific costs and technical features on a case-by-case basis, should support an improved wholesale access market.</td>
</tr>
<tr>
<td><strong>Reference Access and Interconnection Offer (RAIO) must be made</strong>&lt;br&gt;For wholesale supply of fixed narrowband access, wholesale supply of fixed broadband access, wholesale access on local call origination on mobile networks, wholesale supply of leased lines, wholesale market for transmission of subscription TV service)</td>
<td><strong>No reference offer obligation</strong>&lt;br&gt;Obligation to provide access on FRAND terms and obligation not to cause a margin squeeze, with opportunity for access seekers to raise a dispute to the RA.</td>
<td><strong>Requiring that all SMP operators to provide wholesale access services and prepare a ‘reference offer’ to be notified to the RA (outlining the details of the service and the terms of access including service level guarantees other non-price and price terms) could lead to delays in the availability of wholesale access, which may then not be provided on the terms sought by access seekers.</strong>&lt;br&gt;The RA has now set clear guidelines on the price and non-price terms of access (based on FRAND) including what would be considered a ‘reasonable request’ for access and intends to intervene only in the case of a dispute.</td>
</tr>
<tr>
<td><strong>Ex ante price squeeze tests must be filed on any bundled retail offerings to demonstrate replicability</strong></td>
<td><strong>No pre-authorisation of bundles.</strong></td>
<td><strong>The RA is removing obligations that unreasonably restrict bundling and replace these with a simple anti-competitive bundling prohibition built around a</strong></td>
</tr>
</tbody>
</table>

---

21
<table>
<thead>
<tr>
<th>2013 Remedies(^{17})</th>
<th>2020 remedies</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>For wholesale fixed narrowband access services, wholesale fixed broadband access services, wholesale market for transmission of subscription TV services.</td>
<td></td>
<td>requirement to offer (certain) services on a stand-alone basis. There is also no need to demonstrate that individual bundled offers pass an ex ante price squeeze test. The risk of this practice will be monitored via the FRAND obligation described above.</td>
</tr>
</tbody>
</table>
26. The RA recognizes that there will be a period of time during which the SMP operators will be preparing separated accounts under the Accounting Separation remedy. Once submitted, these separated accounts will provide the underlying data and information required to ensure compliance with the cost orientation obligations. Therefore, during the transitional period from the publication of the GD through to the preparation of the separated accounts and their acceptance by the RA, the RA has decided that it is in the public interest to retain certain limited Transitional Remedies carried over from the 2013 obligations to ensure the continued protection of consumers and competition during this period. These Transitional Remedies are described in detail below in sections 10 of this document concerning fixed retail and wholesale broadband.

1.4 Next Steps

27. The RA considers it a priority to ensure that an effective accounting separation regime, as set out in the Final Instructions that form part of this Final Decision, is put into place as soon as practicably possible. This will require full cooperation from the SMP operators. The RA anticipates that even with such cooperation, it will take as long as a year for the accounts to be available in a form that the RA can rely on in order to assess the operators' compliance with the new cost orientation and FRAND obligations that are being adopted in this Final Decision.

28. Given the lead time needed to implement these new obligations, the RA considers it important for the SMP operators to commence their data gathering efforts to implement the baseline accounting separation requirement without delay in line with this Final Decision. The RA may take the steps identified below as follow-ups to this consultation:

i. Conduct a public consultation on the need to reinforce the Cost Orientation and FRAND obligations and to clarify the principle that consumers should be made no worse off by the actions of SMP operators, including consideration of whether the RA should specify an ‘anchor product’ requirement in the fixed broadband market and mobile markets at both the retail and wholesale levels;

ii. Conduct a public consultation on the standards, procedures and timetable for the decommissioning of SMP Operators’ existing copper access facilities pursuant to ECA Sections 5(1)(e) and 9(2)(c)(ix); and

iii. Seek feedback from industry and other stakeholders on whether the Merger Control Conditions that currently apply to the two SMP operators remain necessary and proportionate and should be rescinded.

18 We use the term “anchor product regulation” to describe the approach of regulating the price of a lower-bandwidth (or ‘anchor’) product, to provide a degree of constraint on higher-bandwidth products, which otherwise benefit from pricing flexibility subject to compliance with the overall cost orientation obligation.
2 INTRODUCTION

29. The purpose of this Final Report, Final Decision and Order (the “Final Report”) is for the Regulatory Authority of Bermuda (the “RA”) to: (i) present the RA’s assessment of the responses to the Initial Consultation Document (the “Initial Consultation Document”), the Consultation Document (the “Consultation Document”) and the Preliminary Report, Preliminary Decision and Order (the “Preliminary Report”); and (ii) issue its Final Decision and Order in the form of a the General Determination (“GD”).

30. This Final Decision and Order includes the detailed requirements set out in the accompanying Final Instructions on Accounting Separation, and Provision of Information and Key Performance Indicators. Each set of Instructions forms part of the respective SMP obligation to which it relates. The accompanying Guidance Notes on Cost Orientation and Wholesale Access: FRAND and Margin Squeeze are meant to explain the respective SMP obligations to which they relate. The RA may modify, clarify or expand the Guidelines from time to time based on experience gained in practice and feedback received from SMP operators and other interested parties.

31. The purpose of the Market Review is to analyse the state of competition in the various electronic communication markets to consider (i) whether any operators have SMP\(^\text{19}\) and if so, (ii) whether or not some form of ex ante remedy should be applied; and/or (iii) whether existing remedies should be modified or removed.

32. The RA last concluded a market review in 2013, when several markets were found to not be effectively competitive.

33. This Final Report follows the publication of (1) Review of the electronic communications sector: Ensuring the delivery of benefits for Bermuda via regulation (the “Initial Consultation”) issued by the RA on 17 October 2017; and (2) the Consultation Document issued by the RA on 15 February 2019 (collectively the “Consultation Documents”) and the Preliminary Report issued 23 August 2019 (the “Preliminary Report”). This Final Report discusses a number of key issues and proposals from the Consultation Documents and the Preliminary Report and sets out the RA’s conclusions and decisions following the completion of the Market Review.

34. This Final Report sets out the RA’s decisions, with respect to market definition, market power and remedies which are summarised as follows:

\(^{19}\) SMP is defined in section 2 of the Electronic Communications Act 2011 as “a position of economic strength in the relevant market or markets that affords an undertaking, either individually or jointly with others, the power to behave to an appreciable extent independently of competitors, customers and ultimately consumers, which may provide the basis for the imposition of ex ante remedies”.

24
<table>
<thead>
<tr>
<th>Service type</th>
<th>Market #</th>
<th>Market description</th>
<th>SMP operator</th>
<th>Remedies</th>
</tr>
</thead>
</table>
| Broadband    | 1        | Retail provision of fixed broadband | OneComm and Digicel Group | • Obligation to offer broadband on a stand-alone basis  
• Obligation to ensure Accounting Separation  
• Obligation to provide information to the RA  
• Obligation to ensure prices are Cost Oriented  
• Obligation to publish retail key performance indicators |
|              | 2        | Wholesale provision of fixed broadband | OneComm and Digicel Group | • Obligation to provide wholesale bitstream access and virtual unbundled local access  
• Obligation to ensure wholesale access is provided on fair, reasonable and non-discriminatory terms  
• Obligation to publish wholesale key performance indicators |
| Mobile       | 3        | Retail mobile services | OneComm and Digicel Group | • Obligation to offer mobile services on a stand-alone basis  
• Obligation to ensure Accounting Separation  
• Obligation to provide information to the RA  
• Obligation to ensure prices are Cost Oriented  
• Obligation to publish retail key performance indicators |
|              | 4        | Wholesale mobile access | OneComm andDigicel Group | • Obligation to provide wholesale access  
• Obligation to ensure wholesale access is provided on fair, reasonable and non-discriminatory terms  
• Obligation to publish wholesale key performance indicators |
<table>
<thead>
<tr>
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<th>Remedies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed voice</td>
<td>5</td>
<td><strong>Retail</strong> fixed voice services (i.e. call origination)</td>
<td>Digicel Group</td>
<td>• Obligation to offer fixed voice services on a stand-alone basis</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Obligation to ensure Accounting Separation</td>
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<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Obligation to ensure prices are Cost Oriented</td>
</tr>
<tr>
<td>Subscription</td>
<td>6</td>
<td><strong>Retail</strong> subscription TV services</td>
<td></td>
<td></td>
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<tr>
<td>television</td>
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<tr>
<td>Business</td>
<td>7</td>
<td><strong>Retail</strong> low-speed leased lines in the city of Hamilton (25Mbps and below)</td>
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<tr>
<td>connectivity</td>
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<td></td>
<td>8</td>
<td><strong>Retail</strong> low-speed leased lines outside of the City of Hamilton (25Mbps and below)</td>
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<td></td>
<td>9</td>
<td><strong>Wholesale</strong> low-speed leased lines in the city of Hamilton (25Mbps and below)</td>
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<td></td>
<td>10</td>
<td><strong>Wholesale</strong> low-speed leased lines outside of the City of Hamilton (25Mbps and below)</td>
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<tr>
<td></td>
<td>11</td>
<td><strong>Retail</strong> high-speed leased lines in the City of Hamilton (above 25Mbps)</td>
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</tr>
<tr>
<td></td>
<td>12</td>
<td><strong>Retail</strong> high-speed leased lines outside of the City of Hamilton (above 25Mbps)</td>
<td>Digicel Group</td>
<td>• Obligation to ensure Accounting Separation</td>
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<td>• Obligation to provide information to the RA</td>
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<td></td>
<td></td>
<td>• Obligation to ensure prices are Cost Oriented</td>
</tr>
<tr>
<td></td>
<td>13</td>
<td><strong>Wholesale</strong> high-speed leased lines in the city of Hamilton (above 25Mbps)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>14</td>
<td><strong>Wholesale</strong> high-speed leased lines outside of the City of Hamilton (above 25Mbps)</td>
<td>Digicel Group</td>
<td>• Obligation to provide wholesale access</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Obligation to ensure wholesale access is provided on fair, reasonable and non-discriminatory terms</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Obligation to publish wholesale key performance indicators</td>
</tr>
<tr>
<td>Off-island</td>
<td>15</td>
<td>International data transmission</td>
<td></td>
<td></td>
</tr>
<tr>
<td>connectivity</td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
For the avoidance of doubt, the RA acknowledges that there will be a period of time during which the SMP operators will be preparing separated accounts that will provide the underlying data and information required to ensure compliance with the cost orientation obligations. Therefore, during the transitionary period from the publication of the GD and the preparation on the separated accounts, the Authority will retain a limited subset of the existing remedies to ensure the continued protection of consumers during this period as described in the Executive Summary above and in section 10 of this document.
3 BACKGROUND

36. The RA initiated the consultation by publishing the Initial Consultation Document on 17 October 2017, which invited responses from members of the public, including electronic communications sectoral participants, sectoral providers, as well as other interested parties. Interested parties were invited to provide responses to the Initial Consultation Document by 28 November 2017.

37. The Initial Consultation Document asked the following questions:

**Question 1:** Do you agree that the 2013 SMP remedies and the RA’s regulation via the same have not led to expected benefits for consumers or optimal outcomes for competition?

**Question 2:** What are your views on the RA’s assessment of the market provided in section 5 of the Preliminary Consultation Document?

**Question 3:** Do you agree with the RA’s initial views on relevant markets and SMP, as set out in Section 6 of the Preliminary Consultation Document?

**Question 4:** Do you agree with the RA’s proposed remedy options and other regulatory proposals set out in Section 6 and 7 of the Preliminary Consultation Document?

**Question 5:** Do you agree that the RA should regulate against abuse of dominance and market power by SMP operators across a range of market sectors, by the potential use of both ex ante and ex post regulation?

**Question 6:** Do you believe that there is a need to make changes to the existing MVNO regime? If so, please specifically state what those changes should be.

**Question 7:** Do you think that the submarine cable relevant market should be susceptible to SMP obligations?

**Question 8:** Outside of the SMP *ex ante* remedies, what other regulations and administrative determinations applicable to the electronic communications sector should be made, modified or revoked? Please provide a detailed explanation for the same.

**Question 9:** Are there any areas and issues that you believe have been omitted from this review that should be addressed by the RA?

38. The Initial Consultation Document received five responses from the following:

i. Deltronics Limited;

ii. One Communications Limited;

iii. Digicel Ltd.;

iv. LinkBermuda Ltd.; and
v. The Department of Consumer Affairs.

39. These general comments tended to fall into one of five categories:

i. The nature of the proposed regulatory regime;

ii. The impact of any proposals on investment incentives;

iii. The findings from the RA’s initial profitability analysis;

iv. The scope for bundling in the new regulatory regime; and

v. The findings from the RA’s international benchmarking analysis

40. The RA published the Consultation Document on 15 February 2019, which invited responses from members of the public, including electronic communications sectoral participants, sectoral providers, as well as other interested parties.

41. The purpose of the Consultation Document was to consult with the public on the RA’s latest findings on the assessment of the relevant markets, with regard to whether there are operators in certain markets that hold a position of market power, such that it is necessary and appropriate for the RA to intervene and impose regulations in order to prevent or deter anti-competitive effects. It also sought public consultation on the RA’s proposed remedies in relation to market power.

42. The Consultation Document asked the following questions:

**Question 1:** Do you agree with the RA’s proposals for relevant markets (as set out in section 4 [of the Consultation Document])?

**Question 1.a:** Do you agree with the RA’s proposal not to define a wholesale fixed voice termination market?

**Question 1.b:** Do you agree that it is not appropriate to define any wholesale subscription television markets? If not, what should such market definitions look like, and, on that basis, would OneComm (or any other provider) likely hold SMP?

**Question 1.c:** To what extent do consumers see paid OTT services (such as Netflix, Hulu and Amazon Prime Video) as effective substitutes to more traditional retail PayTV services, such as those offered by OneComm, WoW and Digicel Group?

**Question 1.d:** Do you agree with the RA’s proposal to define “low-speed” business connectivity as below 20Mbps because of the competitive constraint of retail broadband services at speeds below this level? To what extent will high-speed broadband services act as a comparable/substitutable to leased lines? In other words, is a 200Mbps/20Mbps\(^{20}\) retail broadband service substitutable for a 20Mbps/20Mbps leased line service?

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\(^{20}\) In other words, 200Mbps download speed and 20Mbps upload speed.
Question 2: Do you agree with the RA’s proposals for market power assessment (as set out in section 5 [of the Consultation Document])?

Question 2.a: To what extent does Bluewave impose an effective competitive constraint on OneComm and Digicel Group in the retail and wholesale broadband markets? How does its presence and market impact affect the proposed joint SMP finding?

Question 2.b: To what extent do paid OTT services (such as Netflix, Hulu and Amazon Prime Video) and traditional PayTV providers (such as WoW and Digicel Group) impose a competitive constraint on OneComm?

Question 2.c: Do you agree with the RA’s approach to the determination of joint SMP (as opposed to single-provider SMP) in mobile and broadband markets?

Question 3: Do you agree with the RA’s proposals for remedies (as set out in section 6)?

Question 3.a: Do you agree with the RA’s proposal to require the SMP operators in the wholesale broadband market to provide wholesale access as set forth in paragraph 530 [of the Consultation Document]?

Question 3.b: Do you agree with the RA’s proposals for the publication of the various suggested KPIs by SMP operators in each of the following markets:

- wholesale broadband;
- retail broadband;
- wholesale mobile;
- retail mobile; and
- business connectivity.

Question 3.c: Do you agree with the RA’s proposed lists of information (for each of the wholesale broadband, retail mobile, fixed voice, subscription television and business connectivity markets) that SMP operators will be required to provide to the RA on a regular basis? Is there any other key information that has not been listed but which should form part of the ongoing information provision?

Question 3.d: In relation to retail broadband, what may be considered “significant” when assessing whether the actual/realized broadband speed is “significantly” different from the advised/headline speed? For example, is 20% an appropriate definition of significant?21 How should the RA impose such a condition? For example, how should unforeseeable network issues such as flooding or malfunction, as well as peak-hour network congestion, be taken into account?

Question 3.e: The RA is considering removing the obligation for SMP operators to publish a reference interconnection offer (“RIO”), in complement to the wholesale access

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21 For example, if a retail broadband tariff advertises broadband download speeds of 100Mbps, should an actual/realised broadband speed (for the customer) of less than 80Mbps be considered to constitute “significantly” different?
obligations (i.e. for broadband, mobile and business connectivity)? Should the RA remove the RIO obligation? Why or why not?\textsuperscript{22}

**Question 3.f:** Do you agree with the RA’s proposal to remove the current requirements for prior notification of retail prices and with the RA’s approach to Cost Orientation for retail mobile and broadband markets?

43. The response period commenced on 15 February 2019 and, following an extension, concluded on 29 April 2019.

44. Responses to the Consultation Documents were solicited from the public electronically through the RA’s website at https://rab.bm/submit-a-response-form/.

45. The RA received seven written responses to the Consultation Document within the prescribed consultation period from:

- i. The Bermuda Broadcasting Company Limited (the “BBC”);
- ii. Bermuda Chamber of Commerce;
- iii. The Department of Consumer Affairs;
- iv. Link;
- v. OneComm;
- vi. Alan Marshal; and
- vii. Michael Wicks.

46. These general comments tended to fall into one of four categories:

- i. the appropriate analytical framework for determining joint SMP;
- ii. the relevant factors for assessing joint SMP;
- iii. the approach to assessing joint SMP in wholesale markets; and
- iv. sector developments since 2013.

47. The RA published the Preliminary Report on 23 August 2019, which invited responses from members of the public, including electronic communications sectoral participants, sectoral providers, as well as other interested parties.

48. The Preliminary Report did not ask any questions, however, invited comment on the preliminary findings and conclusions. Comments were also welcome on the Proposed Guidance Notes and Proposed Instructions published alongside the Preliminary Report.

\textsuperscript{22} A RIO would set out the services that the operator is making available, along with the terms and conditions, such as price, lead-time, and the process for addressing any issues.
The response period commenced on 23 August 2019 and following an extension concluded on the extended deadline of 3 October 2019.

49. The RA received three responses to the Preliminary Report from:

   i. One Communications
   ii. Digicel Limited
   iii. World on Wireless
4 LEGISLATIVE CONTEXT

50. The RA has been established as a cross-sectoral, “...independent and accountable regulatory authority to protect the rights of consumers, encourage the deployment of innovative and affordable services, promote sustainable competition, foster investment, promote Bermudian ownership and employment and enhance Bermuda’s position in the global market…”, as set forth in the First Recital to the RAA.

51. The RA’s principal functions under section 12 of the RAA include ensuring that the regulation of the electronic communications sector is such as to:

(a) promote and preserve competition;

(b) promote the interests of the residents and consumers of Bermuda;

(c) promote the development of the Bermudian economy, Bermudian employment and Bermudian ownership;

(d) promote innovation; and

(e) fulfill any additional functions specified by sectoral legislation.

52. Pursuant to, and in accordance with, Part 4 of the ECA, particularly sections 20, 23 and 24 of the ECA, and section 70 of the RAA, the RA published the Initial Consultation (i.e. “Review of the Electronic Communications Sector Ensuring the Delivery of Benefits for Bermuda via Regulation”) on 17 October 2017, the Consultation Document (i.e. “Market Review of the Electronic Communications Sector”) on 15 February 2019 and the Preliminary Report (i.e. “Market Review of the Electronic Communications Sector”) on 23 August 2019.

53. As indicated in the Introduction, this is the RA’s Final Report which sets forth its conclusions and general determination following its assessment of responses to the Consultation Document and Preliminary Report.

54. More specifically, this Final Report sets out the conclusions and decisions regarding the key issues identified by the RA in deciding which obligations, if any, should be imposed in respect of each relevant market characterised by significant market power (SMP) in order to promote or preserve effective competition, in accordance with the requirements of Part 4 of the ECA.

55. Part 4 of the ECA contains the provisions which set out the process for imposing SMP obligations on an ex ante basis. Namely, ECA section 20(1) enables the RA:

“...to make administrative determinations on a communications provider in respect of its provision of electronic communications, or the provision of subscription audiovisual programming content in a relevant market or markets if, individually or together with others, the communications provider has significant market power in that market.”
56. Further, ECA section 20(2) requires the RA:

“…to conduct a review of a relevant market or markets… in accordance with section 23 [of the ECA]… and section 59(2) of the Regulatory RA Act 2011.”

57. RAA section 59(1) generally empowers the RA to impose ex ante remedies on a sectoral provider where that sectoral provider occupies a dominant position in any relevant market and uses that position so as to abuse it, and also when authorized to impose ex ante remedies by sectoral legislation. Section 59(2) states:

“In any case in which sectoral legislation directs the Authority to conduct a market review prior to imposing or maintaining ex ante remedies on a sectoral participant, the RA, in accordance with sectoral legislation, shall –

(a) identify those relevant markets in which ex ante remedies may be appropriate;

(b) conduct a market review of each relevant market identified to determine whether sectoral provider has significant market power; and

(c) determine whether imposition or maintenance of ex ante remedies on a sectoral provider with significant market power is necessary and, if so, impose or maintain proportionate remedies.”

58. ECA section 21 sets out the principles and objectives the RA must seek to satisfy when determining whether to impose remedies on one or more SMP providers in a market. These are:

“(a) develop or maintain effective and sustainable competition for the benefit of consumers with regard to price, innovation and choice;

“(b) promote investment in the electronic communications sector;

“(c) establish ex ante remedies that are effective but proportionate, taking into account the costs of compliance and the ultimate benefits to consumers;

“(d) establish ex ante remedies that apply on a technology-neutral and service neutral basis whenever feasible; and

“(e) rely on market forces and withdraw, reduce or limit ex ante remedies in circumstances where the RA concludes that markets are effectively competitive or likely to become so within a reasonable period of time, taking into account actual and expected market circumstances.”
59. Section 22(1) of the ECA requires the RA to issue a notice that identifies: “…any relevant product geographic market which in its view appears to be susceptible to the imposition of ex ante remedies, based upon a forward-looking assessment...”. Pursuant to section 22(2) of the ECA, the markets so identified:

“…may include retail markets and wholesale markets…identified on the basis of the Authority’s preliminary assessment that the markets meet all of the following criteria and any other criteria that the Authority deems to be pertinent –

(a) the relevant market is characterised by high and non-transitory barriers to entry;
(b) taking into account actual and expected market circumstances during the period under review, the relevant market either -
   (i) is not likely to be affected by technological changes or other developments that would render it effectively competitive, or
   (ii) is likely to cease to be effectively competitive; and
(c) the application of ex post competition rules alone would not be sufficient to promote or preserve effective competition in the relevant market.”

60. Section 23(1) of the ECA sets out procedures to be followed in a market review. ECA section 23(1) states:

“The Authority may publish advisory guidelines that identify or clarify the criteria for—
(a) defining relevant product markets based upon demand and supply-side characteristics; defining relevant geographic markets;
(b) assessing market power in such markets based on a forward-looking assessment;
(c) establishing effective ex ante remedies and obligations; and
(d) any other aspect of the market review process.”

61. Section 23(2) of the ECA provides guidance on the conduct of the market assessment pursuant to section 23(1) as follows:

“The Authority shall, in conducting a market assessment pursuant to subsections (1)(a), (b) or (c), consider all of the factors that it deems relevant under the circumstances, which may include the following-
(a) the overall size of the communications provider and its share of the relevant market;
(b) the volatility of shares in the relevant market;
(c) the communications provider’s control over infrastructure not easily duplicated;
(d) the communications provider’s technological advantages or superiority;

(e) the degree of countervailing buyer power;

(f) the communications provider’s ability to access capital and financial markets relative to that of its competitors;

(g) the existence of economies of scale or scope;

(h) the diversification of products or services (including bundles);

(i) the relative advantages of vertical integration enjoyed by the sectoral provider;

(j) the presence of de jure or de facto barriers to market entry or expansion; and

(k) evidence of previous anti-competitive behaviour.”

62. Section 23(3) of the ECA sets out the factors that the RA must consider when assessing whether two or more communications providers operating in the same relevant market jointly have significant market power in the following terms:

“In assessing whether two or more communications providers operating in the same relevant market jointly have significant market power, the Authority shall consider, among other relevant factors, whether -

(a) the relevant market is concentrated;

(b) each provider has a relatively high and stable share of the relevant market;

(c) significant and enduring barriers to entry exist; and

(d) there are reasonable grounds for concluding that these factors, in combination with any relevant factors set out in subsection (2), are evidence of a market structure that is likely to give rise to tacit coordination and thereby prevent, restrict or distort competition in the provision of products or services in the relevant market.”

63. Once the market assessments contemplated by sections 23(2) and 23(3) of the ECA have been made, section 23(4) of the ECA requires the RA to conduct a public consultation to review those markets identified (i.e. in accordance with ECA section 22) that in its view are susceptible to ex ante regulation, if any. ECA section 23(4) further requires the public consultation to include a review of any relevant product or geographic market identified as requiring ex ante regulation. The purposes of the public consultation are stated as follows:

(a) “evaluating whether these relevant markets are, or continue to be, correctly defined based on an economic assessment of supply and demand;

(b) analysing whether a communications provider, individually or with others, in fact possesses, or continues to hold, significant market power in one or more of these relevant markets based on the applicable facts and circumstances; and
(c) deciding which obligations, if any, should be imposed in respect of each relevant market characterised by significant market power in order to promote or preserve effective competition, in accordance with ECA section 24.”

64. Pursuant to ECA section 23(5), the RA is required to issue one or more general determinations (i) designating any communications provider that has significant market power in each relevant market reviewed pursuant to ECA section 23(4), either individually or jointly; and (ii) specifying any ex ante obligations that shall apply in accordance with section ECA section 24. The RA is also empowered, acting pursuant to ECA section 24(6), to carry out a further review of any relevant product or geographic market acting either up on its own initiative or, at its discretion, upon the request of an interested party.

65. Section 24(6) of the ECA requires the RA to conclude a further review of each relevant market within four years of its completion of the previous review where it has made a finding of significant market power. It also requires the RA to take requests from sectoral participants, the views of consumers and relevant market developments into account when determining when to initiate a further review of a relevant product or geographic market.

66. Pursuant to ECA section 23(7), a general determination made by the RA finding that a communications provider possesses significant market power in a relevant market shall be considered interim and shall not constitute final RA action for purposes of the RAA, until the RA makes a determination specifying the ex ante obligations, if any, that shall apply in respect of such relevant market in accordance with ECA section 24.

67. The RA’s General Determination (i.e. as to market definition and significant market power is set out in Appendix B to this Preliminary Report. ECA section 23(4)(c) next requires the RA to conduct a public consultation for the purposes of “…deciding which obligations, if any, should be imposed in respect of each relevant market characterised by significant market power in order to promote or preserve effective competition, in accordance with (ECA) section 24.”

68. Section 24(1) of the ECA empowers the RA to make an Administrative Determination imposing ex ante remedies where necessary to prevent or deter anticompetitive effects that are or are likely to be caused by the presence of SMP in a relevant market.

69. Section 24(5) authorizes the RA to modify any ex ante remedies that are currently imposed in regard to relevant markets that continue to be characterized by the lack of effective competition, following a public consultation, by issuing an administrative determination that modifies the relevant obligations or imposes such additional remedies as the RA deems necessary, taking into account the impact and efficacy of the existing obligations and the costs and benefits of any changes.

70. Section 24(6) provides that for purposes of assessing the costs and benefits of imposing, modifying or withdrawing an ex ante remedy and evaluating the relevant evidence, including cost data and factors relating to technical or commercial feasibility, the burden of proof for demonstrating that a remedy should not be imposed, or should be modified or withdrawn, shall rest with the communications provider that is designated as having significant market power in the relevant market.
5 SUMMARY AND DISCUSSION OF RESPONSES TO THE CONSULTATION DOCUMENT

71. In February 2019, the RA published the “Market review of the electronic communications sector: Consultation document”, which constituted the second formal consultation of the current electronic communications market review process. This document is referred to as “the Consultation Document”. The Preliminary Consultation was published in October 2017.

72. Following the publication of the Consultation Document, the RA received several responses from stakeholders. In total, the RA received submissions from seven different respondents in compliance with the consultation procedure, the names of which are listed below:

- Mr. Alan Marshal;
- BBC;
- the Bermuda Chamber of Commerce;
- The Department of Consumer Affairs (“Consumer Affairs”);
- Link;
- OneComm (with an attached report from economic consultancy NERA, “the NERA report”); and
- Mr. Michael Wicks.

73. The stakeholder comments received covered a wide range of issues including market definition, SMP and remedies.

74. The RA responded to these comments in Section 5 of the Preliminary report:

- Section 5.1 covered market definition and set out the stakeholder responses received regarding market definition proposals in the Consultation Document, as well as the RA’s opinion on the stakeholder comments.
- Section 5.2 covered SMP and sets out the stakeholder responses received regarding SMP proposals in the Consultation Document, as well as the RA’s opinion on the stakeholder comments.

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23 The Consultation Document can be found [here](#).
24 The Initial Consultation can be found [here](#).
25 Digicel Group and WoW had submitted responses past the deadline and therefore, were not included within summary of responses.
26 BDB Ltd., Bermuda Digital Communications Ltd., Logic (formerly Bermuda Cablevision Limited), and Cable Co. Ltd. operating under the brand name One Communications, collectively “OneComm”. 


• **Section 5.3** covered remedies and sets out the stakeholder responses received regarding remedy proposals in the Consultation Document, as well as the RA's opinion on the stakeholder comments.

• **Section 5.4** provided further clarity in response to some of the general concerns raised by respondents.

75. *Alongside the Preliminary Report, the RA also provided* Proposed Instructions and Proposed Guidance Notes on the main remedies, which provided further details of how SMP operators should comply with the remedies and how the RA would be minded to assess compliance.
6 SUMMARY AND DISCUSSION OF RESPONSES TO THE PRELIMINARY REPORT

76. In August 2019, the RA published the “Market review of the electronic communications sector: Preliminary Report, Preliminary Decision & Order document”, which constituted the third formal consultation of the current electronic communications market review process. This document is referred to as “the Preliminary Report”.

77. The period for response to the Preliminary Report commenced on 23 August 2019 and, following an extension, concluded on the extended deadline of 3 October 2019. The RA received several responses from stakeholders. In total, the RA received submissions from three different respondents in compliance with the consultation procedure, the names of which are listed below:

- OneComm;
- Digicel;
- World on Wireless Ltd (“WoW”)

78. The stakeholder comments received covered a wide range of issues including market definition, SMP and remedies.

79. This section provides an overview of the key themes from the responses to the Preliminary Report and the related decisions that the RA has made, taking into consideration the responses.

80. This section is structured as follows:

- **Section 6.1** covers market definition, and sets out the stakeholder responses received in regard to market definition proposals in the Preliminary Report, as well as the RA’s opinion on the stakeholder comments.

- **Section 6.2** covers SMP, and sets out the stakeholder responses received in regard to SMP proposals in the Preliminary Report, as well as the RA’s opinion on the stakeholder comments.

- **Section 6.3** covers remedies, and sets out the stakeholder responses received in regard to remedy proposals in the Preliminary Report and associated Proposed Guidance Notes and Proposed Instructions, as well as the RA’s opinion on the stakeholder comments.

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27 The Preliminary Report can be found [here](#).

28 BDB Ltd., Bermuda Digital Communications Ltd., Logic (formerly Bermuda Cablevision Limited), and Cable Co. Ltd. operating under the brand name One Communications, collectively “OneComm”.

29 The Bermuda Telephone Company Limited (“BTC”), Transact Limited (t.a Digicel) and Telecommunications (Bermuda & West Indies) Limited (t.a Digicel); together “Digicel”.
6.1 Market definition: stakeholder responses to the Preliminary Report and the RA’s opinion on the responses

81. This section focuses on market definition, and summarizes the stakeholder comments received in regard to market definition, before the RA sets out its opinion on the specific issues raised.

82. Following the RA’s market definition proposals in the Preliminary Report, only a small number of comments were made in the stakeholder responses with regards to market definition. Digicel provided comments related to the market definition for broadband, mobile, fixed voice and business connectivity and WOW provided a comment on the subscription TV market. No stakeholder comments were received regarding the market definition of off-island connectivity.

83. The RA comments on the responses below.

6.1.1 Broadband market definition

84. In its response to the Preliminary Report, Digicel commented on the broadband market definition. Its main concern was in relation to the distinction between services provided over the legacy copper network and the new fibre network and the implications of any remedies imposed in this market on its ability to decommission the copper network in the future. While Digicel raised this point in relation to the market definition, it acknowledged that even if the distinction between network technologies was not made in the market definition, it must be raised in the remedies.\(^\text{30}\)

*Response from the RA*

85. The RA acknowledges Digicel’s comments. However, when defining the broadband market in Bermuda, the RA has taken the position that the consumer is technology neutral and is only concerned with the service characteristics and quality of service and that these are indistinguishable between technologies (at present).\(^\text{31}\) The RA will proceed with establishing market definitions for broadband that are neutral to the technology used to deliver the services and therefore will continue to define the product market on the basis of the “provision of fixed broadband Internet connectivity, provided over any technology, and for any speed”.

86. Therefore, the market has been defined as a single market at any speed (and any technology) with a distinction between the retail and wholesale markets. However, the RA reserves its right to revisit the distinction between legacy and new networks in the next market review where, due to the development of fibre services and changes in consumer preferences or in the case where legacy services are retired or withdrawn from the market as legacy networks are decommissioned.

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\(^{30}\) Section 2.1 of Digicel’s response to the Preliminary Report.

\(^{31}\) As stated in paragraph 331 of the Preliminary Report, “The Authority’s view is that the factors that are important to consumers apply irrespective of the technology, and instead relate to service characteristics such as speed, data allowance, latency, and uptime, as well as other service quality elements such as customer service.”
While the RA does not intend to change its market definition in this Market Review, it does return to the discussion of the application of wholesale access remedies in this market in section 6.3.2 below.

6.1.2 Mobile market definition

One respondent commented on the mobile market definition in its response to the Preliminary Report. In assessing the RA’s definition of a retail mobile market, Digicel commented that the European Commission has never included a retail mobile market in its list of relevant markets and no regulator has even notified an SMP decision for such a market to the European Commission.\(^{32}\) While the point is not specifically made, Digicel appears to be implying, therefore, that there should not be a market defined for retail mobile services in Bermuda.

**Response from the RA**

While the RA acknowledges that there have not been any notifications to the European Commission for SMP decisions in a retail market for mobile electronic communications services in the EU, this should not be taken to say that there has never been a market defined for retail mobile services or that the conditions of competition in the provision of mobile services in Bermuda are similar to those in Europe.

The RA notes that a market for retail mobile electronic communications services has been defined as the relevant product market in a number of EU countries by the European Commission as part of its assessment of mergers between mobile operators in Europe. For example, in the case of Telefonica and Hutchison 3G in the UK, the Commission did define the relevant product market as the market for mobile electronic communications services (the retail market).\(^{33}\)

Without defining a market for retail mobile electronic communications services in Bermuda, the RA would not be able to assess the competitive conditions in this market in Bermuda and undertake an SMP assessment. To imply that such an approach is not necessary in Bermuda given the lack of any such assessment in the EU is not appropriate. To do so does not take into account the differences in competitive conditions between mobile markets in Europe and those in Bermuda, and the lack of any SMP finding for retail mobile services in Europe does not necessarily imply that such a finding would not be possible in Bermuda.

For example, in Bermuda, Digicel and OneComm are the only providers of retail mobile electronic communications services on the island, with no other MNOs or MVNOs present. In Europe there are typically at least three MNOs in most European countries (four in many cases), sometimes with MVNOs also operating in the retail market. Therefore, the conditions of competition in the retail market are likely to be different and the specifics of the retail mobile market in Bermuda must be considered as part of the market review.

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\(^{32}\) Section 2.2 of Digicel’s response to the Preliminary Report.

\(^{33}\) Paragraph 287 of European Commission (2016), ‘Commission Decision of 11.5.2016 declaring a concentration to be incompatible with the internal market (Case M.7612 - HUTCHISON 3G UK / TELEFONICA UK)’, 11 May.
In this regard, it is revealing that in Europe a number of four-to-three mergers have come under scrutiny by the European Commission in recent years. A proposed merger in Denmark (between TeliaSonera and Telenor) was abandoned due to opposition from European regulators, the proposed merger in the UK between Telefonica and Hutchison 3G was not cleared given concerns that there would be a significant lessening of competition leading to less choice and higher prices for consumers, and a merger in Italy was agreed only subject to the obligation to secure the entry of a new MNO. Of those that were cleared, including in Austria, Ireland and Germany (each of which required the merging companies to provide wholesale network capacity to MVNOs as part of the deal), a recent report from the Body of European Regulators for Electronic Communications (BEREC) provides some evidence to suggest that there have been increases in prices these markets following the mergers.34

In light of these concerns and the possible implications on consumer prices associated with markets with less than four mobile operators, it would not be justified or appropriate to not define and to not review the level of competition in the retail mobile market in Bermuda, where there are just two mobile operators.

The RA duly defined a market for retail mobile electronic communications services and identified it as being susceptible to ex ante regulation. As outlined in the 2017 Preliminary Identification of Markets Notice,35 it was concluded that the mobile market is characterised by high barriers to entry (both legal and economic), looking forward the costs of rolling out network are likely to remain significant and market trends indicate that the market is not rendering toward effective competition and that in the absence of any ex-ante remedies going forward, SMP operators would have the ability and incentive to engage in anti-competitive and anti-consumer practices, including charging excessively high or excessively low prices.

### 6.1.3 Fixed voice market definition

In response to the Preliminary Report, Digicel considered that the definition of the fixed voice market of “The island wide provision of retail voice services (i.e. voice call origination) from a fixed location” is too broad. It recommended that the market could be delineated further between residential versus non-residential (due to different product characteristics that make the services distinguishable and not mutual substitutes); and PSTN vs ISDN.36

Digicel also noted that the RA had not considered whether OTT voice services, such as Skype, are also part of the fixed voice market (in the same way that the RA considered whether OTT VOD services should be included in the Pay-TV market).

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36 Section 2.3 of Digicel response to the Preliminary Report.
Response from the RA

98. In the Preliminary Report, the RA defined the fixed voice market as “The island wider provision of retail fixed voice services (i.e. voice call origination from a fixed location).” However, it did not prescribe the specific technology used to deliver that service.

99. Fixed voice services at a general level comprise a connection or access (at a fixed location or address) to the public telephone network which enables end-users to use voice and related services. Traditionally this relates to “narrowband telephony”. Technically, narrowband services include services provided over the Public Switched Telecommunications Network (PSTN) (analogue) and integrated services for digital network (ISDN) telephone lines.\(^{37}\) Voice services can also be provided over broadband infrastructure using managed VOIP and, which may be via cable, fibre, fixed wireless connections or a Digital Subscriber Line.\(^{38}\)

100. In defining the fixed voice market, the RA has not delineated the market by technology and therefore includes PSTN, ISDN and managed VoIP services within this market.

101. In relation to the distinction between residential and business services, the RA accepts that, in principle, there may be some differences in characteristics offered for non-residential voice services (such as service level agreements and some advanced line services). Further, ISDN PRI might be more suited to large business sites, given that ISDN30 can support up to 30 channels that can be used to provide multiple telephone lines to private brand exchanges (PBXs).

102. However, market definition is merely a means to an end, in this case the objective being to establish whether or not firms have significant market power. As shown in the Consultation Document, based on information provided by operators in response to the RFIs issued by the RA, Digicel Group accounts for the vast majority of fixed voice service revenue in Bermuda and showed that over the period considered, fixed voice revenues were around 4-5 times those of the next largest provider (Link).\(^{39}\) The RA also showed that Digicel had a market share by revenues of around 88% with Link making up the majority of the remainder of the market (OneComm had a negligible share).

103. The information provided by operators in response to the RFIs issued by the RA did not distinguish between fixed voice calls and revenues by customer type (i.e. business or residential customers). However, the RA understands that Digicel (group) does provide a number of non-residential voice access lines accounting for up to [CONFIDENTIAL] of its total voice access lines. It also understands that Link provides both residential and non-residential (business) fixed voice services.

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\(^{37}\) ISDN can be Basic Rate Interface (ISDN2 BRI) or Primary Rate Interface (ISDN 10/20/30 PRI). PRI can support up to 30 channels or simultaneous calls.

\(^{38}\) Managed VOIP services refer to cases where it is the Internet Service Provider (ISP) that provides a customer’s broadband service also provides a voice service over the broadband connection. The ISP controls the provision and quality of this voice service. This is in contrast to services such as Skype, which are ‘unmanaged’.

\(^{39}\) Section 5.4.3 of the Consultation Document.
104. In this regard, the RA has reviewed the RFI data on customer revenues for fixed voice services and based on the available information has sought to estimate a plausible range of market shares in the business market if business services were separately defined. In doing so, the RA has considered different assumptions on the split of revenues between business and residential services for each operator. In the most conservative case, the RA considers that Digicel would have a significant market share (>70%) in the retail business fixed voice market such that the SMP finding would apply also to that market.\(^{40}\)

105. The RA notes that Digicel’s response to the Preliminary Report has not presented new evidence to suggest that the conditions of competition different between business and residential voice markets. Therefore, based on the overall market share figures, the RA considers that the conditions of competition are unlikely to be materially different in the provision of residential and business services, such that the finding of SMP would be different in these two markets if defined separately.

106. In relation to the consideration of over the top services (OTT), the RA has chosen not to include OTT services within its market definition of fixed voice services. While many countries, including Bermuda, have seen the emergence of OTT suppliers, such as Skype, provided access to web-based VOIP services, the RA does not consider these services to be effective substitutes for fixed voice service.

107. Such services are considered as ‘unmanaged’ services. The ISP that provides the broadband connection does not provide the VoIP service, and there is no guarantee the broadband provider will prioritise this VoIP traffic, so quality of service is likely to be more variable than a managed service. The VoIP service provided is accessed via the public Internet. In these cases, the supplier has very limited control over the quality of the service experienced by the end user. In addition, the end user would also need access to a non-telephone access device (e.g., a computer in order to use these services). For these reasons of differences in service functionality between OTT and fixed voice services, the RA does not consider OTT services are effective substitutes for fixed access and calling services at this time. Therefore, the RA excludes them from the market definition.

6.1.4 Business connectivity market definition

108. In its response to the Preliminary Report, Digicel expressed its disagreement with the market boundaries for business connectivity services both in terms of speed and in terms of geography.

109. Digicel agreed that distinguishing between lower speed connections and higher speed connections in the business connectivity market definition was appropriate due to demand side substitution with broadband services which can impose a competitive pricing constraint on low-speed business connectivity markets. However, given that it offers a

\(^{40}\) This scenario assumed that all of Link’s fixed voice revenues were from the business segment (likely to be an overestimate given that Link also operates in the residential market) and that Digicel’s share of total revenues that come from business lines are proportional to its share of non-residential voice access lines in its total voice access lines (i.e. [CONFIDENTIAL]) (likely to be an underestimate given that business services may be higher value than residential), this would still leave Digicel with a significant market share in the business segment.
Broadband product with an upload speed of 25 Mbps, Digicel argued that this speed (not the 20 Mbps) should be the boundary between low-speed and high-speed.  

110. Digicel also commented that there are now two island-wide fibre infrastructures “capable of serving almost any point on the island” and that, therefore, “there is no clear geographic boundary between the supply conditions for business connectivity services via fibre.” It commented that there is insufficient evidence to justify the definition of geographic sub-markets for business connectivity services.  

Response from the RA  

111. In relation to the speed at which there should be a distinction between low-speed and high-speed leased lines, the RA has previously recognized that broadband services may be more than sufficient for many small businesses and thus for low-speed leased lines, customers may switch down to standard broadband products. For those businesses where connectivity requirements cannot be met by standard broadband services there is likely to be a distinct market (for high-speed leased lines).  

112. The RA also notes that upload speeds are likely to be more important for business users than they are for residential users. As business connectivity tends to be symmetric (upload and download speeds tend to be the same), business customers will have the option to substitute lower-speed business connectivity services with residential broadband, provided the upload speed meets its requirements. The RA previously considered that broadband services offered upload speeds of up to 20 Mbps and was therefore minded to draw a distinction between leased lines services under 20 Mbps and above this threshold given that broadband services can offer the equivalent of a 20 Mbps symmetric service.  

113. In the Preliminary Report the RA did note that: “In the event that further network investments are implemented that offer higher upload speeds, and afford sector providers the ability to provide broadband services that replicate business connectivity services, the RA is open to revisiting this market definition.”  

114. The RA recognize Digicel’s comments that it offers a broadband product with an upload speeds of 25 Mbps in the market (as noted in its response to the Preliminary Report). We note that the RA previously considered this is assessing the break between high and low-speed business connectivity services and dismissed it on the basis that Digicel Group was the only provider of that services at the time. The RA has since reviewed existing market offerings as at January 2020 and notes that OneComm and Digicel fibre broadband  

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41 Section 2.6 of Digicel’s response to the Preliminary Report.  
42 Page 16 of Digicel’s response to the Preliminary Report.  
43 Page 17 of Digicel’s response to the Preliminary Report.  
44 Paragraphs 240-244 of the Consultation Document and paragraphs 371-374 of the Preliminary Report.  
45 Section 6.6.2 of the Preliminary Report  
46 Footnote 51 of the Preliminary Report.  
47 Paragraph 242 of the Consultation Document.
services currently offer upload speed ranging from 5 to 40 Mbps. However, the RA notes that relative to business connectivity services—which are likely to have service level guarantees—the advertised speeds for residential broadband services might not always be achieved reliably and consistently. When considering substitutability, this reliable and consistent nature will be an important consideration and the RA must take this into account when considering at what point broadband services can be seen as a viable substitute to low-speed business connectivity services and therefore—in accordance with the reasoning previously set out by the RA—provide a competitive constraint on the pricing of low-speed business connectivity lines.

115. On this basis, the RA considers that, at this time, does not propose to change the split between low and high-speed business connectivity to reflect the highest upload speed available on the market. However, it does seem appropriate to update the bandwidth break to 25 Mbps. If further improvements are made to broadband services such that the available, guaranteed upload speeds are consistently higher than this level, together with further evidence of business customers requirements and preferences, the RA is open to revising this market definition in future market reviews.

116. On the geographic aspect, the RA notes that since mid-2017 it gathered information from operators to inform the RA’s assessment of the relevant business connectivity markets. Specifically, the RA issued formal RFIs to providers of electronic communications services, including OneComm, Digicel Group and Link. The requests sent to these operators asked for detailed network information to enable the RA to conduct a comprehensive assessment of the relevant leased line markets. While some operators were able to provide high-level data on their business connectivity networks, specifically regarding the location of endpoints and flexibility points, none were able to provide details.

117. As such, the RA does not currently have sufficiently detailed data with which to conduct a comprehensive assessment of the relevant markets, particularly in relation to the relevant geographic markets. As a result of its initial analysis, the RA concluded that it did not have sufficient information to determine whether it is appropriate to depart from the prevailing geographic market distinctions.

118. As noted in the Consultation Document, based on information provided by operators in response to the RFI, the RA notes that Digicel has approximately 60% share of business connectivity by revenues across the period considered, OneComm had approximately a 27% share with Link making up the remainder of the market. These figures do not differentiate by speed of geographic location, but show that Digicel has significantly large shares across all of Bermuda. Therefore, the RA considers that defining the market as one national market would not result in a different assessment of competitive conditions as Digicel would still be considered to have a very strong position in the market.

119. While Digicel, in its response to the Preliminary Report, noted that island wide fiber networks of Digicel and OneComm have emerged since the last review, commenting that “This means that there are two island wide fibre infrastructures capable of serving almost

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49 Section 5.6.3 of the Consultation Document.
any point on the island..." the RA notes that these networks are mainly for residential broadband. Furthermore, no evidence has been provided by any parties to show that other than OneComm there has been entry and expansion of networks outside of the City of Hamilton and that these networks would be capable of providing high-speed business connectivity services. In the absence of any concrete and compelling evidence that the conditions of competition inside and outside of the City of Hamilton are equivalent, the RA sees no reason to depart from the geographic market definitions proposed in the Preliminary Report.

6.1.5 Subscription TV market definition

120. The RA received two responses to the Preliminary Report in relation to the definition of the subscription TV market in Bermuda.

121. Digicel agreed with the RA’s position to include paid OTT services in the retail market for subscription television services.

122. WOW commented that the RA’s proposals “fall short” by not providing “plans to monitor the Subscription television market and eradicate it from unlicensed service providers offering pirated/illegal content”. It argued that without such plans “this market will continue to erode to the point of being non-existent”. WOW also re-submitted its response to the Consultation Document which discusses how “unlicensed content delivered via android boxed and firesticks” can be seen as an “effective alternative” to PayTV by consumers “even though it is using an unfair playing field to obtain its competitive advantage”.

Response from the RA

123. In defining the market for subscription TV the RA has included retail paid OTT services within the market following the results of the customer survey that indicated the levels of claimed switching to OTT services appear to be high enough to suggest that the relevant retail market is wider than just traditional PayTV.

124. The RA recognizes that its competitive assessment focused on paid OTT services in general and did not explicitly distinguish licensed from unlicensed content. However, even if the RA had excluded unlicensed paid OTT services from consideration in the competitive assessment, it would not alter the RA’s conclusion that no operator possesses SMP in this market at this time.

125. The RA also acknowledges the points raised by WOW concerning the activities of offshore service providers that are allegedly offering pirated content to Bermuda residents. The RA would welcome proposals from WOW on regulatory approaches that are within the RA’s competency and jurisdiction, and that are enforceable in practice, to curtail such practices. The RA will consider initiating an investigation pursuant to RAA Section 89 to determine whether these providers are operating in violation of RAA Section 88, ECA Section 12 and 50 Section 2.5 of Digicel’s response to the Preliminary Report.

50 Section 2.5 of Digicel’s response to the Preliminary Report.

51 WOW response to the Preliminary Report.
other relevant provisions. The resolution of this problem is, however, outside the scope of this market review proceeding.

6.2 SMP: stakeholder responses to the Consultation Document and the RA’s opinion on the responses

126. This section provides summaries of the stakeholder comments received regarding SMP, before the RA sets out its opinion on the specific issues raised.

127. The RA highlights that almost all comments received in relation to SMP were regarding broadband and mobile markets, with very few comments received in respect of proposals on the other defined markets.

128. Stakeholder responses on SMP broadly fell into one of two categories:
   i. general issues that cover the RA’s approach to SMP, which are relevant across a number of relevant markets; and
   ii. market-specific issues, i.e. SMP comments relevant to a specific market, such as broadband or mobile.

129. Each of these is covered in turn below, with section 6.2.1 covering general issues, and section 6.2.2 covering market-specific issues.

6.2.1 General SMP comments received from stakeholders and the RA’s response to them

130. The main concern raised by both Digicel and OneComm on the SMP conclusions was about the RA’s conclusions that both parties had been making excessive profits, with particular emphasis on the conclusions in both the mobile and broadband markets.

131. The parties raised concerned that the data on which the calculations and conclusion were based were outdated (considering only the years 2013, 2014 and 2015) and that there had been no explicit examination of profitability from 2016 onwards.

132. While the ROCE figures discussed by the RA in the Preliminary Report (c. 45% for OneComm and c. 70% for Digicel Group during the 2013–15 period) were high,\(^\text{52}\) OneComm and Digicel each raised concerns around how profitability has changed in more recent years.

133. Digicel commented in Section 3.1 of its response that:

   - There has been a downward trend in its ROCE in recent years (from 2016 onwards) due to (i) increased assets from the BTC acquisition; (ii) greatly increased capital employed in Digicel’s fibre deployments; (iii) increased government taxes including the regulatory fees; and (iv) higher staff costs.\(^\text{53}\) It considers that recent data shows low or even

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\(^{52}\) Preliminary Report dated 23 August 2019, para. 92.

\(^{53}\) Digicel’s response to the Preliminary Report dated 3 October 2019, p. 18.
negative ROCE and comments that the RA’s conclusions based on outdated data lead to the wrong conclusions on the market profitability;\textsuperscript{54}

- It is unreasonable to compare the WACC calculated by the RA with Digicel’s ROCE as the WACC calculated by the RA are based on US companies which ‘inherently’ have lower WACCs than the Bermudian companies.\textsuperscript{55}

134. OneComm raised several comments in Annex 1 of its response including:

- ROCE is not the only and the most appropriate measure for evaluating its profitability. This is because ‘[a]s assets depreciate, ROCE will increase even though cash flow may have remained the same. Thus, all other things equal, businesses with older depreciated assets will tend to have higher ROCE than businesses who have newly invested’;\textsuperscript{56}

- Instead of ROCE, ‘[EBITDA] margin is a more common measure of profitability that is extensively used by investors and telecom regulators,’\textsuperscript{57} and OneComm’s EBITDA margin based on its group financial data is within the range of EBITDA margins of a set of wireless carriers across the world as informed by a research conducted by Bank of America Merrill Lynch;\textsuperscript{58}

- The RA did not calculate ROCE for the whole 2013 to 2018 period. OneComm presented its calculations of ROCE for Logic and BDC for the 2016–18 period, arguing that the declining trend of ROCEs during the 2016–18 period ‘tell a story that is not supportive of the RA’s finding of SMP in mobile or internet [(i.e. broadband) markets]’.\textsuperscript{59}

**Response from the RA**

135. Contrary to the comments made by OneComm, ROCE is a well-established profitability measure in the context of assessing market competition. Market regulators in different countries compare market participants’ ROCE with the investors’ risk-adjusted cost of capital, i.e. WACC, to assess whether or not the market participants are making excessive returns.\textsuperscript{60} As explained in the Preliminary Report, “[i]f the ROCE is significantly and persistently above the WACC, then this can be a strong indication that the entity is making returns above that which would be expected in a competitive market”.\textsuperscript{61} Moreover, ROCE

\textsuperscript{54} Digicel’s response to the Preliminary Report dated 3 October 2019, p. 19.

\textsuperscript{55} Digicel’s response to the Preliminary Report dated 3 October 2019, p. 19.

\textsuperscript{56} OneComm’s response to the Preliminary Report dated 3 October 2019, p. 9.

\textsuperscript{57} OneComm’s response to the Preliminary Report dated 3 October 2019, p. 9.

\textsuperscript{58} OneComm’s response to the Preliminary Report dated 3 October 2019, pp. 10–11.

\textsuperscript{59} OneComm’s response to the Preliminary Report dated 3 October 2019, p. 12.


\textsuperscript{61} Preliminary Report dated 23 August 2019, para. 91.
has been a key measure of profitability reported in the regulated accounts of telecom companies, in recognition of the fact that it is a well-understood and accepted metric to measure the company’s return. It is, however, worth noting that the profitability analysis (including comparing ROCE with WACC) should not be viewed in isolation, but in the context of an overall assessment of the competitive conditions of the market, which is the approach applied by the RA in the current market review.

136. Regarding OneComm’s comment that ROCE is based on the depreciated book value of assets and fluctuates with the company’s investment cycle, it is worth noting that, in the context of profitability analysis, certain adjustments are normally made to the accounting ROCE, including adjusting the book value of assets to their modern equivalent asset (‘MEA’) value. However, due to the limited data that were available to the RA at the time of preparing the Preliminary Report, the RA was unable to carry out the detailed adjustment analysis. Nonetheless, the RA acknowledges that ROCE could, in certain cases, fluctuate with the investment cycle of the company. It is hence more robust to include a longer and more recent time period in the analysis to assess the persistence of the trend.

137. In respect of the appropriateness of using EBITDA margin in the current profitability analysis, the RA considers that, despite the fact that EBITDA margin is a common measure used by investors it suffers from certain drawbacks in the context of the market review. First, unlike ROCE which can be benchmarked against an indicator estimated from market data, i.e. WACC, it is hard to estimate a ‘competitive level’ of EBITDA margin to assess whether the company’s EBITDA margin is excessive. Second, whereas the horizontal comparison of EBITDA margins across different market participants might be useful for assessing a company’s profitability against its peers, it does not indicate whether such company’s profitability is excessive, i.e. above the normal level in a competitive market.

138. The RA recognizes that the findings of the profitability analysis in the Preliminary Report were based on OneComm and Digicel’s ROCEs for the 2013–15 period, which constitute broad estimates based on data available to the RA at the time. It is worth noting that the data provided by OneComm and Digicel suffers from certain limitations, which prevent the RA from conducting more detailed analysis on their ROCEs. These issues include:

- First, OneComm and Digicel do not report audited financial statements for each business segment. As a result, the RA was unable to accurately estimate the profitability by business segment or product type;
- Second, the financial data provided by OneComm and Digicel did not include sufficient details for the RA to make further adjustments to the calculated ROCEs;

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62 ROCE has been used by various sectoral regulators to set price caps for natural monopoly companies that allow companies to earn a normal return on their assets. For example, the UK regulators in the water, electricity, gas, airports and rail sectors rely on the ROCE to set the price caps for the regulated companies.

63 Asset valuation in the context of the preparation of separated accounts is discussed in further detail in the Accounting Separation Final Instructions included as Schedule 1 to Annex 1 to the General Determination.
• Lastly, the unaudited segmental financial data provided by OneComm and Digicel include a substantial amount of intercompany balances, which could potentially distort the calculated ROCE.

139. These are all issues which the Accounting Separation remedy will address, as explained in the accompanying Accounting Separation Instructions.

140. Notwithstanding these data issues, based on the responses to the Preliminary Report, the RA has updated its analysis to include the profitability analysis for the 2016–18 period, subject to the data availability. For the avoidance of doubt, the RA calculates the ROCE as:

\[ \text{ROCE} = \frac{\text{EBIT}}{\text{Capital employed}} = \frac{\text{EBIT}}{\text{(Total assets} - \text{Current liabilities)}}. \]

141. In particular, based on data from the annual reports of OneComm, BDC and Digicel holding company and the ICOL submissions of BDC and Digicel (BTC), the RA has updated the ROCE estimates for the following entities or business segments of OneComm and Digicel:

- One Communications Ltd (‘OneComm group’), which entail all business lines and segments of OneComm, including its businesses outside Bermuda;
- OneComm Bermuda segment, which entail all business lines of OneComm in Bermuda;
- Bermuda Digital Communications Ltd (‘BDC’), which is a wireless telecommunication services provider in Bermuda (and is a subset of the OneComm Bermuda segment);
- Wireless Holdings (Bermuda) Ltd (‘Digicel holding company’), which is the holding company of different entities within Digicel group and entail all business lines and segments of Digicel in Bermuda;
- Bermuda Telephone Company Limited (‘BTC’), which was acquired by Digicel in 2015 and provides a wide range of wireline voice and data services, data center services and customer premise equipment rentals.

142. The RA also estimates the ROCE for Digicel excluding BTC by deducting BTC’s income and capital employed from those of the Digicel holding company. This exercise, despite being a broad estimation, enables the RA to assess the profitability of Digicel had it not acquired BTC in 2015.

143. For profitability analysis in the context of the market review, certain adjustments are normally made to the accounting ROCE to arrive at a more economically meaningful measure of profitability. Based on the data availability, the RA has also sought to make certain adjustments on the accounting ROCE shown in the table above. These adjustments include:

- Excluding goodwill from the capital employed: goodwill may not be an appropriate asset to consider for profitability analysis. In valuing the assets of the company under review,
any goodwill on its balance sheets should normally be excluded unless it can be attributed to specific assets and associated with specific costs incurred.64

- Excluding intercompany balances from the capital employed: intercompany balances arise where the company assessed is part of a business group (which is the case for BDC and BTC). In general, the non-trading intercompany balances should be excluded from capital employed, as they are not part of the assets employed by the company for generating operating income but instead reflect other intercompany activities, such as group-wide funding activities.65

144. The RA considers its estimates of ROCE adjusted for goodwill to be the most economically meaningful return estimates based on the available data. The reason the RA considers the additional adjustment for intercompany balances to be a sensitivity to its central estimates is that the available data are not detailed enough for the RA to determine whether the intercompany balances shown in the companies’ financial data are trading balances or non-trading balances.

145. The updated ROCE results are shown in the table below, with Table 6.1 showing the figures before goodwill adjustments and Table 6.2 including goodwill adjustments:

<table>
<thead>
<tr>
<th>Table 6.1 Updated ROCE of OneComm and Digicel</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>OneComm</td>
</tr>
<tr>
<td>OneComm group</td>
</tr>
<tr>
<td>OneComm group</td>
</tr>
<tr>
<td>OneComm Bermuda segment</td>
</tr>
<tr>
<td>BDC</td>
</tr>
<tr>
<td>Digicel</td>
</tr>
<tr>
<td>Digicel Group</td>
</tr>
<tr>
<td>BTC</td>
</tr>
<tr>
<td>Digicel excluding BTC</td>
</tr>
</tbody>
</table>

Notes: n.a. = not available due to data availability issues

1 ROCE figures for OneComm group refer to calendar years from 2016 to 2018, and refer to the financial year running from April 1 to March 31 for years 2013 to 2015. All ROCE figures for the Bermuda segment and BDC refer to calendar years. 2 As OneComm does not disclose the current liabilities of its Bermuda segment, the RA allocated the group current liabilities to the Bermuda

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64 For example, in the UK local buses services market investigation, when conducting the profitability analysis on investigated companies, the Competition and Market RA (‘CMA’) argued that the goodwill did not represent a separately identifiable intangible asset that could be isolated from the business as a whole. Similarly, in the UK energy market investigation, the CMA arrived at the same conclusion when assessing the profitability of energy retailers. See Competition Commission (2011), ‘Local buses services market investigation’, 20 December, p. 10-6, para. 10.29; Competition and Markets RA (2016), ‘Energy market investigation. Final report. Appendix 9.10: Analysis of retail supply profitability – ROCE’, 24 June, p. A9.10-21, para. 60.

65 For example, in the UK local buses services market investigation, when conducting the profitability analysis on investigated companies, the CMA excluded the non-trading intercompany balances from the capital employed. See Competition Commission (2011), ‘Local buses services market investigation. Appendix 10.1. Bus industry profitability’, 20 December, p. A10(1)-5, para. 28.
segment proportionately to the operating expenses of the group and the Bermuda segment. \(^3\) All ROCE figures for Digicel refer to financial years running from April 1 to March 31. \(^4\) Digicel only disclosed partial financial data for BTC (income statement and balance sheet for Q4 2016 and Q1 2017). The RA hence extrapolated the 2016–17 annual financial data based on available quarterly data.

Source: Annual reports of OneComm, BDC and Digicel holding company; ICOL submissions of BDC and BTC.

### Table 6.2 Updated ROCE of OneComm and Digicel adjusted for goodwill

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OneComm(^1)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OneComm group</td>
<td>1%</td>
<td>-1%</td>
<td>-6%</td>
<td>8%</td>
<td>10%</td>
<td>9%</td>
</tr>
<tr>
<td>OneComm Bermuda segment(^2)</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>26%</td>
<td>23%</td>
<td>17%</td>
</tr>
<tr>
<td>BDC</td>
<td>54%</td>
<td>53%</td>
<td>46%</td>
<td>48%</td>
<td>41%</td>
<td>n.a.</td>
</tr>
<tr>
<td><strong>Digicel(^3)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Digicel Group</td>
<td>108%</td>
<td>121%</td>
<td>92%</td>
<td>22%</td>
<td>22%</td>
<td>n.a.</td>
</tr>
<tr>
<td>BTC(^4)</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>17%</td>
<td>17%</td>
<td>n.a.</td>
</tr>
<tr>
<td>Digicel excluding BTC</td>
<td>108%</td>
<td>121%</td>
<td>92%</td>
<td>36%</td>
<td>36%</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

Notes: n.a. = not available due to data availability issues

\(^1\) ROCE figures for OneComm group refer to calendar years from 2016 to 2018, and refer to the financial year running from April 1 to March 31 for years 2013 to 2015. All ROCE figures for the Bermuda segment and BDC refer to calendar years. \(^2\) As OneComm does not disclose the current liabilities of its Bermuda segment, the RA allocated the group current liabilities to the Bermuda segment proportionately to the operating expenses of the group and the Bermuda segment. \(^3\) All ROCE figures for Digicel refer to financial years running from April 1 to March 31. \(^4\) Digicel only disclosed partial financial data for BTC (income statement and balance sheet for Q4 2016 and Q1 2017). The RA hence extrapolated the 2016–17 annual financial data based on available quarterly data.

Source: Annual reports of OneComm, BDC and Digicel holding company; ICOL submissions of BDC and BTC.

146. Contrary to the figures reported by OneComm in its response to the Preliminary Report that shows BDC’s ROCE has declined from above 40% to below 15% from 2016 onwards, the RA’s calculations—based on the financial data included in its annual reports and ICOL submissions—show that BDC’s ROCE has remained persistently at around 40% for the 2013–17 period. As the OneComm group, ROCE estimates include businesses outside Bermuda, the RA considers them to be less relevant in the current market review. The more relevant ROCE estimates for the current case is those of OneComm’s Bermuda segment, which has been above 20% for the 2016–17 period and at 16-17% for 2018.

147. The RA’s calculation of Digicel’s ROCE confirms Digicel’s comment that the value of asset base for the group increased significantly after the acquisition of BTC, and the group’s ROCE decreased as a result of the increase in asset base. For Digicel’s 2019 ROCE, the RA does not have sufficient financial data to verify whether Digicel’s investment in fibre has caused its ROCE to become negative. However, for the period 2016-17, Digicel’s ROCE was still in the 20% territory.
As highlighted previously, OneComm also commented in its response to the Preliminary Report that the WACC based on US companies as calculated by the RA in its Preliminary Report is ‘inherently’ lower than the WACC for Bermudian companies. The RA considers this is a valid point. The reference to the WACC of US companies was intended as an illustration of how ROCE estimates could be compared against WACC estimates to assess the reasonableness of profitability figures, rather than a view of what an adequate return for Bermudian companies should be.

The key point is that to assess whether a given ROCE measure is appropriate or may reflect the exploitation of market power, it needs to be compared against a benchmark measure of returns. Regulatory best-practice is to compare the ROCE against the WACC of the firms in question.

Taking into account OneComm’s comments, we have made adjustments to the WACC estimates reported previously to arrive at a more relevant benchmark for the ROCE figures estimated above.

To account for this ‘inherent’ difference in WACCs of the US and Bermudian companies, the RA adds the country risk premium of Bermuda to the US equity risk premium and the country default spread of Bermuda to the average cost of debt of the US telecommunication service companies. The country risk premium and default spread are estimated by the Prof Aswath Damodaran of NYU based on the default spread corresponding to the country’s sovereign credit rating and the relative equity market volatility of the emerging market. In addition, the RA adjusts the WACC calculation for the inflation differential between the US and Bermuda to reflect investors’ expectation on different long-term inflation rates for the two countries. The RA also updated other inputs for WACC calculation based on the most recent research conducted by the Prof Aswath Damodaran. Table 6.3 below outlines the RA’s WACC calculation.
<table>
<thead>
<tr>
<th>Inputs</th>
<th>Calculations</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cost of equity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risk free rate</td>
<td>[A]</td>
<td>1.92%</td>
</tr>
<tr>
<td>Equity risk premium</td>
<td>[B]</td>
<td>5.20%</td>
</tr>
<tr>
<td>Bermuda country risk premium</td>
<td>[C]</td>
<td>0.84%</td>
</tr>
<tr>
<td>Beta</td>
<td>[D]</td>
<td>1.05</td>
</tr>
<tr>
<td><strong>Post-tax cost of equity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[E] = [A] + [D] × ([B] + [C])</td>
<td>8.25%</td>
<td></td>
</tr>
<tr>
<td>Bermuda corporate tax rate</td>
<td>[F]</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Pre-tax cost of equity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[G] = [E] / (1 – [F])</td>
<td>8.25%</td>
<td></td>
</tr>
<tr>
<td><strong>Cost of Debt</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-tax cost of debt</td>
<td>[H]</td>
<td>3.67%</td>
</tr>
<tr>
<td>Bermuda country default spread</td>
<td>[I]</td>
<td>0.71%</td>
</tr>
<tr>
<td><strong>Bermuda pre-tax cost of debt</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[J] = [H] + [I]</td>
<td>4.38%</td>
<td></td>
</tr>
<tr>
<td><strong>WACC</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equity to total capital ratio</td>
<td>[K]</td>
<td>55.81%</td>
</tr>
<tr>
<td><strong>Pre-tax (nominal) WACC</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[L] = [G] × [K] + [J] × (1 – [K])</td>
<td>6.54%</td>
<td></td>
</tr>
<tr>
<td><strong>US long-term inflation</strong></td>
<td>[M]</td>
<td>1.90%</td>
</tr>
<tr>
<td><strong>Bermuda long-term inflation</strong></td>
<td>[N]</td>
<td>2.30%</td>
</tr>
<tr>
<td><strong>Pre-tax (nominal) WACC adjusted for inflation differential</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1 + [L]) / (1 + [M]) × (1 + [N]) – 1</td>
<td>6.96%</td>
<td></td>
</tr>
</tbody>
</table>


152. Based on the above, the RA estimates a reference WACC for the Bermudian telecommunication operators of approximately 7%, which is in-line with recent WACC assessments by telecom sectoral regulators in other jurisdictions. For example, Ofcom in the UK, recently estimated a pre-tax nominal WACC for BT group of 8.1%. Additionally, the Commerce Commission of New Zealand (‘ComCom’) recently reported a post-tax...
nominal WACC of 4.88% for regulated fibre fixed line access service operators, which is around 6.8% on the pre-tax basis based on the 28% corporate tax rate in New Zealand\(^\text{67}\).}

153. Comparing the ROCEs in Table 6.2 with the RA’s revised WACC estimate for electronic communications operators in Bermuda, of WACC, it is clear that OneComm and Digicel’s ROCEs have been significantly and persistently above WACC for the 2013–18 period (when data are available). Therefore, the RA does not change its conclusion that the profitability analysis conducted suggests the level of profits for OneComm and Digicel is excessive, which is indicative of SMP.

154. The RA notes, however, that both the ROCE and WACC estimates presented here should be taken as indicative estimates based on available data and do not constitute the RA’s final view on these matters. In line with the Accounting Separation remedies, OneComm and Digicel will be obliged to report cost accounting data that will allow the RA to undertake a more detailed review of company profitability in addition to assessing compliance against the Cost Orientation and FRAND obligations.

6.2.2 Market specific SMP comments received from stakeholders and the RA’s response to them

Broadband

155. In its response to the Preliminary Report, Digicel outlines a number of points that it claims undermine the validity of the conclusions drawn in respect of the finding of joint SMP in the fixed broadband market\(^\text{68}\).

156. Digicel’s comments fall into two main categories:

- The RA has not considered the impact of current regulatory remedies on the market analysis and this invalidates the comparative benchmarking exercise;
- The RA should reconsider its analysis of investment cycles and other market developments that contributed to the timing of investments of Digicel and OneComm and take this into account to contextualize its conclusions on the joint SMP finding.

157. These issues are discussed below.

Response from the RA

158. The RA does not agree that the current set of regulatory remedies would have contributed significantly to higher costs to the extent that this alone would make prices paid amongst the highest from amongst the set of comparators used in the benchmarking exercise. Furthermore, the RA has not been presented with any quantitative analysis of the impact regulatory compliance costs on prices, and we note that in any case, the appropriate


\(^{68}\) Section 3.2 of Digicel’s response to the Preliminary Report.
counterfactual is not a scenario where there is no regulation, since many if not all of the other countries in the sample, also have electronic communications regulatory regimes in place.

159. Considering market developments, including the investments in new technology and the timing of those, the RA has stated previously that there has been a remarkable alignment in the timing of the observed investments by OneComm and Digicel Group, despite fiber technologies being available for several years. This was considered particularly concerning, especially in combination with the alignment in their service offerings and pricing.69

160. Taking into account Digicel’s comments in its response to the Preliminary report, it may be true that the timing of Digicel’s investment came following its acquisition of BTC in 2015 as an explicit decision to participate in the fixed market and invest in a fibre network. However, in its response to the Preliminary Report, Digicel notes that if this investment decision was indeed independent it could therefore considered as a deviation from any pre-existing common policy between OneCom and Digicel to delay the investment in fibre. In this case, Digicel claim, the joint SMP finding would need to be supported by evidence of the “punishment” metered out by OneComm on Digicel for its deviation from the tacitly collusive agreement.

161. The RA notes that in accordance with section 23(3) of the ECA, joint SMP may be found if: (i) the relevant market is concentrated; (ii) each provider has a high and stable share of the market; (iii) significant and enduring barriers to entry exist; and (iv) there are grounds for thinking that these factors, together with others, are likely to give rise to tacit coordination and thereby prevent, restrict or distort competition. Therefore, the RA notes in this regard that actual evidence of punishment is not a necessary condition for the finding of joint SMP, but rather one might consider a factor in ensuring a sustainable tacitly collusive outcome would be the possibility of a quick response to a deviating party is feasible. In any case, if tacit coordination is on price of broadband services, by definition, if no deviation from the tacitly coordinated price has occurred, the RA cannot have observed a punishment mechanism in practice.

162. Notwithstanding the above, the RA does not discount the possibility that network upgrades could be the result of a degree of contestability and recognizes that investment by operators is an important development in the market, which over time may result in competitive dynamics that deliver good outcomes for consumers without the need for regulation. However, the RA notes that investment on its own as a result of technological change does not guarantee that markets will tend towards effective competition. The concern around joint SMP is not simply about individual instances of contestability but about the stability of a market structure that gives rise to the risk of tacit coordination.

163. For example, given that OneComm and Digicel Group have upgraded their broadband infrastructure at similar times they can provide similar levels of network capability, enabling them to offer comparable services. It is not clear that these recent technological changes have increased the level of contestability in the markets nor whether they have removed the incentives and ability of the two major operators to tacitly coordinate in the market.

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69 Paragraphs 317 of the Consultation Document.
Indeed, regarding the newer broadband tariffs, the RA analysed the tariffs advertised by OneComm and Digicel Group on their respective websites, as at January 2020. The data clearly indicates that prices have been closely aligned between OneComm and Digicel Group, as shown in the table below. Furthermore, the RA has no conclusive evidence to suggest that Digicel and OneComm are now charging prices at acceptable levels relative to costs.

**Table 6.4 - OneComm and Digicel fibre broadband retail prices 2020**

<table>
<thead>
<tr>
<th>Headline, advertised download speed (Mbps)</th>
<th>OneComm FibreWire tariff</th>
<th>Digicel Fibre tariff</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>$170.00</td>
<td>$170.00</td>
</tr>
<tr>
<td>200</td>
<td>$215.00</td>
<td>$215.00</td>
</tr>
<tr>
<td>300</td>
<td>$240.00</td>
<td>$240.00</td>
</tr>
</tbody>
</table>


With the network upgrades now largely complete, looking forward, the RA considers that market conditions are such that the scope for tacit coordination continue to exist. In other words, the recent network investments have resulted in a similar market structure to that which existed before the investments. For example, there remain two large operators which offer very comparable broadband services in terms of product characteristics and prices, and which account for the vast majority of revenues in the market.

**Mobile**

Both OneComm and Digicel provided comments on the conclusions drawn in respect of finding joint SMP in the mobile market. The stakeholders comments fall into one of two categories:

- Assessing the level of churn in the mobile market
- Price benchmarking exercise

Each of these is discussed in term below.

**Churn in the mobile market**

In response to the Preliminary Report and Consultation Document, Digicel commented that in its SMP assessment the RA appears to rely on churn as a yardstick to assess joint SMP yet, Digicel claims that the RA has not analysed the level of churn in the mobile market owing to insufficient data from operators. Digicel comments that the RA’s statement in the Preliminary Report that the “stability in OneComm’s and Digicel Group’s market shares for mobile services that these sectoral providers are not being overly
aggressive in their efforts to attract customers from the competition\textsuperscript{70}, assumes low churn, which is not the case.

168. As part of its response, Digicel provided some indicative data that it claims shows churn rates are high and claims, “High churn levels would therefore be a contra-indication of joint SMP, and the RA should undertake a proper churn analysis to properly assess the dynamics of the mobile market.”\textsuperscript{71}

\textit{Response from the RA}

169. The RA recognises that it did refer to customer churn as one of many indicators that could support an assessment of joint SMP in the mobile market. As noted in the Consultation Document, the RA commented that churn might be relevant when considering focal points for coordination, the ability to monitor the behaviour of other operators in the market and effective punishment strategies should one operator divert from the tacitly collusive position. In particular the RA commented that:

- Using market shares as a focal point for coordination could also be attractive for two sectoral providers with joint SMP. A tacit agreement to not engage in aggressive commercial plans to instigate churn will take away incentives to improve the quality of the mobile service and offer more competitive prices\textsuperscript{72}.

- As Digicel Group and OneComm share the totality of the market, in which there is a very high level of mobile penetration, the monitoring of market shares is very straightforward. This is because the market shares would follow directly from the net churn rates that the sectoral providers observe in their networks\textsuperscript{73}.

- The stability in OneComm’s and Digicel Group’s market shares for mobile services suggests that these sectoral providers are not being overly aggressive in their efforts to attract customers from the competition\textsuperscript{74}.

170. In this regard, the comments made above were in relation to the conditions of the market that would make coordination possible and in establishing these conditions of the market, the RA did not consider, in detail the level of churn in the market.

171. However, the RA did also acknowledge that in considering stability of market shares, one would need to understand whether there is a high degree of churn. Low churn would be more indicative of a tacitly collusive outcome. However, high churn could suggest that “stable” market shares are in fact the outcome of high levels of consumer switching, in what could be a contestable market.

\textsuperscript{70} Section 3.3 of Digicel’s response to the Preliminary Report.
\textsuperscript{71} Section 3.3 of Digicel’s response to the Preliminary Report.
\textsuperscript{72} Paragraph 349 of the Consultation Document.
\textsuperscript{73} Paragraph 352 of the Consultation Document.
\textsuperscript{74} Paragraph 358 of the Consultation Document.
172. The RA does not discount the possibility that the churn figures provided by Digicel in its response could be the result of a degree of contestability. However, the concern around joint SMP is not simply about individual instances of contestability but about the stability of a market structure that gives rise to the risk of tacit coordination.

173. Furthermore, churn figures alone (in the absence of clear price movements) may not necessarily be an indication of significant competition on price, but could simply be a consequence of overall dissatisfaction with the service which could come from a lack of contestability in the market. Indeed, as noted previously prices and market shares do not appear to have changed significantly over the period under review, with retail mobile prices of OneComm and Digicel Group have historically been very closely aligned and above those of international comparators.\(^{75}\)

174. In any case, symmetry of market shares is just one form of inputs that the RA took into account in making a determination of joint SMP. The RA has analyzed all data available in the mobile market and finds that the finding of joint SMP in this market is consistent with the observable market outcomes, including the evolution of market shares, prices (as described below) and profits (as described above in Section 6.2.1).

**Price benchmarking**

175. In addition to considering market shares and profitability with the SMP assessment, the RA also analysed retail prices, to determine if prices between OneComm and Digicel Group were; a) high relative to benchmarks, and b) broadly comparable with each other. Both points informed an assessment of joint SMP.

176. On the price benchmarking exercise—used by the RA to show that average monthly pricing in the Bermudan mobile market was significantly higher than other countries and therefore parallel prices observed in the market are unlikely to be a consequence of effective competition—there were comments from both Digicel and OneComm in response to the Preliminary Report.

177. Digicel claimed:

\[\text{“The comparators...have been adjusted for PPP however no consideration appears to have been given as to whether the selected markets are appropriate comparators when taking other material considerations into account. For example, the RA imposed stringent roll-out obligations in connection with the award of HDS spectrum...no similar roll-out, coverage or speed obligations [were applied in other comparator countries]...these differences give rise to a material difference in underlying cost base with operators in Bermuda facing significantly higher upfront costs that have been necessitated by regulatory intervention.”}^{76}\]

178. OneComm claims:

\[\text{“...in its pricing comparisons for mobile, the RA has chosen to rely on international benchmark analysis of prepaid phone plan pricing...The RA’s analysis takes no}\]

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\(^{75}\) Paragraph 359 of the Consultation Document.

\(^{76}\) Section 3.3 of Digicel’s response to the Preliminary Report.
account of the additional value received by customers in the form of device subsidies, and the related pricing effect to recover the subsidies…”

Response from the RA

179. The RA considers that OneComm’s response regarding that there was a focus on pre-paid plans is unfounded. The source data for the mobile price benchmarking is for ‘pay monthly’ or ‘post-paid’ plans. Therefore, in conducting its price benchmarking, the RA notes that it did consider post-paid tariffs when collating the prices of mobile tariffs from comparator countries.

180. The RA acknowledges that benchmarking cannot perfectly capture all differences and only allows us to compare the observed prices. Hence, this does not allow for assessment of unobservable discounts, such as handset subsidies. However, unless there are reasons to believe that these unobserved differences differ materially across countries, the benchmarking exercise conducted by the RA provides a very good indicatory measure of whether headline prices to consumers are in line with relevant comparators.

181. In response to Digicel’s comments that operators in the other countries are not subject to the same coverage obligations (and as a result may spend less on infrastructure and have lower CAPEX and OPEX), the RA accepts roll-out obligations could have an impact on the underlying cost base, but there is little reason to believe that coverage of 4G (and the costs associated with meeting those levels of coverage) is materially different in Bermuda to other, similar countries. For example, the countries chosen by the RA for the benchmarking exercise were deemed comparable on the basis of island nation, size, population and population density. Therefore, the RA consider that any differences in the costs of rolling out 4G networks to achieve significant coverage are likely to be relatively small compared to the significant price differentials.

182. While Digicel referred to the relatively unobtrusive roll-out, coverage and speed obligations for LTE in Dominica and St Kitts and Nevis, the RA notes that several of the other countries included in the price benchmarking sample do have significant coverage and/or speed requirements as part of their license commitments for 4G or have achieved high coverage levels shortly after launch. For example, in the Isle of Man, Manx Telecom (MT) and Sure Isle of Man (Sure) were required to roll out high-speed 4G networks providing coverage to at least 95% of the island’s population within two years of service launch (and services required to launch within at most 9 months from being granted the license). Similarly, in Malta, licensed operators were required to make any 4G service offered available on a nationwide basis (99% of Maltese territory) within 24 months from the date of assignment. The benchmarking exercise shows that prices in Bermuda were significantly higher than in these two countries. Therefore, the RA does not agree that the coverage obligations in Bermuda would have contributed significantly to higher costs to the extent that this alone would make prices paid amongst the highest from amongst the set of comparators used in the benchmarking exercise.

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77 Page 2-3 of OneComm’s response to the Preliminary Report.

6.3 Remedies: stakeholder responses to the Preliminary Report and the RA’s opinion on the responses

183. This section provides summaries of the stakeholder comments received regarding remedies, before the RA sets out its opinion on the specific issues raised.

184. Following the RA’s remedies proposed in the Second Consultation, stakeholder responses fell into one of two categories:

i. general issues that cover the RA’s overall approach to remedies, which is relevant across a number of relevant markets; and

ii. remedy-specific issues, including comments relevant to the primary obligations of Accounting Separation, Cost Orientation, and the obligation to provide wholesale access on FRAND terms and a requirement not engage in margin squeeze.

185. Each of these is discussed in turn below, with section 636.3.1 covering general issues on the approach to remedies, and section 6.3.2 covering remedy-specific issues.

6.3.1 General issues on approach to remedies raised by stakeholders and the RA’s response

186. The more general comments made by stakeholders regarding remedies fell into one of three categories:

i. failure to consider the minimum efficient scale in Bermuda;

ii. lack of balance between ex ante and ex post regulation, specifically, excessive reliance of ex ante regulation at the expense of ex post regulation; and

iii. lack of proportionality of remedies given their intended objectives, including the excessive burden associated with imposing a large number of remedies (that will lead to increased costs and end user prices).

187. The RA responds to each of the general issues outlined above in turn below, followed by a response to more specific comments on particular remedies.

Failure to consider the minimum efficient scale in Bermuda

188. In relation to the comments on the size of the Bermudan market and the minimum efficient scale in Bermuda, comments were made from OneComm and Digicel on the following points:

- market scale will influence whether costs as a component of pricing are high relative to other markets\(^79\)

\(^79\) Page 2 of OneComm response to the Preliminary Report.
• it will influence the number of companies that can profitably serve the market\textsuperscript{80}

• it will influence whether new entrants have interest and can garner the resources and financing to enter the market\textsuperscript{81}

• an assessment of minimum efficient scale is relevant when considering remedies at the wholesale level which have the aim of facilitating market entry at the retail level\textsuperscript{82}

189. The RA comments briefly on each of these points below.

\textit{Response from the RA}

190. The RA accept the point of principle that market scale can influence costs (and therefore pricing) relative to other, larger markets. However, in the absence of full information on the costs of OneComm and Digicel there is insufficient evidence to show that the higher prices of these operators in Bermuda (relative to benchmarked prices of other, similar, island economies) are driven entirely by a higher cost base.

191. In the absence of the detailed cost data, the RA relied on price benchmarking data in mobile and broadband markets and in selecting the countries to benchmark against, the RA did in fact consider factors related to market scale including size of the country (square KMs), whether it was an island nation, population and population density. The price benchmarking (for both copper broadband and mobile services) showed that prices in Bermuda were higher than those in countries that have a similar or smaller population (and therefore a smaller addressable market) and lower population density (and therefore suggesting higher costs of roll out), thus indicating that it may not simply be the case that costs as a component of pricing are driving the higher prices in the Bermudian market.\textsuperscript{83}

192. In relation to the challenges of market entry as a result of the minimum efficient scale and a small addressable market, the RA notes that in making these comments, both OneComm and Digicel implicitly recognize that there are high barriers to entry in this market for alternative operators and thus the likelihood of additional players in the market and the competitive constraint associated with the threat of entry is small. In arguing that there is a limit to the number of operators that can profitably serve the market, the respondents are essentially accepting that the prospects of new entrants gaining a foothold in the market are very low, limiting the prospect of greater competition emerging in the future. This only serves to strengthen the arguments around the concerns associated with a small number of large players in the market and the need for regulatory obligations to be imposed on those operators.

\textsuperscript{80} Page 2 of OneComm response to the Preliminary Report.

\textsuperscript{81} Page 2 of OneComm response to the Preliminary Report.

\textsuperscript{82} Age 24 of Digicel response to the Preliminary Report.

\textsuperscript{83} For example, international benchmarking analysis conducted by the RA showed that Bermuda had the most expensive mobile price per GB of mobile data allowance across 13 similar countries. This result was similar for the broadband sector, in which Bermuda appeared to be one of the most expensive countries in the cohort of benchmarked comparators. Furthermore, the average price for broadband was more than double that in countries such as Jersey, Maldives, the Isle of Man and Malta.
193. Indeed, a key concern is that in the absence of alternative competitors, players that hold a position of SMP in a market (or where two companies jointly have SMP\textsuperscript{84}) would be in position to set high prices and achieve excessive profits, to the detriment of consumers in Bermuda. The RA is taking steps to address these concerns through imposing regulatory obligations on Digicel and OneComm as SMP operators including, for example, cost orientation obligations to reduce the ability of SMP operators to set prices that can act to distort or restrict competition and exploit consumers.

194. However, to the extent that alternative operators would like to enter the market and provide competing services to end users, they should not be prevented from accessing the SMP operator’s network on terms that enable them to compete with the two incumbents. This is especially the case where (as described by Digicel and OneComm in their responses) an alternative operator may not have the resources and financing to enter the market as an end-to-end infrastructure competitor. It is for this reason that the ARA also requires Digicel and OneComm, in the specific wholesale markets in which they hold SMP, to provide wholesale access on fair, reasonable and non-discriminatory terms and that such access is equivalent in terms of service output to what is provided to their own downstream arms.

195. The RA recognizes the benefits that can be delivered by raising the level of effective competition in a market through facilitating wholesale access. However, recognizing that there will be efficiency differences between the SMP operator and rival downstream firms—which could include non-replicable scale advantages of the incumbent, as well as differences in economies of scope (e.g. between the upstream and downstream operations)—the RA intends to make adjustments to the cost estimates that will be used to assess whether the wholesale access prices offered by the SMP operators are fair, reasonable and non-discriminatory.

196. Indeed, the RA recognizes that entry by firms who are less efficient than the SMP operator(s) can still improve consumer outcomes, as the market entry will lead to greater innovation and more fierce competition across the market, driving improvements in quality and/or reductions in prices.

197. Specifically, as explained in the updated Wholesale Access: FRAND and Margin Squeeze Guidance Note (published on the RA’s website www.ra.bm the RA will consider a wholesale access price offer to be non-discriminatory if it does not lead to a margin squeeze, measured by reference to the adjusted equally efficient operator (adjusted EEO) standard (using information from the separated accounts, and adjusting for scale). While a departure from the strict EEO standard would act to encourage entry from operators who are less efficient than the SMP operator(s), the RA considers that in the current market circumstances the dynamic efficiency benefits are likely to outweigh any static efficiency losses. This is also consistent with the RA’s duty to promote competition where possible. Furthermore, Section 5 of the ECA provides that one of the main purposes of the ECA is to “promote Bermudian ownership and Bermudian employment at all levels of

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84 Joint SMP does not require, or imply, that the sectoral providers are engaging in illegal collusion but refers to whether they constitute a collective entity relative to their competitors, trading partners and customers in a particular market.
the electronic communications sector”. This provision is relevant to the extent that the firms seeking access are primarily Bermudian companies.

198. In any case, as noted elsewhere, the RA remains concerned that in the short term the demand for wholesale access services may not be sufficient to drive a thriving wholesale market that could support competition at the retail level. As such, retail remedies (including Cost Orientation obligations) are proposed as a safeguard to control the risk of excessive pricing behavior of the SMP operators.

**Balance between ex ante and ex post regulation**

199. In response to the Preliminary Report some Stakeholders commented on the use of ex post competition powers as an alternative to ex ante regulation:

- Digicel commented that the RA should consider the important role that ex post competition powers have.\(^85\)

- OneComm submits that ex post competition powers have not been properly considered and that separate guidance on the RA’s use of ex post competition powers should be properly issued in the context of this market review.\(^86\)

200. The RA comments briefly on these points below.

**Response from the RA**

201. The RA is fully aware of its ability to use its ex post competition powers to assess historic behaviour in relevant markets and impose sanctions on operators that have abused their dominant position in violation of their duties as sectoral providers under RAA Sections 84 and 85.

202. In assessing the relevant markets as part of this Market Review, the RA considered the extent to which the application of ex post competition rules alone would or would not be sufficient to promote or preserve effective competition in the relevant market in accordance with section 22(2) of the ECA.\(^87\)

203. The RA considers that by the very nature of being ex post, any constraints and/or sanctions imposed under competition law powers would be applied after an event. Therefore, where the extent of market power in a market is such that it was likely that consumers will be harmed in the absence of ex ante regulation or that there will be irreversible damage to competition, ex post intervention will likely not be sufficient to promote or preserve competition. Therefore, ex ante regulation may be required in certain instances.

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\(^{85}\) Page 4 of Digicel Response to the Preliminary Report.

\(^{86}\) Page 5 of OneComm response to the Preliminary Report.

\(^{87}\) The Regulatory RA of Bermuda (2017), “Preliminary Identification of Markets Notice: In accordance with section 22(1) of the Electronic Communications Act (2011)”.
204. The RA also notes that it would be within its rights to launch an ex post investigation into the behaviour and pricing of OneComm and Digicel over the period covered in this market review, as well their behaviour in the past, in light of its concerns. This would result in a full investigation, requiring detailed cost and pricing information from the operators and could result in significant sanctions and/or fines if the analysis concluded that the investigated companies had breached the requirements of sections 84(1)(a), 85 and 86 of the RAA.

205. This would likely be a long, drawn out and costly investigation (for both the RA and the investigated parties), the outcome of which is uncertain. Whilst it remains open to the RA to open such an investigation in the future, it does not consider that this is the most appropriate or proportionate course of action at this time.

206. The RA has instead chosen to assess the potential concerns in the market through a set of proportionate ex ante regulatory remedies. Ex ante regulation allows for the imposition of specific SMP remedies to address the competition problems identified and for the subsequent monitoring of those remedies, as well as scope for timely and efficient intervention to avoid adverse effects on consumers.

207. While ex-ante regulation may be required in certain instances, the RA is minded to consider how a combination of ex-ante and ex-post regulation can best achieve its objectives and duties. In this regard, the RA observes that the principles and criteria set out in the Guidance Notes that accompany this Final Decision, in respect of Cost Orientation and Wholesale Access: FRAND and Margin Squeeze, provide a blueprint for the criteria that the RA would consider in any ex post competition investigation that it might carry out in regard to alleged excessive pricing, predatory pricing, margin squeeze or similar anticompetitive activities pursuant to RAA Section 85.

Proportionality of remedies given their intended objectives

208. In response to the Preliminary Report, some stakeholders commented on the proportionality of the remedies and suggest that they would be costly to implement and have limited foreseeable benefit. Some stakeholders argued that the new remedies are too onerous, burdensome, and disproportionate to their intended objectives.

209. The point was also made (by Digicel) that remedies will put a greater administrative and cost burden on both operators and that this could result in increasing the costs of electronic communications services in Bermuda as the operators seek to recover these additional costs.

Response from the RA

210. As set out in section 24 of the ECA, if, as part of the market review process, the RA concludes that the imposition of one or more ex ante remedies is necessary to prevent or deter anticompetitive effects that are caused or are likely to be caused by the presence of SMP in a relevant market, the RA may make an administrative determination to impose one or more obligations on any communications provider found to have SMP in a relevant market.
211. Where the RA has identified SMP (jointly or individually), it is keen to ensure that any remedies proposed are effective, and strike an appropriate balance given the nature of the competition concerns, as well as the possible distortions that the intervention may create, for example to investment incentives. The RA has sought to ensure that the proposed remedy is proportionate to the competition concern it seeks to address.

212. In this regard, the package of remedies proposed by the RA in the current market review takes into account experience gained over the past several years and taking into account the administrative burdens on the RA, the efficacy of the past remedies in light of enforcement challenges and the impact on SMP operators, consumers and competition in the relevant markets. Compared with the remedies of 2013, the proposed remedies are aimed at moving away from a system of regulation that required pre-authorisation and pre-notification, as well as detailed pricing and bundling rules, towards a monitoring regime that places greater emphasis on transparency and financial reporting obligations.

213. The net effect is a regulatory regime that, notwithstanding some upfront costs to set up the reporting obligations, will be substantially less burdensome (for both the operators and the RA) and better tailored to the identified concerns in line with experience gained and market developments.

214. While the RA has sought to ensure that the ex ante obligations that will be imposed on operators are not too onerous or disproportionate, the RA recognizes that it is introducing a number of remedies for the first time in the Bermuda electronic communications market and that SMPs will require some time to build up the capabilities to be able to comply with these obligations. This is particularly the case for remedies such as Accounting Separation and Cost Orientation, where the obligations do require the provision of further information and reporting by SMP operators. However, such information is necessary to improve the RA’s ability to monitor the functioning of the market and the RA intends to work further with electronic communications providers in the implementation of these remedies.

215. We discuss the specifics of each of the regulatory proposals in more detail in the subsequent sub-sections.

216. Furthermore, in light of the stakeholder comments, further changes to some of the remedies are being proposed in this Final Report to reduce the burden where possible, within the constraint of ensuring that the remedies remain sufficiently well-defined such that the objectives of the regulatory regime can be achieved.

217. In the sections below we discuss in more detail the primary ex ante remedies proposed including:

   i. Accounting separation;

   ii. Cost orientation;

   iii. Obligation to provide wholesale access on FRAND terms and an obligation not to impose a margin squeeze.
6.3.2 Remedy-specific comments raised by stakeholders and the RA’s response to them

218. Further to the above points, a number of respondents made comments relevant to specific remedies proposed in the Preliminary Report and accompanying Proposed Guidance Notes and Proposed Instructions. This section sets out those comments and the RA’s response to those comments.

219. In particular, comments were made in relation to the following:

i. the obligation to maintain Accounting Separation;

ii. the Cost Orientation obligation;

iii. the obligation to ensure that wholesale access is provided on fair, reasonable and non-discriminatory (FRAND) terms and that it is equivalent in terms of service output;

iv. comments on provision of wholesale access more generally;

v. the obligation to provide wholesale broadband access;

vi. the obligation to provide wholesale mobile access;

vii. consumer switching and choice; and

viii. the obligation to provide information.

220. While the RA also proposed the following relevant remedies in the Preliminary Report, no stakeholder comments were received regarding them: the obligation to provide wholesale mobile access; the obligation to offer broadband on a stand-alone basis; the obligation to offer mobile services on a stand-alone basis; and the obligation to offer fixed voice services on a stand-alone basis.

Obligation to maintain Accounting Separation

221. The obligation to maintain Accounting Separation (AS) is proposed to apply on operators with SMP in the following relevant markets:

i. retail provision of fixed broadband;

ii. retail mobile services;

iii. retail fixed voice services; and

iv. retail high-speed leased lines outside of the city of Hamilton.
222. The AS remedy requires the preparation and provision of:

i. a statement of mean capital employed;

ii. profit and loss accounts; and

iii. further cost, volumes and revenue information.

in a format that can be usefully employed for the assessment of compliance with a number of other regulatory obligations, as was specified further in the AS Proposed Instructions published alongside the Preliminary Report.

223. The AS remedy is a core building block of the future regulatory regime in Bermuda. Once fully implemented this new remedy will allow the RA to monitor compliance with a number of key regulatory obligations, including Cost Orientation and the provision of wholesale access on FRAND terms (including by not engaging in a margin squeeze).

224. Furthermore, ancillary benefits of the AS remedy include allowing the RA to have available to it up to date and consistent information from SMP operators in order to discharge its duties under its competition powers in accordance with sections 84(1)(a), 85 and 86 of the RAA.

225. The information collected through this remedy will allow the RA to monitor and undertake robust, evidence-based investigations on both an ex ante and ex post basis on a number of potential practices in electronic communications markets, including: excessive pricing, anti-competitive bundling, cross-subsides, predation, margin squeeze and price discrimination.

226. In their responses to the Preliminary Report, most comments made by stakeholders on the Accounting Separation remedy were not focussed on a specific relevant market and instead considered the detailed implementation of Accounting Separation across all markets, as described in the Proposed Instructions.

227. In response to the RA’s AS remedy, OneComm and in particular Digicel have commented that the remedy is disproportionate for a number of reasons:

i. It requires separation into many more categories than Belco, the SMP operator in the Energy sector

ii. It requires the provision of financial information for bundles and non-SMP products

iii. It requires the provision of information on a 6-monthly basis

228. The RA comments briefly on each of these points below, after first justifying the proportionality of the proposed remedy more generally.
Proportionality

229. Digicel expressed concern that implementing the proposals would require the design of cost calculations to underpin the separated accounts and gather detailed data from all departments across the business as well as develop allocation keys to allocate costs to different product groups and that skilled resources needed to do this are not currently available. It argued that the complexity of implementation is highly disproportionate to any possible benefit it may bring to the RA or consumers. It also noted that several European Countries do not use accounting separation as a remedy anymore.88

Response from the RA

230. The AS remedy itself does not restrict, dictate or interfere with the commercial freedom of SMP operators. As such, it is considered to be a light touch intervention and a core building block of any transparent regulatory regime. It is an enabler for the regulator to monitor and enforce other regulatory obligations, on both an ex ante and ex post basis.

231. The AS remedy requires operators to organise, prepare and present information that operators should already have and collect on a regular basis, in the normal course of running their business. Whilst it is correct to say that the remedy will require some changes to the way the information is presented to the regulator, this is an unavoidable cost and the RA has sought to keep this cost to the minimum necessary to obtain the required information to perform its functions.

232. The information collected through this remedy will allow the RA to monitor and undertake robust, evidence-based investigations on both an ex ante (regulatory) and ex post (competition law) basis on a number of potential practices in electronic communications markets, including: excessive pricing, anti-competitive bundling, cross-subsides, predation, margin squeeze and price discrimination.

233. It is worth noting that the RA chose not to require the vertical separation of accounts into wholesale and retail activities, which has been common in many other jurisdictions where the AS remedy has been implemented. Indeed, such vertical separation of accounts is often seen as the first step when considering the scope for vertically separating an SMP operator to address discrimination issues regarding access to the bottleneck elements of the network.

234. For Bermuda, such vertical separation of accounts was considered to be disproportionate by the RA at this stage, in light of the fact that the AS remedy is being imposed on SMP operators for the first time. The RA also considered that the breakdown of the information being collected on Product Groups on an end-to-end basis would provide sufficient information to assist with the compliance of margin squeeze (see paragraph 29 of the Final Accounting Separation Instructions included at Schedule 1 to Annex 1 to the General Determination), which is the main reason why a vertical separation of accounts is typically requested by regulators.

88 Section 4.1 of Digicel’s response to the Preliminary Report.
235. Overall, therefore, the RA does not agree with the allegation that the proposed remedy Accounting Separation is disproportionate. Quite the opposite, the RA has made conscious choices to design the remedy in the most cost-effective way possible to achieve its intended aims.

236. As noted earlier, the RA recognizes that it is introducing a number of remedies for the first time in the Bermuda electronic communications market and that SMPs will require some time to build up the capabilities to be able to comply with these obligations. This includes Accounting Separation, where the obligations do require the provision of further information and reporting by SMP operators. However, such information is necessary to improve the RA’s ability to monitor the functioning of the market and the RA intends to work further with electronic communications providers in the implementation of these remedies.

237. The RA notes that accounting separation remedies are still in force in a number of European countries, including in the UK where BT publishes Regulatory Accounts. In cases where accounting separation no longer applies this is typically because there is a charge control in place, seeking to achieve similar objectives.

**Allegation that the number of breakdown categories is excessive**

238. Building on its more general comments above, Digicel considered that the number of breakdown categories required is excessive. In particular, it has argued that the RA is asking for significantly greater information in the electronic communications sector—which is characterised by a duopoly—compared with the energy sector, which is characterised by a monopoly supplier (Belco). To demonstrate this point it presents a diagram showing a larger number breakdown categories in electronic communications compared with Energy, alleging the RA is being disproportionate.

**Response from the RA**

239. The RA notes that the absolute number of product groups for which the accounts need to be broken into is not a relevant metric that can be compared across industries.

240. A simple count of the number of categories being requested provides no insight into how proportionate or not a remedy is. As already explained, the AS remedy itself does not constrain the behaviour of SMP operators — this is simply an enabler for other elements of the regime. In this regard, it worth noting that whereas in the Energy sector the retail tariffs charged by Belco are tightly regulated by a retail tariff methodology, this is not the case in electronic communications (see also the Cost Orientation remedy below).

241. In addition, the operations of Belco and OneComm/Digicel are vastly different. Whereas Belco sells a single product, OneComm and Digicel sell at least five (fixed voice, broadband, mobile, leased lines and TV) and very often these are sold in bundles. As a result, the RA requires information broken down at this level of granularity in order to monitor different issues that may arise in different markets. We also note that the operators

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themselves will have information broken down by products in order to monitor the financial performance of their different activities.

242. Furthermore, in the proposals for the telecommunications markets, the RA is not proposing to require the preparation of separate P&L accounts for wholesale products within each Product Group (e.g. wholesale fixed broadband, wholesale mobile access, wholesale leased lines). The RA considers that, at this stage, such a requirement would be disproportionate.

**Inclusion of bundles and non-SMP products**

243. Some respondents considered that the inclusion of additional categories for bundled products increases the complexity of the task at hand. Furthermore, another allegation made by Digicel is that the AS remedy is disproportionate because it requires the provision of information on products in which neither they nor OneComm have SMP.

**Response from the RA**

244. In relation to product bundles (which is a breakdown category requested in the AS remedy) the RA notes that once the separated accounts for the individual Product groups have been constructed the information on bundles would be extremely easy to put together. This information would be composed of a simple addition of the unit costs of each element making up the bundle. For example, the cost of a bundle of broadband and TV would be the sum of the unit fully allocated cost (FAC) cost of broadband plus the unit FAC cost of TV, where the unit costs of each product would be calculated by dividing the total cost of each product by the number of units sold on both stand-alone and bundled sales. Hence, the RA does not consider this to amount to a significant additional burden.

245. In relation to the comments on inclusion of services in non-SMP markets the RA notes that Section 24(9) of the ECA specifically authorizes the RA to impose AS obligations on SMP providers in respect of non-SMP markets so long as the requirement is proportionate and necessary to ensure the efficacy of the SMP remedies imposed on the SMP provider. This is the case here.

246. There are several reasons why access by a regulator to the financial and operational data non-regulated services can be key in relation to the investigation of disputes regarding regulated services as well as the monitoring of non-discrimination obligations. For example, OneComm and Digicel are vertically integrated operators active in the provision of services in both SMP and non-SMP markets, with many of these services often sold together in bundles.

247. Hence, detailed financial information relating to non-SMP markets is of relevance in order to demonstrate the non-discriminatory allocation of costs. Failure to do this could result in costs which should be charged to a competitive market being charged to a regulated market with appropriate increases in prices and loss in welfare for consumers or, in reverse, could result in predatory prices or cross subsidies.
248. Indeed, this is explicitly recognised in the European Regulators Group (ERG) common position on Accounting Separation and Cost Accounting Systems. For example, the ERG states:

“The imposition of accounting separation on non-SMP markets would be compatible with the regulatory framework only insofar as a NRA [National Regulatory RA] can justify that the provision of such information is necessary to carry out its regulatory tasks; the imposition of such an obligation must be based on the nature of the problem identified, proportionate and justified […] Under the conditions referred to above, the extension of the obligation of accounting separation to non-SMP market would be proportionate since it would be an effective means for the NRA to achieve its regulatory objective.” (section 7.4, pg. 35, emphasis added)

“[SMP operators] may operate in markets where they are subject to SMP obligations as well as in competitive markets. Thus, the division of services and products between the different markets, and the corresponding costs, capital employed and revenues, should be reflected in cost accounting systems such that coherence and integrity of information is assured.” (section 7.5, pg. 36, emphasis added)

“NRAs need to be able to ascertain to what extent the services in those markets where notified operators do not have SMP (‘non-SMP’ markets) may impact on services supplied in SMP markets. In order to determine what information is required for regulatory purposes, it is necessary to explore the nature of the costs incurred by activities undertaken in the course of supplying a service (or combination of services).” (section 7.5, pg. 36 emphasis added)

Requirement to provide accounts every 6 months and to have first set of accounts ready in 6 months after publication of GD

249. The AS Proposed Instructions specified that the “regulatory separated accounts must be produced twice per year (bi-annually)” and that the “the first set of regulatory separated accounts must be submitted to the RA within six months of the date of the SMP operators start of its fiscal year, unless the RA agrees to an extension, which shall be no longer than 12 months after the date of the General Determination.”

250. However, in the response to the preliminary report, stakeholders considered that the filing every 6 months would be “unrealistic, unreasonable and totally disproportionate” and suggested that the timetables be amended.

Response from the RA

251. Following a review of the Proposed Instructions and the comments from stakeholders, the RA sees merit in relaxing these requirements on frequency of reporting to reflect the fact that the AS remedy will still require significant work and effort to implement and get right, notwithstanding the fact that it is a light touch remedy in respect of its impact on the commercial strategy and operations of SMP firms.

252. The submission of a full set of audited accounts will be required within four months of each SMP operator’s first financial year-end following the issuance of this Final Decision and
General Determination (unless otherwise approved by the RA for good cause shown following a justified extension request submitted to the RA no later than 20 business days before this deadline). Subsequently, an audited set of compliant separated accounts must be submitted to the RA once every 12 months. It is unclear that there are material additional benefits of requiring more periodic reporting of audited accounts in light of the costs it will impose on both the RA and the SMP operators involved, but should this prove to be necessary in general or in a specific case, the RA reserves the right to require the submission of interim reports.

253. In addition, as outlined in Section 9.2.1 of this document and in Section 10 on the Transitional period, SMP operators will be required to submit an interim set of statements for the 2-months following the publication of this GD (September-October 2020). These statements must be submitted to the RA no later than 30 November 2020. These statements must be prepared in accordance with the Accounting Separation Final Instructions—including a draft of the supporting documentation as outlined in Annex 2 of the Accounting Separation Final Instructions, including the ‘basis of preparation’ document. However, these statements do not need to be audited.

254. These changes have been reflected in the Accounting Separation Final Instructions included at Schedule 1 to Annex 1 to the General Determination.

**The Cost orientation obligation**

255. In markets lacking effective competition, providers with SMP are likely to have the ability and incentive to set prices that can act to distort or restrict competition and exploit consumers. Examples of such pricing practices include excessively high pricing and excessively low (“predatory”) pricing.

256. For many years, Bermudian consumers have been paying prices that are significantly higher than in comparable countries. Such evidence is highly informative in assessing whether or not there consumers have suffered economic harms as a result of the behaviour of firms in the market.

257. To reduce the risks of such conduct, the RA is requiring SMP operators in a number of retail markets (broadband, mobile, fixed voice and high-speed leased lines) to set prices on a “Cost Orientated” (CO) basis.

258. The obligation to ensure that prices are cost-oriented is proposed to apply on operators with SMP in the following relevant markets:

i. retail provision of fixed broadband;

ii. retail mobile services;

iii. retail fixed voice services; and

iv. retail high-speed leased lines outside of the City of Hamilton.
259. While there were no comments specifically in relation to the application of Cost Orientation in specific markets, there were a small number of comments from stakeholders on the Cost Orientation remedy more generally. OneComm and in particular Digicel have commented that the remedy is disproportionate for two main reasons:

   i. Granularity of the proposed remedy
   ii. Lack of specificity and prescriptiveness

260. The RA comments briefly on each of these points below.

**Granularity**

261. In its response to the Preliminary Report, Digicel commented that the proposal for a "uniform unit costing and pricing approach, which would be expected from any costing model envisaged by the RA" would be at odds with the commercial realities of pricing in electronic communications markets. It stated that a product-by-product inspection would not be able to reflect the real-world differentiation in retail pricing (for example variations in broadband service prices by speed)\textsuperscript{91}

**Response from the RA**

262. The RA has set out that in the first instance the RA will assess compliance with the cost orientation obligation at the level of Product Groups rather than every individual product sold by SMP operators.

263. Compliance with the cost orientation obligation is intended to assessed “at the level of all SMP Product Groups, including Product Bundle Groups containing at least one retail SMP product that rely on SMP wholesale inputs.” This is set out clearly in paragraph 48 of the updated Cost Orientation Guidance Note provided on the RA’s website www.ra.bm.

264. Overall, therefore, the RA does not agree with Digicel that the CO remedy imposes constraints on pricing at a very granular level. Indeed, the obligations are set at a relatively high level.

265. However, the RA recognises that the Proposed Cost Orientation Guidance Note published alongside the Preliminary Report did state that in certain circumstances the RA may wish to assess compliance with CO at a more detailed level such as a group of Individual Products within a Product Group (paragraph 37).

266. The RA has reviewed and updated the wording in the Final Cost Orientation Guidance Note (provided on the RA’s website www.ra.bm to clarify that there may be certain circumstances where there may be concerns about vulnerable customers being exploited or targeted pricing behaviour aimed at excluding rivals which a Cost Orientation obligation test at the level of SMP Product Groups would fail to fully capture. As noted in (paragraph

\textsuperscript{91} Section 4.2 of Digicel’s response to the Preliminary Report.
Therefore, additional granularity is only an option if the high level constraints prove to be ineffective and the Cost Orientation guidance makes it clear that these are likely to be exceptional circumstances. However, the RA therefore reserves the right to request more detailed level information from SMP operators and conduct ad hoc investigations into these and other potential anti-competitive practices.

Lack of specificity and prescriptiveness

In the responses to the Preliminary Report some stakeholders commented that the RA has not been specific enough in what is ‘significant and persistent’ above or below costs, creating significant uncertainty.

Response from the RA

The CO guidance is very clear on the cost standards and the tests that the RA will use to monitor compliance with this obligation. This includes initial screening tests comparing prices and revenues (at a Product Group level) against measures of FAC obtained from the AS remedy. Where such tests, together with other factors, suggest that revenues are above costs a more thorough analysis will be conducted in which the RA will make use of more long-run measures of profitability, such as the internal rate of return (IRR) relative to the weighted average cost of capital (WACC) of the regulated companies.

The RA considers that being more prescriptive regarding the levels of cost above which a breach will be found, or being specific about the length of time over which a discrepancy between costs and revenues would be considered a breach, would defeat the objective of the CO remedy, which is to allow for a balance between consumer protection and commercial flexibility. This approach also recognises that every case needs to be assessed on its own merits, and there will rarely be a universal set of thresholds or timelines that will apply across the board.

Allowing for this greater flexibility takes into consideration the need for the remedies to be proportionate. Overall, therefore, the RA rejects claims that the CO remedy is vague and poorly defined.

A more prescriptive approach could be taken to controlling the risks of excessively high and low prices, such as by defining ex ante the cap (ceiling) and the floor within which prices should be set – i.e., ex ante charge controls. However, such charge controls are usually set on the basis of detailed cost modelling exercises (such as bottom-up LRIC model) and impose significant constraints on the commercial freedom of operators.

The RA notes that while this Cost Orientation remedy does act to constrain retail price-setting to some degree and does seek to address the same concerns as charge controls\(^\text{92}\), the way in which the obligation would be imposed means that the constraint on SMP

\(^{92}\text{Charge controls seek to address concerns about an operator’s ability to set abusive (e.g. excessively high) prices.}\)
operators is, by design, very different from a standard charge control. For instance, a traditional charge control would entail:

- Building a detailed costing model to assess the incremental costs of each individual product/tariff on a forward-looking basis, forecasting potential subscribers and the likely incurred costs over the coming years, and making assumptions about asset depreciation;
- Making assumptions about operational efficiency improvements that could be achieved in the short term and long term;
- Estimating the costs of each individual product in each respective market (e.g. mobile/broadband tariffs);
- Assessing the appropriate charge control basket\textsuperscript{93} of products, and whether there is a need to impose a sub-cap on each separate basket, and;
- Potentially imposing restrictions on pricing that act to undermine incentives to undertake network investment, given that providers may fear being unable to recover such investments.

274. By contrast, the Cost Orientation Obligation would entail the following:

- The RA would not require operators to build detailed product costing models, or to conduct any cost forecasting;
- The RA would not make any assessment of future efficiency improvements that could be achieved by operators;
- The RA would not regulate prices for individual tariffs or products;
- The RA, when considering prices, would include allowances for network investment so that the costs of this investment would be recoverable; and
- The RA would take a flexible approach to pricing, to ensure that any regulatory intervention does not risk undermining investment incentives or distorting market outcomes.

275. The RA considers that a more flexible CO remedy strikes the right balance between protecting consumers and competitors and providing operators with commercial flexibility to experiment with pricing and earn fair returns.

276. The CO remedy provides SMP operators with commercial flexibility for two reasons: first, as explained above, it does not dictate the specific level or structure of prices that can be charged in the market; and second, as explained in the CO guidance, the RA will not be applying price-cost tests in a mechanistic way (see para 56 of Cost Orientation Guidance Note).

\textsuperscript{93} Charge control baskets refer to the grouping together of products such that the operator must ensure compliance of the charge control conditions. As such, the average revenue from/price of products in the basket may not exceed the price cap. However, the sectoral providers have freedom to set different prices for the products in the basket.
In other words, a finding that prices are not aligned to costs in a single year will not automatically lead to a finding of non-compliance and would, most likely, result in further investigation by the RA (see explanation of Phase 1 and Phase 2 analyses in the Cost Orientation Guidance Note).

It is only where the RA’s Phase 2 investigation concludes that prices are (or have been) significantly and persistently above FAC or below LRIC, and where there are no compelling explanations for such divergence, that a finding of non-compliance with the CO obligation may be issued (see para 54 of Cost Orientation Guidance Note).

Overall, therefore, the RA’s approach to the CO remedy is considered to be proportionate given its intended aims.

Obligation to ensure wholesale access is provided on fair, reasonable and non-discriminatory (FRAND) terms and that it is equivalent in terms of service output

The obligation to ensure wholesale access is provided on FRAND terms and that it is equivalent in terms of service output is proposed to apply to SMP operators in the following markets:

- wholesale provision of fixed broadband;
- wholesale mobile access; and
- wholesale high-speed leased lines outside of the City of Hamilton.

While there were no comments specifically in relation to the application of FRAND and margin squeeze in specific markets, there were a small number of comments and arguments made by stakeholders more generally.

The issues raised fell into one of the following categories:

- Proportionality of the remedy
- The conditions against which any access request/offer will be deemed ‘fair and reasonable’;
- Margin squeeze tests and the Equally Efficient Operator (EEO) or the Reasonably Efficient Operator (REO) standard;

The RA comments briefly on each of these points below, after first justifying the proportionality of the proposed remedy.

Proportionality

In its response to the Preliminary report, Digicel commented that a margin-squeeze prohibition is very complex to implement in practice. It considers that the level of effort required of both operator and regulator staff for such a remedy is “highly disproportionate, and the RA should focus on imposing a simpler suite of remedies”. It also commented that
the RA would not need to mandate margin-squeeze testing in addition to other remedies, in particular, over and above Cost Orientation.\textsuperscript{94}

\textit{Response from the RA}

285. The RA intends to intervene primarily in the case of a dispute. A dispute can only be raised following commercial negotiations between the SMP operator and the access seeker. If a single iteration of negotiations is insufficient, there must be at least a second iteration during which the parties elaborate on why they consider their proposed terms need to be adjusted to meet the FRAND requirements. Only if an agreement cannot be reached after the SMP operator and access seeker have made all reasonable efforts, either the SMP operator or the access seeker may request the RA to step in to determine whether the FRAND terms have been met.

286. Overall, therefore, the RA’s approach to the FRAND remedy is considered to be proportionate given its intended aims.

287. The RA also notes that FRAND and Margin Squeeze is still required even in the presence of Cost Orientation. It is not a substitute, but a complementary remedy. While cost orientation relates to the actions of SMP operators in setting prices, specifically the operators’ retail prices, the Cost Orientation obligation in combination with the FRAND requirement on wholesale access should also ensure that wholesale access prices are related to the underlying costs of providing that access. This is because if the retail price is set with reference to costs, and the FRAND requirement on access ensures that the margin between retail and wholesale prices is also set with reference to costs, then it must follow that the wholesale prices will also be set by reference to costs.

\textit{The conditions against which any access request/offer will be deemed ‘fair and reasonable’}

288. The FRAND obligation notes that as a general rule, a reasonable request will be one where the SMP operator, in providing the service in question, is not subject to an unreasonable disadvantage in terms of risk or cost. However, in its response to the Preliminary Report, Digicel noted that:

\begin{itemize}
  \item[i.] the ‘risk’ referred to here should not be limited to issues of ‘network integrity’ but also financial risk.
  \item[ii.] the reasonableness of any request must also take into account of the quality of the request and the quality of the engagement by the access seeker
  \item[iii.] any offer by an SMP operator following a reasonable request should also be considered reasonable if it conforms to industry practice.
  \item[iv.] the dispute resolution process proposed would have the effect of giving access seekers no incentive to fully negotiate access on a commercial basis.
\end{itemize}

\textsuperscript{94} Section 4.3 of Digicel’s response to the Preliminary Report.
Response from the RA

289. In the updated Guidance on Wholesale Access: FRAND and Margin Squeeze (published on the RA’s website [www.ra.bm]), the RA outlines its role as an arbiter in the case of disputes over the provision of wholesale access (e.g. following formal complaints that SMP operators are not negotiating with access seekers in good faith are failing to provide access upon reasonable request or are not meeting the obligations of offering wholesale access on FRAND terms). 95

290. In assessing compliance with the non-price dimensions of the FRAND obligation the Instructions set out what will be presumed a ‘reasonable’ request. While acknowledging that each case will need to be judged on the merits, the general rule would be that the SMP operator, in providing the service in question, is not subject to an unreasonable disadvantage in terms of risk or cost.

291. Therefore, the Instructions already include scope for assessing the costs of implementation, the ability for the SMP operator to recover those costs and whether that would be considered reasonable. Therefore, we believe Digicel’s concerns related to financial risk would be taken into account in any dispute resolution, looking at the specific details of the case at hand. For example, the Instructions state that:

“...as a general rule, a reasonable request will be one where the SMP operator, in providing the service in question, is not subject to an unreasonable disadvantage in terms of risk or cost. Therefore, any request that does not impose a risk, for example to network integrity, security or quality of service provision, 96 and which does not require the deployment of an unreasonable and unrecoverable level of implementation costs, would be likely to be regarded as reasonable.” 97

292. The RA considers that the comments of Digicel in relation to a ‘reasonable’ request being one that conforms to industry practice are valid. While it is not possible to establish ex ante all of the conditions that the RA will take into account when assessing the reasonableness of any request, it will consider each case on its merits, industry practice is indeed something that the RA would be minded to take into account in the event of a dispute regarding the reasonableness of any request for access. However, the RA notes that the requirement is on the SMP operator “...to demonstrate that the access request is not reasonable or does not conform to industry standards, rather than the access seeker being responsible for demonstrating that the access request is reasonable.” 98 Therefore, the SMP operator would be required to show why the request does not conform to industry standards and that it would not be possible to implement in any reasonable manner.

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95 Paragraph 28 of the FRAND Guidance Note.
96 For example, where making access to infrastructure may jeopardise safety or public health, network integrity and security, including that of critical infrastructure, or may endanger the provision of services that are primarily provided over the same infrastructure.
97 Paragraph 39 of the FRAND Guidance Note.
98 Paragraph 37 of the FRAND Guidance Note.
293. In terms of the reasonableness of the request and the quality of engagement by the access seeker, the RA notes that it has also set clear guidance on the conditions for it to step in as an arbiter.

294. The RA rejects Digicel’s concern that access seekers will not have an incentive to fully negotiate for access on commercial terms given the explicit requirements for there to be at least two rounds of negotiation between the parties where all reasonable efforts are made to reach a commercial agreement. The RA would not enter into such a dispute resolution process until this has taken place.

295. Specifically, the Guidance Note is clear in setting out:

“Where both the SMP operator and access seekers have made all reasonable efforts to reach a commercial agreement but have been unable to do so, the RA will have the power to intervene if requested to do so by one of the parties…

If a single iteration of negotiation between the parties is insufficient to come to an agreement, there must be at least a second iteration during which the parties elaborate on why they consider their proposed terms to be adjusted to meet the FRAND requirements.

If an agreement cannot be reached after the SMP operator and access seeker have made all reasonable efforts, either the SMP operator or the access seeker may request the RA to step in to determine whether the FRAND terms have been met.”

99 Margin squeeze tests and the Equally Efficient Operator (EEO) or the Reasonably Efficient Operator (REO) standard

296. Digicel notes that the RA has proposed to use the REO or modified EEO test as the ‘yardstick’ when conducting its margin squeeze test. In its response it notes:

“In a situation where the SMP operator is meeting its retail cost orientation obligation prior to an access request this means that the margin gap between its retail prices and its internal whole cost are based on EEO. Forcing an external wholesale price which results in a higher retail margin gap to pass an REO margin squeeze test would require either that the SMP operator is forced to sell below cost OR is required to increase its retail prices to pass the test.”

100 Page 33 of Digicel’s response to the Preliminary Report.

Response from the RA

297. In the Proposed Guidance Note the RA outlined its reasoning around the efficiency level of the access seeker that will be assumed when undertaking the margin squeeze assessment, in particular whether that level is comparable to the scale of the SMP operator.

298. The reasoning behind not choosing the EEO approach is that only downstream firms that are equally efficient to the SMP operator’s own downstream arm may be able to compete. This raises an issue regarding new entrants who could be less efficient than the SMP

99 Paragraph 30, 31 and 32 of the FRAND Guidance Note.

100 Page 33 of Digicel’s response to the Preliminary Report.

101 Section 3.3.2 of the FRAND Guidance Note.
operator, especially in the short run, since entrants will take time to acquire customers and obtain sufficient scale to compete effectively. The small size of Bermuda also militates against access seekers being able to reach an efficient scale in the foreseeable future.

299. The RA has chosen to adopt an adjusted EEO approach (using information from the separated accounts, and adjusting for scale). By adopting an adjusted EEO approach the RA seeks to account for efficiency differences between the SMP operator and rival downstream firms, which could include accounting for non-replicable advantages of the incumbent, as well as differences in economies of scope (e.g. between the upstream and downstream operations).

300. We recognise the point raised by Digicel, that this means the margin will have to be larger to allow (and this may result in higher prices for the SMP operator). However, the RA considers there remains a good justification for applying the adjusted EEO standard (using information from the separated accounts, and adjusting for scale) to encourage entry (especially for those wholesale access products for which we want to encourage take up). The RA recognises that entry by firms who are less efficient than the SMP operator(s) can still improve consumer outcomes, owing to increases in dynamic efficiency, as the market entry leads to greater innovation and more fierce competition across the market, which should drive improvements in quality and/or reductions in prices.

**Comments on provision of wholesale access more generally.**

301. In a more general comment on the requirement for SMP operators to provide wholesaler access (on FRAND terms) in several markets, Digicel raised a comment that it was unclear as to whether OneComm in theory could request access from Digicel. Equally, it is not clear whether Digicel/OneComm can request access to areas of the other’s broadband coverage, and sought clarification that neither of the ICOLs assessed with Joint SMP should be allowed to benefit from each other’s wholesale access regardless of the market.

*Response from the RA*

302. In light of this comment, the RA considers that making a clarification that joint SMP operators cannot gain wholesale access to each other’s network (in the market in which they are found to have joint SMP) would be beneficial.

303. While, allowing the joint SMP ICOLS to gain wholesale access to each other’s network could be a good way of getting retail competition across the entire island without network overbuild, this could lead to a hold up problem where each would prefer the other to build the network and then seek access on regulated terms.

304. However, the RA also clarifies that in those markets where only one operator has SMP (e.g. business connectivity) all other ICOLs could take advantage of the wholesale remedies (regardless of SMP in any other market).
The obligation to provide wholesale broadband access

305. In relation to the obligation to provide wholesale access in the broadband market One stakeholder in particular commented on the remedies proposed in this market in response to the Preliminary Report. The stakeholder’s comments fall into one of two categories:

- The provision of wholesale access at multiple parts of the value chain is too burdensome
- Access obligations on legacy copper networks

306. Each of these is discussed in turn below.

Access at multiple parts of the value chain

307. In response to the Preliminary Report, Digicel commented that that requiring wholesale broadband access at each and every part of the value chain is too burdensome. It commented that:

- the RA’s proposal on the variety of mandated forms of wholesale access is disproportionate to the likely take-up
- the RA is requiring SMP operators to open their networks at all steps on the ladder of investment at the same time, when in reality physical unbundling and civil infrastructure access will be limited in Bermuda due to the large investments involved.
- Resale and Bitstream/VULA are more realistic targets for the RA to consider in terms of achieving greater wholesale activity in Bermuda and should be the focus of regulation.

Response from the RA

308. The RA acknowledges that it, cannot predict the level of demand for access and the level at which access will be sought, as this will depend very much on the business plans of the access seekers. The RA does not want to prevent access seekers gaining access at certain levels of the SMP operators network if those forms of access are required for their requirements and/or business model. However, the RA also recognises that developing wholesale access products at multiple levels of the value chain could be costly for the SMP operator.

309. Taking this into account, the RA includes in the statement and the FRAND Guidance Note that it would be proportionate to allow SMP operators to prioritise bitstream/VULA and resale (and make that work), such that a request for deeper forms of access would need to be very well evidenced by an access seeker.

310. Specifically, the RA has amended the wording of the FRAND obligation such that the primary form of access should be bitstream/VULA and resale, except where the access seeker can demonstrate that these forms of access are inadequate for their requirements and/or business model. Paragraph 41 of the updated FRAND Guidance Note reflects that
requests for access in the form of bitstream/VULA or resale will be assumed reasonable (with the burden on the SMP operator to demonstrate otherwise). However, where a functioning bitstream/VULA and resale access product has been made available by the SMP operator, it may be allowed to refuse deeper forms of access unless there is a compelling reason (presented by the access seeker) why bitstream/VULA is not sufficient for that particular access seeker. The RA will take this into account when assessing any dispute in relation to wholesale broadband access.

**Access obligations on the copper network**

311. In response to the Preliminary Report, Digicel commented that continuing to impose wholesale access obligations on copper today could have an impact on its ability to decommission legacy copper services in future due to complaints that would come from those alternative operators using the copper network.  

*Response from the RA*

312. While the wholesale access obligation requires SMP operators to meet all reasonable requests for wholesale access in the wholesale broadband market (which as explained in section 7.2 above is defined to be technology neutral), the RA does not intend this obligation to lead to an inefficient outcome whereby an SMP operator is forced to maintain old or legacy networks purely because the SMP operator needs to meet any request for access to these networks.

313. Therefore, the RA wishes to make it clear that the although the obligation to provide access would be on a technology-neutral basis, the operator should not be prevented from decommissioning its legacy network (subject to approval of the RA).

314. As noted in the Preliminary Report, at paragraph 301:

> “[The RA] wishes to make it clear that the obligation to provide access would be on a technology-neutral basis, and that the SMP operator could choose to decommission a legacy network. The SMP operator would need to ensure the continued provision of services to access seekers on the SMP operator’s new/alternative network, and that consumers were no worse off. In other words, the service to consumers must be at least as good as before, for no greater price.”  

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315. Unless the RA has given explicit approval, the requirement to ensure that access seekers and retail consumers are not worse off should be interpreted such that the practice of removing a product speed (say, 25 Mbps) and forcing consumers and access seekers to trade up to a higher speed product for a higher price is unlikely to be considered consistent with the principle, unless there is a compelling technical or economic reason.

316. In the case where the SMP operator wishes to decommission its legacy network, the RA will work together with the SMP operator to ensure that any wholesale or retail consumers on the legacy network are no worse off as a result of the decommissioning of the legacy

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102 Section 5.1.2 of Digicel response to the Preliminary Report.

103 For instance, Digicel Group could choose to decommission its copper network, subject to the RA’s approval, provided that it allowed equivalent services to be made available on its new (fibre) network.
network, in line with the obligations set out above. However, the RA emphasises that there should be no forced migration away from copper and onto fibre until the RA has completed a full review of the plans for decommissioning the copper network. Any choice to decommission legacy networks will be subject to the standards and procedures ultimately approved by the RA in a follow-on consultation that focuses on this issue, pursuant to the RA’s powers under ECA Sections 5(1)(e) and 9(2)(c)(ix).

The obligation to provide wholesale mobile access

317. In response to the Preliminary Report, Digicel was in agreement with the RA’s decision to focus on MVNO and resale in its wholesale remedies. It considered that any condition to negotiate in good faith with unaffiliated third parties seeking to act as MNVOs should be refined to refer to those parties credibly seeking to act as MVNOs.

**Response from the RA**

318. The RA has considered these comments and has also considered the terms on which wholesale mobile access should be provided.

319. As noted in the Consultation Document, the 4G licence conditions already include a number of provisions, at this time the RA imposes a suite of wholesale mobile access conditions on OneComm and Digicel that cover much the same obligations.

320. In particular, the RA requires that:

- SMP operators shall be required to negotiate in good faith and provide services, upon request to unaffiliated third parties seeking to act as credible MVNOs, on fair reasonable and non-discriminatory terms, in line with the FRAND Instructions;
- SMP operators shall promptly commence negotiations following receipt of a reasonably detailed request for the provisions on wholesale mobile services;
- SMO operators shall provide the requesting party with wholesale mobile access and termination services that enable the requesting party to provide the full range of mobile voice and data services to its customers on a resale basis, subject to reasonable terms and conditions.

321. In line with the FRAND instructions, if an agreement cannot be reached after the SMP operator and access seeker have made all reasonable efforts, either the SMP operator or the access seeker may request the RA to step in to determine whether the FRAND terms have been met.

**Consumer switching and choice**

322. In response to the Preliminary Report stakeholders commented that the consumer switching and choice remedies proposed on SMP operators (applicable to the retail fixed broadband, retail mobile services, retail fixed voice services markets) included the same

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104 Schedule to Regulatory Authority (Request for Applications for the Assignment of Designated HDS-1 Frequencies in the 850 MHz,700 MHz, and 2100 MHz Bands) General Determination 2016 (19 May 2016), paragraph 67.
or similar elements as the proposed remedies in the parallel consultation on ‘Principles of Consumer Protection’ which does not distinguish remedies between SMP and non SMP operators.

Response from the RA

323. The RA has acknowledged this comment and no longer proposes to include separate and additional consumer switching and choice remedies in this Market Review. Consumer Protection remedies will be kept separate and will apply to all operators regardless of SMP status.

The obligation to provide information

324. In its response to the Preliminary report, Digicel contended that much of the information that the RA proposes to require under the information provision remedies can be collected by the RA through other means when and where required and that therefore, these additional remedies, especially information provision on a regular basis, is neither required nor proportionate.\(^{105}\)

325. Digicel also argued that "given the seasonal and cyclical nature of revenues, costs and investments and the fact that service providers operate on the basis of annual financial cycles seeking reporting cycles shorter than this is a disproportionate burden in the context of the obligation that they seek to monitor".

326. Digicel also commented on the requirement to publish wholesale KPIs setting out the difference in performance between their retail arms and service provided to wholesale customers stating that ICOL holders must be presumed compliant and that “…in cases where SMP operators exceed their obligations of non-discrimination then the RA’s proposal would in effect require them to publish negative marketing material about themselves”\(^{106}\).

Response from the RA

327. The RA has broad authority under RAA Section 53 and ICOL condition 15.1 to request pertinent information from all authorization holders. The RA considers that the need for predetermined, periodic reporting by SMP operators on key cost, revenue and investment data is critical to its ability to exercise effective regulatory oversight in regard to relevant markets that are characterized by SMP. Specifically, the Information Provision obligation seeks to ensure that the RA has the information required to carry out its duties, both under the RAA and ECA. To achieve this, in addition to the information on costs and revenues that will be provided by SMP operators in accordance with the Accounting Separation obligation, in order to comply with the Information Provision obligation, SMP operators will be required to provide information in respect of their electronic communications network(s), tariff and customers. The RA has carefully considered the scope and timing of the

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\(^{105}\) Section 4.4 of Digicel’s response to the Preliminary Report.

\(^{106}\) Page 38 of Digicel response to the Preliminary Report.
proposed reporting requirements and concludes that they are both necessary and proportionate.

328. Full details of the Information to be reported are specified in the Provision of Information and Key Performance Indicators Final Instructions included at Schedule 2 to Annex 1 to the General Determination.

329. In relation to Digicel’s comments about publication of wholesale KPIs, the RA notes that availability and oversight of these KPIs will provide transparency about the quality of the wholesale service offered, as well as data against which to assess whether the SMP operators are complying with their FRAND obligations. As noted in the FRAND Guidance Note, the RA will assess whether the KPIs are equivalent for all parties. Any differences may indicate non-compliance with the FRAND obligation and may be investigated by the RA.

330. The RA does not agree that Digicel would effectively be required to publish “negative marketing material about themselves” provided that Digicel is in compliance with its FRAND obligations. In that case, the KPIs will be the same for services provided internally and those provided externally to third-party access seekers. If there is a significant discrepancy between the internal and external KPIs that indicates potential anticompetitive discrimination, the practices behind the KPIs would need to be investigated by the RA. This transparency is meant to be both a basis for monitoring and enforcement and also a deterrent against discriminatory non-price behaviour. Full details of the KPIs that must be reported are specified in the Provision of Information and Key Performance Indicators Final Instructions included at Schedule 2 to Annex 1 of the General Determination.
MARKET DEFINITION CONCLUSIONS

331. Market definition provides a framework for competition analysis. It is a key step in identifying the competitive constraints that impact the activities of a supplier of a given product or service.

332. This section sets out the RA’s Final market definitions with respect to the electronic communications sector.

333. Throughout the Market Review process, the RA has conducted analysis on market and financial data submitted by electronic communications providers and considered consultation responses to better assess the specific markets that should form the basis of an assessment of market power.

334. As such, the RA has identified 15 distinct market definitions.

Table 7.1 - Relevant market definitions

<table>
<thead>
<tr>
<th>Service type</th>
<th>Relevant markets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broadband</td>
<td>1. Retail provision of fixed broadband Internet connectivity, provided over any technology, and for any speed, on an island wide basis</td>
</tr>
<tr>
<td></td>
<td>2. Wholesale provision of fixed broadband Internet connectivity, provided over any technology, and for any speed, on an island wide basis</td>
</tr>
<tr>
<td>Mobile</td>
<td>3. The island wide provision of retail mobile services (voice, text and data)</td>
</tr>
<tr>
<td></td>
<td>4. The island wide provision of wholesale mobile access</td>
</tr>
<tr>
<td>Fixed voice</td>
<td>5. The island wide provision of retail fixed voice services (i.e. voice call origination from a fixed location)</td>
</tr>
<tr>
<td>Subscription television</td>
<td>6. The island wide provision of retail subscription television services</td>
</tr>
<tr>
<td>Business connectivity</td>
<td>7. Retail low-speed leased lines in the city of Hamilton (25 Mbps and below)</td>
</tr>
<tr>
<td></td>
<td>8. Retail low-speed leased lines outside of the City of Hamilton (25 Mbps and below)</td>
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<tr>
<td></td>
<td>9. Wholesale low-speed leased lines in the city of Hamilton (25 Mbps and below)</td>
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<tr>
<td></td>
<td>10. Wholesale low-speed leased lines outside of the City of Hamilton (25 Mbps and below)</td>
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<tr>
<td></td>
<td>11. Retail high-speed leased lines in the city of Hamilton (above 25 Mbps)</td>
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<td></td>
<td>12. Retail high-speed leased lines outside of the City of Hamilton (above 25 Mbps)</td>
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<tr>
<td></td>
<td>13. Wholesale high-speed leased lines in the city of Hamilton (above 25 Mbps)</td>
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<tr>
<td></td>
<td>14. Wholesale high-speed leased lines outside of the City of Hamilton (above 25 Mbps)</td>
</tr>
<tr>
<td>Off-island connectivity</td>
<td>15. The provision of off-island connectivity (i.e. international data transmission)</td>
</tr>
</tbody>
</table>
7.1 Approach to market definition

7.1.1 Introduction

335. The purpose of defining relevant markets is to structure and inform the forward-looking assessment of whether any sectoral provider has SMP in these markets. Therefore, market definition is not an end unto itself, but should be carried out with the aim of understanding whether, during the course of the review period, customers will benefit from effective competition, or whether ex ante remedies are required.

336. The RA’s assessment of the relevant markets is set out in this section, under six headings:

- Section 7.2: broadband;
- Section 7.3: mobile;
- Section 7.4: fixed voice;
- Section 7.5: subscription television;
- Section 7.6: business connectivity;
- Section 7.7: off-island connectivity.

7.2 Broadband

337. Broadband Internet services can be provided via a range of technologies, including the following.

- digital subscriber line (“DSL”);
- coaxial cable;
- fibre; and
- wireless broadband technology (“fixed wireless”).

338. In Bermuda, consumers of broadband have historically had to purchase two mutually supportive services: ISP and Access. These two components can be purchased from the same or separate entities. From the end-user’s perspective the difference between the two is not obvious, since it relates to the layers of network that are managed by the respective service providers.

339. In general, Access services relate to the management of the physical network that exists in Bermuda, in terms of the cabling and electronics that are required to link an end-user’s home to the point of interconnection with the ISP. ISP services provide the connectivity to the Internet, including offshore capacity, along with customer-facing functions such as marketing, sales and customer care. ISP and Access services are illustrated in Figure 7.1 below. In the figure, Access services are represented by “iv” (“Intermediate Services”); ISP services are incremental to Access and comprise the final connection to the Internet. Adding ISP services and Access services together results in full “Retail Services”, as represented by “v”.
340. In many cases, consumers choose to buy both ISP and Access from the same provider because it is simpler than having to deal with two separate companies for invoicing and fault management.

**Figure 7.1 - Graphical Depiction of broadband network structure, including ISP and Access distinction**

![Diagram showing broadband network structure and ISP/Access distinction.](image)

7.2.1 Definition of relevant markets

341. Two operators, OneComm and Digicel Group, have broadband network coverage that is currently offered as a service across the entire island of Bermuda.

342. These two incumbent networks differ in terms of technology:
   
   - OneComm operates a broadband network based on fibre and coaxial cable technology; and
   - Digicel Group operates a fibre broadband network (and a legacy DSL (copper) network).

343. Both incumbents have upgraded their networks in order to offer broadband speeds in excess of 30Mbps download. With speeds currently being offered to consumers of up to 300 Mbps download.\(^{107}\)

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344. The RA understands that other operators, such as Link and Bluewave, do not have wide-scale broadband networks and although they do offer broadband services such companies have a very small number of broadband customers.

345. Despite the range of technologies that are used to provide broadband services in Bermuda, from the perspective of consumers, the technology is largely irrelevant. The RA’s view is that the factors that are important to consumers apply irrespective of the technology, and instead relate to service characteristics such as speed, data allowance, latency, and uptime, as well as other service quality elements such as customer service.

346. On these grounds, it would not be appropriate to define markets on the basis of technology. The RA is therefore proceeding with establishing market definitions for broadband that are neutral to the technology used to deliver the service.

347. In terms of the appropriate product market, the RA has defined the market to include any broadband speed. This is consistent with the approach taken in many other jurisdictions, and with the idea that broadband services of different speeds will act to constrain each other due to the chain of substitution that exists across such services.

348. Regarding the geographic market definition, the RA considers that the competitive conditions do not vary materially across specific localities in Bermuda. This is because the two largest providers, Digicel Group and OneComm, offer island wide broadband coverage. They also have national pricing policies such that they have a single national price for each broadband tariff. Given the apparent island wide nature of competition, the RA has adopted a relevant geographic market definition that is island wide.

349. Finally, for the sake of clarity, the RA does not define separate relevant markets for ISP and Access services. The RA considers that these two services currently exist separately as a result of a previous licensing regulatory framework that is no longer in effect.

7.2.2 Conclusion on relevant markets

350. The RA has adopted the following market definitions in its General Determination:

Retail provision of fixed broadband Internet connectivity, provided over any technology, and for any speed, on an island wide basis.

Wholesale provision of fixed broadband Internet connectivity, provided over any technology, and for any speed, on an island wide basis.

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108 For example, in 2014 the Office of Communications (“Ofcom”) in the UK stated that broadband services (which ranged in speed from 10Mbps to 100Mbps) all formed a single market. See paragraphs 3.43-3.55 of Ofcom’s 2014 Wholesale Broadband Access Market Review Statement.

109 Chains of substitution exist when end-users perceive variants of a specific product type to be reasonably substitutable. For example, if there are three speeds of broadband in the market (20Mbps, 30Mbps and 40Mbps), consumers may be willing to switch between them if the price of one increased. If a consumer was on the 30Mbps tariff, and that tariff increased significantly, the consumer may switch down to the 20Mbps tariff if the cost saving were worthwhile.
7.3 Mobile

7.3.1 Introduction

351. Mobile operators provide mobile communications services which broadly fall into three categories:

i. voice calls;

ii. text messaging; and

iii. mobile data.

352. At present, two providers offer 4G LTE mobile services, Digicel Group and OneComm.

7.3.2 Definition of relevant markets

353. The RA, in reaching its view regarding the mobile market definition, strikes a balance between specificity and proportionality. In particular, the RA notes that market definition is not an end in itself, but instead a key step in identifying any potential competition concerns that could require *ex ante* regulation.

354. The RA also notes that within any market definition the RA maintains the powers to apply remedies that address specific competition concerns within a subset of the overall market. The resulting effect is that it is not necessary for the RA to define the narrowest possible market in order to address competition concerns.

355. The RA has concluded that defining distinct retail and wholesale markets is appropriate given that the competitive constraints in these markets may not evolve in the same way over time.

356. The RA has specifically considered whether the RA ought to define a market for mobile call termination. While the industry continues to operate a “Bill and Keep” model for mobile call termination, the RA considers that the application of *ex post* competition rules is likely to be sufficient to deal with any concerns in this market and therefore the RA considers that this market. If there are any observed changes to the applicability of the market tests contained within section 22(2) of the ECA, the RA may reconsider the need to define a market for mobile voice call termination and assess the need for *ex ante* remedies.

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110 LTE stands for long-term evolution and is the technical standard for 4G mobile services.

111 Wholesale mobile voice call termination (“MCT”) is the service necessary for a network operator to connect a caller with the intended mobile recipient of a call on a different network.

112 A pricing scheme for the two-way interconnection of two networks under which the reciprocal call termination charge is zero. That is, each network agrees to terminate calls from the other network at no charge.
7.3.3 Conclusion on relevant markets

357. The RA has adopted the following market definitions in its General Determination:

*The island wide provision of retail mobile services (i.e. voice, text and data).*

*The island wide provision of wholesale mobile access.*

7.4 Fixed voice

7.4.1 Introduction

358. The fixed voice market provides the consumer with the ability to make, as well as receive, phone calls between a fixed location in Bermuda and any other phone number, be it a local or long-distance (i.e. international) phone call.\(^{113}\)

7.4.2 Definition of relevant markets

359. The RA has concluded that it would not be appropriate to define a fixed voice market that includes both call origination and call termination. Specifically, the two services are very different and not substitutable in any way.

360. The RA has concluded that fixed voice origination is a relevant market in its own right because fixed voice origination provides the means for retail fixed voice customers to make calls. In other words, fixed call origination is synonymous with retail fixed voice services.

361. By contrast, call termination is a wholesale product that is provided by one operator, to another, for the purposes of allowing incoming calls onto the network. The RA has decided not to define a wholesale call termination market at this time.

362. In cases where the industry operates a “Bill and Keep” model\(^{114}\) for voice call termination, the RA considers that the application of *ex post* competition rules is likely to be sufficient to deal with any concerns in this market. In the absence of ‘Bill and Keep’, where there are a small number of players in the market, each player can exercise countervailing buyer power on each other and the RA considers it unlikely to be a competition issue. Furthermore, any issues that do arise can be dealt with effectively by *ex post* competition law and therefore, the RA considers that this market is not susceptible to *ex ante* regulation. This is in accordance with the tests for markets susceptible to review under section 22(2) of the ECA. If there are any observed changes to the applicability of the market tests contained within section 22(2) of the ECA, the RA may reconsider the need to define a market for fixed voice call termination and assess the need for *ex ante* remedies.

363. With regard to the market for fixed voice origination (i.e. retail fixed voice services), the RA does not consider, at this time, that the relevant market should include mobile voice

\(^{113}\) The calls can be made to another fixed phone line or to a mobile phone.

\(^{114}\) A pricing scheme for the two-way interconnection of two networks under which the reciprocal call termination charge is zero. That is, each network agrees to terminate calls from the other network at no charge.
services. The RA’s decision is based on evidence, gathered from ICOL holders through request for information, indicating an increasing number of fixed voice subscribers and an increase in the average revenue per user (“ARPU”) for fixed voice subscribers in 2017. This evidence is not consistent with the hypothesis that there is ongoing fixed to mobile substitution in Bermuda.

364. On this basis, the RA finds that fixed voice services are not being constrained by mobile and therefore they do not form a single relevant market.

365. The RA is defining the fixed voice market on a technology-neutral basis and therefore includes PSTN, ISDN and managed VoIP services within this market. The RA has also not made any distinction between the provision of residential or non-residential (business) services. OTT services and unmanaged VoIP services are not included in this market.

366. In particular, the RA notes that market definition is not an end in itself, but instead a key step in identifying any potential competition concerns that could require *ex ante* regulation. Based on the information available to the RA it has no reason to believe that the conditions of competition are significantly different between the residential and business segments for the provision of fixed voice services, as Digicel Group has a significant share of both segments.

367. The RA also notes that within any market definition the RA maintains the powers to apply remedies that address specific competition concerns within a subset of the overall market. The resulting effect is that it is not necessary for the RA to define the narrowest possible market in order to address competition concerns.

### 7.4.3 Conclusions on relevant markets

368. The RA has adopted the following market definition in its General Determination:

*The island wide provision of retail voice services (i.e. voice call origination) from a fixed location.*

369. This includes the provision of services over PSTN, ISDN and managed VoIP services. It excludes OTT and unmanaged VoIP.

### 7.5 Subscription television

#### 7.5.1 Introduction

370. The subscription television (or PayTV) sector encompasses services and technologies capable of delivering audio-visual content to end-users.

371. Traditional subscription television services can include the following delivery mechanisms:

i. cable-based subscription television, in which a coaxial cable connection is used to access television services;
ii. satellite-based subscription television, in which a satellite dish (and associated decoder box) is used to access television services;

iii. antennae-based subscription television, in which digital signals are “broadcast” from a local transmission tower and received at the subscriber’s home using a small outdoor antenna;

iv. Internet protocol television (“IPTV”), in which live television is streamed through an Internet connection.

372. As a result of the increase in the speed and capacity of broadband networks, audio-visual content is increasingly consumed through OTT services, where content is streamed via an online service (for example, Netflix, Amazon Prime, Hulu).

7.5.2 Definition of relevant markets

373. The starting point for market definition was the traditional PayTV services, which include the cable-based subscription television service currently offered by OneComm, antennae based services offered by WoW, and the IPTV-based services offered by Digicel Group. The RA has concluded that these services should all be included in the same relevant market in light of the fact these services offer directly comparable propositions to consumers at similar price points. The key question regarding retail market definition of subscription television services in this market review is whether the relevant market is wider than traditional PayTV services, and specifically, whether the relevant market should also include OTT services.

374. To understand whether OTT services form part of the relevant market, it was necessary to understand the degree to which consumers see OTT services as substitutable to traditional PayTV services.

375. The recent decline in traditional PayTV customers and high penetration of OTT services suggest that consumers are systematically leaving traditional PayTV and instead favouring OTT services for their content consumption requirements. However, further evidence was needed to inform the market definition exercise.

376. In August 2018, the RA conducted a consumer survey of 400 residents of Bermuda. The survey explored what PayTV and broadband services people use, as well as their preferences in relation to such services. A report on the main findings of the consumer survey is published on the RA’s website.

377. Based on the results of the consumer survey conducted by the RA, the RA has concluded that the levels of claimed switching to OTT services (in response to a 10% increase in the price of their PayTV package) are high enough to suggest that the relevant retail market is wider than just traditional PayTV. However, on the basis of the analysis of the consumer survey results, the RA made a further distinction between paid OTT services and free OTT services. The switching evidence shows that a large number of consumers claim they would switch to using OTT services only. The largest proportion of these customers say

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115 Broadband is relevant to this assessment because a broadband connection is required to access OTT services.
they would rely on paid OTT services, after cancelling their traditional PayTV service. Furthermore, the levels of claimed switching to OTT was higher for those claiming to rely on paid OTT, compared to those who claimed they would rely on free OTT services.

378. On the basis of this analysis, the RA considers that the relevant retail market includes paid OTT services. Regarding free OTT services, while there does appear to be switching, it is not clear that they would form part of the relevant market.\(^\text{116}\)

379. The RA intends to continue to monitor the subscription television market and gather further information. If new data becomes available that suggests that consumer switching away from traditional PayTV and toward paid OTT services in response to a 10% price rise is not above critical levels, the RA may reopen the question of the relevant retail market definition in respect of subscription television services in a future market review.

7.5.3 Conclusion on relevant markets

380. The RA has adopted the following market definition in its General Determination:

\textit{The island wide provision of retail subscription television services.}

381. The RA clarifies that this definition would include retail paid OTT services.

382. The RA has decided not to define a wholesale subscription broadcast market, and to proceed instead in assessing market power in a retail subscription broadcast market only.

7.6 Business connectivity

7.6.1 Introduction

383. Business connectivity services (often called “leased lines” services) provide symmetric, uncontended data connectivity services between two network aggregation nodes or business premises, or connectivity to cloud-based services. These connections can be point-to-point or point-to-multipoint. The primary users of these services are larger businesses and telecommunications service providers.

384. Businesses use these services to connect multiple offices to remote business servers located in Bermuda, or to connect with international data transmission networks in order to access data centers outside of Bermuda.

385. Telecommunications service providers might use these services to connect different parts of their own networks, for example backhaul from a regional aggregation node to the core network,\(^\text{117}\) or for connecting to submarine cable landing points to enable off-island connectivity to the Internet.

\(^\text{116}\) Further details on the market definition process and the interpretation of the consumer survey data are provided in Section 4.5.3 of the Consultation Document.

\(^\text{117}\) Including by mobile network operators that need to use such connections to link together their mobile masts and provide the necessary backhaul.
7.6.2 Definition of relevant markets

386. Since mid-2017, the RA has been gathering information from operators to inform the RA’s assessment of the relevant business connectivity markets. Specifically, the RA issued formal RFIs to providers of electronic communications services, including OneComm, Digicel Group and Link. The requests sent to these operators asked for detailed network information to enable the RA to conduct a comprehensive assessment of the relevant leased line markets.

387. While some operators were able to provide high-level data on their business connectivity networks, specifically regarding the location of endpoints and flexibility points, none were able to provide details. As such, the RA does not currently have sufficiently detailed data with which to conduct a comprehensive assessment of the relevant geographic markets.

388. As a result of its initial analysis, the RA concluded that it did not have sufficient information to determine whether it is appropriate to depart from the prevailing geographic market distinctions. As currently constructed, the existing market is defined according to services provided within the City of Hamilton and contiguous suburbs, and those provided outside of Southside and the City of Hamilton and contiguous suburbs. The RA has concluded that there is a lack of clarity as to the geographic borders of the relevant market, given that the “contiguous suburbs” and Southside are not explicitly defined within the market review in 2013 or geographically within Bermuda. The RA has therefore decided to maintain the two geographic markets in relation to the City of Hamilton but will remove the references to “Southside” and “the contiguous suburbs” in order to eliminate confusion about the geographic scope of the relevant markets.

389. Furthermore, no evidence has been provided by any parties to show that other than OneComm’s network upgrade (which focuses mainly on the residential end of the market) there has been entry and expansion of networks outside of the City of Hamilton and that these networks would be capable of providing high-speed business connectivity services. In the absence of any concrete and compelling evidence that the conditions of competition inside and outside of the City of Hamilton are equivalent, the RA sees no reason to depart from the geographic market definitions proposed.

390. In relation to the product market definitions, the RA considers it appropriate to distinguish between retail and wholesale leased line services. The RA has reached this view on the basis that the retail and wholesale markets are separate in their function and operation; and therefore, it proposes to maintain the distinction between the two markets.

391. The RA also notes that since 2013 there has been significant investment in the networks of OneComm and Digicel Group. This investment has afforded OneComm and Digicel Group the ability to offer customers faster broadband services, with download speeds of up to 300Mbps. This investment in the networks has been complemented by increasing offshore capacity in order to meet the growing data consumption demands of consumers utilizing these faster broadband services.\(^{118}\)

\(^{118}\) Internet usage (in terms of number of Internet users, time spent on the Internet, and amount of data used) has been increasing over time. With the increasing use of fibre-based electronic communications networks and the general trend
In relation to the faster broadband services now available, these improved speeds are likely to be more than sufficient for many small businesses. The RA recognizes that upload speeds are more important for business users than they are for residential broadband users. Business connectivity (leased line) services tend to be symmetric, in that the upload and download speeds are the same.\(^{119}\)

For the reasons outlined in paragraphs 111 – 115 the RA has decided to draw a distinction between leased line services under 25 Mbps and those above this threshold.\(^{120}\)

The RA defines leased lines services with speeds of 25 Mbps or less as “low-speed” and clarifies that low-speed leased lines are reflective of observed download and upload speeds that are less than or equal to 25 Mbps. “High-speed” leased lines correspond to leased lines where both the download and the upload speeds are in excess of 25 Mbps.

The RA also includes on-island submarine cable interconnectivity and backhaul services within the definition of “high-speed” leased lines, given that such services require capacity well in excess of 25 Mbps.

### 7.6.3 Conclusions on relevant markets

The RA has adopted the following 8 relevant business connectivity markets in its General Determination, consistent in wording with those defined in 2013. However, the RA has provided a new definition of low- and high-speed leased lines as set out above.

**Table 7.2 - Business connectivity (leased line) market definitions**

<table>
<thead>
<tr>
<th>Low-speed (25 Mbps and below)</th>
<th>Retail leased lines markets</th>
<th>Wholesale leased lines markets</th>
</tr>
</thead>
<tbody>
<tr>
<td>In the City of Hamilton</td>
<td>In the City of Hamilton</td>
<td></td>
</tr>
<tr>
<td>Outside of the City of Hamilton</td>
<td>Outside of the City of Hamilton</td>
<td></td>
</tr>
<tr>
<td>High-speed (above 25Mbps)</td>
<td>In the City of Hamilton</td>
<td></td>
</tr>
<tr>
<td>Outside of the City of Hamilton</td>
<td>Outside of the City of Hamilton</td>
<td></td>
</tr>
</tbody>
</table>

### 7.7 Off-island connectivity

#### 7.7.1 Introduction

Off-island (submarine cable) connectivity is an essential input into many on-island electronic communications services. As such, access to submarine connectivity can act as a bottleneck and has implications for the level of competition observed in both the wholesale and retail markets. It is therefore essential to review the market for submarine toward higher bandwidth demand in the residential broadband market, the RA would expect to see this effect mirrored in the business connectivity market.

\(^{119}\) In contrast, residential broadband will generally have a higher download speed. For example, a broadband tariff with a headline download speed of 50Mbps may have a headline upload speed of only 5Mbps.

\(^{120}\) In the event that further network investments are implemented that offer higher upload speeds and afford sector providers the ability to provide broadband services that replicate business connectivity services, the RA is open to revisiting this market definition.
connectivity in order to ensure that providers’ conduct, pricing and investment decisions are not distorting competition in other markets. In the 2013 market review process there was no defined market for off-island connectivity.

398. As part of the RA’s market review, the RA assessed this essential input, and whether there are any competition concerns warranting regulatory intervention.

### 7.7.2 Definition of relevant markets

399. Off-island connectivity relates to the span of connectivity that allows for the transfer of data traffic between Bermuda and other countries, most especially to facilitate access to the Internet as well as international calls. The relevant market therefore is not confined to Bermuda, but instead from any location to or from Bermuda, so long as the service offers end to end connectivity, both for sending and receiving data or calls.

400. The RA has concluded that the market definition should be neutral as to the use of the connectivity. That is, whether the connection is being used to route voice calls or to connect to the internet, the same relevant market would apply.

401. This is justifiable on the basis that the same infrastructure is used to provide connectivity for all on-Island services wishing to either send or receive data from another (international) location.

### 7.7.3 Conclusion on relevant markets

402. The RA has adopted the following market definition in its General Determination:

> The provision of off-island connectivity (i.e. international data transmission).
MARKET POWER CONCLUSIONS

403. The purpose of defining relevant economic markets is to assess whether, during the review period, an operator has SMP in any of those markets. The principles for the determination of SMP are set out in section 23 of the ECA.

404. The RA’s determinations on SMP in each of the relevant markets identified in the previous sections are summarized in Table 8.1 below. In the remainder of this section, the RA sets out the conclusions that lead to these determinations.

Table 8.1- Relevant markets and SMP operators

<table>
<thead>
<tr>
<th>Service type</th>
<th>Market #</th>
<th>Relevant markets</th>
<th>SMP operator(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broadband</td>
<td>1</td>
<td>Retail provision of fixed broadband Internet connectivity, provided over any</td>
<td>OneComm and Digicel Group</td>
</tr>
<tr>
<td></td>
<td></td>
<td>technology, and for any speed, on an island wide basis</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Wholesale provision of fixed broadband Internet connectivity, provided over any</td>
<td>OneComm and Digicel Group</td>
</tr>
<tr>
<td></td>
<td></td>
<td>technology, and for any speed, on an island wide basis</td>
<td></td>
</tr>
<tr>
<td>Mobile</td>
<td>3</td>
<td>The island wide provision of retail mobile services (voice, text and data)</td>
<td>OneComm and Digicel Group</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>The island wide provision of wholesale mobile access</td>
<td>OneComm and Digicel Group</td>
</tr>
<tr>
<td>Fixed voice</td>
<td>5</td>
<td>The island wide provision of retail fixed voice services</td>
<td>Digicel Group</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(i.e. voice call origination from a fixed location)</td>
<td></td>
</tr>
<tr>
<td>Subscription television</td>
<td>6</td>
<td>The island wide provision of retail subscription television services</td>
<td></td>
</tr>
<tr>
<td>Business connectivity</td>
<td>7</td>
<td>Retail low-speed leased lines in the City of Hamilton (25 Mbps and below)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>Retail low-speed leased lines outside of the City of Hamilton (25 Mbps and below)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>Wholesale low-speed leased lines in the City of Hamilton (25 Mbps and below)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>Wholesale low-speed leased lines outside of the City of Hamilton (25 Mbps and</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>below)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>Retail high-speed leased lines in the City of Hamilton (above 25 Mbps)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>Retail high-speed leased lines outside of the City of Hamilton (above 25 Mbps)</td>
<td>Digicel Group</td>
</tr>
<tr>
<td></td>
<td>13</td>
<td>Wholesale high-speed leased lines in the City of Hamilton (above 25 Mbps)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>14</td>
<td>Wholesale high-speed leased lines outside of the City of Hamilton (above 25 Mbps)</td>
<td>Digicel Group</td>
</tr>
<tr>
<td>Off-island connectivity</td>
<td>15</td>
<td>The provision of off-island connectivity (i.e. international data transmission)</td>
<td></td>
</tr>
</tbody>
</table>
405. The RA summarizes the approach to market power assessment in the following section.

8.1 Approach to market power assessment

406. The purpose of the market analysis, conducted in accordance with section 23 of the ECA and section 59(2) of the RAA, is to determine whether a market is effectively competitive.

407. After having identified the relevant product and geographic markets, the RA is required to analyse each market in order to assess whether any sectoral providers have SMP as defined in section 23 of the ECA.

408. Where the RA determines that a market is not effectively competitive, and identifies operators with SMP, it may make administrative determinations that impose appropriate and specific regulatory ex ante obligations on SMP operators. The purpose of such an administrative determination is to prevent or deter the potential anti-competitive effects of the identified existence of an SMP operator or operators.

409. One important characteristic of some of the markets that the RA has identified is the presence of two principal competitors; this market structure is often referred to as a “duopoly”. Such a market structure inherently raises questions about defining the potential existence of any competition concerns given that the market is largely dominated by two sectoral providers, rather than one.

410. In the case of duopoly markets, the concern may not be of a single provider possessing market power, but of both large incumbent providers possessing market power. As such, a market assessment should consider if there is joint SMP.

411. Joint SMP does not require, or imply, that the two sectoral providers are engaging in illegal collusion, but refers to whether they constitute a collective entity, i.e. there is “tacit coordination” between them, relative to their competitors, trading partners and customers.

412. In accordance with section 23(3) of the ECA, joint SMP may be found if:

   i. the relevant market is concentrated;

   ii. each provider has a high and stable share of the market;

   iii. significant and enduring barriers to entry exist; and

   iv. there are grounds for thinking that these factors, together with others, are likely to give rise to tacit coordination and thereby prevent, restrict or distort competition.

413. In assessing whether there are grounds for assessing whether the market conditions are likely to give rise to tacit coordination, the RA followed an analytical framework based on the economics of tacit coordination, considering the ability of the operators in the market to:

   i. identify focal points for coordination
ii. monitor potential deviations by participants in the common policy

iii. maintain stability in the face of external destabilizing factors (e.g. market entry, introduction of new technologies etc.)

iv. enforce effective punishment mechanisms

414. The remainder of this section is structured according to the same six service areas set out in Section 7.

i. Section 8.2: broadband;

ii. Section 8.3: mobile;

iii. Section 8.4: fixed voice;

iv. Section 8.5: subscription television;

v. Section 8.6: business connectivity;

vi. Section 8.7: off-island connectivity.

8.2 Broadband

8.2.1 Introduction

415. In Section 7 the RA concluded that the relevant market includes the island wide provision of broadband services. Furthermore, the RA has concluded that separate markets should be defined for both retail and wholesale broadband services.

8.2.2 Conclusion

416. The RA concludes that OneComm and Digicel Group hold joint SMP in the retail broadband market. This conclusion is based on the market evidence considered below:

i. retail broadband market shares of OneComm and Digicel Group have historically been highly symmetric;

ii. historically, prices for broadband services of OneComm and Digicel Group were very closely aligned, and for many of the most popular tariffs were often identical

417. The evidence presented suggests that OneComm and Digicel Group are likely to have engaged in tacit coordination in the past.

418. While the recent program of investments in fibre networks by both sectoral providers is a welcome development and good news for consumers, the RA remains concerned that,
Despite the improvement in the price/speed ratio received by consumers, overall prices may still not be aligned with costs, and OneComm and Digicel Group continue to have the incentives and ability to coordinate and sustain such an outcome. The continued alignment in pricing on the new, faster networks (as illustrated in Table 6.4 above) is clear evidence of that the tacit coordination observed in the past is likely to persist over the market review period. Therefore, despite their investments in fibre networks, the RA is not confident that the market conditions are such that the risk of tacit coordination in the future has been eliminated.

419. A finding of joint SMP at the retail level is highly indicative of joint SMP at the wholesale level. This is because, if the wholesale market were competitive, the RA would be more likely to observe a competitive retail market. The observable evidence is consistent with the hypothesis that OneComm and Digicel Group enjoy joint SMP at the wholesale broadband level.

420. A corollary of being the sole owners of the infrastructure, and the fact that the sectoral providers self-supply, is that there is an almost one-to-one correlation between market shares at the retail level and at the wholesale level. Thus, it is possible to extrapolate the stability of market shares from the wholesale level to the retail level.

421. The RA has seen no evidence to suggest that the wholesale market is functioning effectively. Furthermore, the finding of joint SMP at the retail level is likely to be strengthened by the absence of a thriving wholesale access market, for the reasons outlined above. The RA therefore concludes that OneComm and Digicel Group also have joint SMP at the wholesale level.

8.3 Mobile

8.3.1 Introduction

422. With respect to mobile services, in Section 7, the RA concluded that the relevant markets include the island wide provision of retail mobile services, as well as wholesale mobile access.

8.3.2 Conclusion

423. The RA concludes that OneComm and Digicel Group have joint SMP in the retail mobile market. This conclusion is based on the market evidence considered below:

i. Closely aligned prices of OneComm and Digicel Group for the most popular mobile tariffs;

ii. High mobile data prices relative to relevant international comparators;

iii. Evidence of high profitability in the provision of mobile services; and

iv. Almost perfect symmetry in market shares over time.
424. The wholesale mobile market is directly relatable to the retail mobile market on the basis that both retail operators are vertically integrated and only self-supply.

425. Unless there are competitive constraints present at the wholesale level that suggest otherwise, the joint SMP finding from the retail level would indicate joint SMP at the wholesale level as well.

426. On the basis of the analysis outlined above, the RA concludes that both Digicel Group and OneComm possess joint SMP in the wholesale and retail markets.

427. This SMP finding is consistent with the observable market outcomes, including the evolution of market shares, prices and profits.

428. In addition, the competitive conditions in the mobile market, such as the lack of external destabilizers and their disciplining power, incentivise and allow Digicel Group and OneComm to maintain stable tacit coordination.

8.4 Fixed voice

8.4.1 Introduction

429. Historically, the fixed telephony market has been largely served by Bermuda Telephone Company Ltd (now operated by Digicel Group), with sectoral providers such as Link and TeleBermuda International Limited serving, and operating in, small parts of the market. This continues to be the case.

430. In the market review in 2013, Bermuda Telephone Company Ltd was deemed to have SMP in the market for fixed voice services, which was defined as "narrowband access lines and local calls".

431. The evidence that fixed voice customer numbers are increasing, and that ARPU increased in 2017, supports the hypothesis that fixed customers are not migrating away to mobile services. This evidence also reinforces the conclusion that fixed voice is a separate market from mobile.

432. There is no indication that joint SMP could be present in this market, and as such the RA proceeds with an assessment of single SMP.

433. Digicel Group is the dominant provider of fixed services, and the RA also notes that its revenues have been increasing over time.

8.4.2 Conclusion

434. The RA concludes that Digicel Group has SMP in the fixed voice market.
8.5 Subscription television

8.5.1 Introduction

435. In Section 7, the RA defined subscription television markets. In this section the findings of SMP in the relevant subscription television markets for both retail and wholesale are reported.

436. In 2013 Bermuda Cable Vision, a subsidiary company now owned by OneComm, was identified as having SMP in the subscription television market at both the wholesale and retail level.

437. Since 2013, there have been a number of changes in the subscription television market, including the growing use of OTT services and the recent entry of Digicel Group and its IPTV service.

438. At the present time, and for the next few years, it seems as though OneComm, despite having a high market share, may be limited in its ability to profitably increase prices because of the competitive constraints of alternative providers and the willingness of large cohorts of consumers to switch.

8.5.2 Conclusion

439. The RA concludes that there are currently no SMP operators in this market but notes that it intends to monitor market outcomes closely over the next few years given that current market trends may lead to a situation where OneComm would have SMP. Should market dynamics warrant it, the RA may reconsider its assessment of this market.

8.6 Business connectivity

8.6.1 Introduction

440. In Section 7, the RA defined business connectivity markets. In this Section the findings of SMP in each of these markets is summarised.

441. The RA has identified eight relevant markets for business connectivity according to all the possible combinations of the following three criteria:

   i. market level: retail versus wholesale;

   ii. product: high-speed versus low-speed (leased lines); and

   iii. geographic: in the city of Hamilton versus outside it.

442. In 2013, high-speed leased lines in the city of Hamilton and contiguous suburbs were found to be effectively competitive.

443. Based on information provided by operators in response to the RFI, the RA notes that over the period of this market review, Digicel had approximately 60% share of business
connectivity by revenues, OneComm had approximately a 27% share with Link making up the remainder of the market. These figures do not differentiate by speed of geographic location, but it is evident that Digicel has significantly large shares across all of Bermuda. Therefore, the RA considers that even if the market was defined as one national market as Digicel would still be considered to have a very strong position in the market.

444. The RA has no grounds to depart from the previous finding that high-speed leased lines in the city of Hamilton were considered effectively competitive, so maintains this finding.

445. Furthermore, based on the market share data described above and given that no evidence has been provided by any parties to show that other than OneComm there has been entry and expansion of networks outside of the City of Hamilton (and that such networks would be capable of providing high-speed business connectivity services), the RA has not been presented with concrete and compelling evidence to show that the conditions of competition inside and outside of the City of Hamilton are equivalent. Therefore, the only defined markets in which the RA concludes that there is SMP are high-speed leased lines outside of the city of Hamilton.

8.6.2 Conclusion

446. The RA concludes that Digicel Group holds SMP in the high-speed wholesale and retail markets of leased lines that provide at least 25 Mbps upload and 25 Mbps download speeds outside of the City of Hamilton. See Table 8.2 below.

Table 8.2 - Relevant markets and SMP operators

<table>
<thead>
<tr>
<th>Wholesale leased lines markets</th>
<th>Retail leased lines markets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low-speed (25 Mbps and below) leased lines in the City of Hamilton No SMP</td>
<td>Low-speed (25 Mbps and below) leased lines in the City of Hamilton No SMP</td>
</tr>
<tr>
<td>Low-speed (25 Mbps and below) leased lines outside of the City of Hamilton No SMP</td>
<td>Low-speed (25 Mbps and below) leased lines outside of the City of Hamilton No SMP</td>
</tr>
<tr>
<td>High-speed (above 25 Mbps) leased lines in the City of Hamilton No SMP</td>
<td>High-speed (above 25 Mbps) leased lines in the City of Hamilton No SMP</td>
</tr>
<tr>
<td>High-speed (above 25 Mbps) leased lines outside of the City of Hamilton Digicel Group has SMP</td>
<td>High-speed (above 25 Mbps) leased lines outside of the City of Hamilton Digicel Group has SMP</td>
</tr>
</tbody>
</table>

8.7 Off-Island connectivity

8.7.1 Introduction

447. In Section 7, the RA defined the off-island connectivity market.

121 Section 5.6.3 of the Consultation Document.
448. As an essential input into on-island electronic communications services, access to submarine connectivity is critical to the full functioning of many core electronic communications services such as broadband and mobile.

449. The RA understands that at present there are no capacity constraints that would limit the ability of any of the three submarine cable owners to win business from the other providers of submarine connectivity. As such, on the basis of the evidence, the market conditions currently appear to be sufficient to deliver a competitive outcome.

8.7.2 Conclusion

450. The RA concludes that there are currently no SMP operators in this market.
9 Remedies Conclusions

451. In Section 7 the RA defined fifteen markets across six services, and concluded, in Section 8, that there were competition concerns in seven of these fifteen markets across four of the six services: broadband, mobile, fixed voice and business connectivity. The RA highlights that it has not found SMP in the market for the subscription television, the provision of off-island connectivity or in a number of business connectivity markets. This was summarized in Table 8.1 at the start of Section 8.

452. The RA may, in accordance with section 20(1) of the ECA, make administrative determinations that impose ex ante remedies. The RA’s ex ante measures aim to promote effective and sustainable competition in the markets in which a sectoral provider(s) was deemed to have SMP. SPB:

453. Each remedy here fulfils the RA’s statutory duties and satisfies the legal tests for imposing such remedies.

454. The section is structured as follows:

- **Approach to remedies (section 9.1)** sets out the RA’s approach to remedies, as well as its statutory duties in markets where it has found SMP;

- **Overview of key remedies (section 9.2)** summarizes new remedies that the RA will apply to the SMP operators in certain markets;

- **Broadband remedies (section 9.3)** sets out the remedies that the RA will apply to the SMP operators (OneComm and Digicel Group) in the provision of broadband services;

- **Mobile remedies (section 9.4)** sets out the remedies that the RA will apply to the SMP operators (OneComm and Digicel Group) in the provision of mobile services;

- **Fixed voice remedies (section 9.5)** sets out the remedies that the RA will apply to the SMP operator (Digicel Group) in the provision of fixed voice services; and

- **Business connectivity remedies (section 9.6)** sets out the remedies that the RA will apply to the SMP operator (Digicel Group) in the provision of business connectivity services.

9.1 Approach to remedies

455. As set out in section 21 of the ECA, in determining whether to impose, modify or withdraw SMP obligations with respect to a particular provider or providers, the RA should seek to:

i. develop or maintain effective and sustainable competition for the benefit of consumers with regard to price, innovation and choice;

ii. promote investment in the electronic communications sector;

iii. establish ex ante remedies that are effective but proportionate, taking into account the costs of compliance and the ultimate benefits to consumers;
iv. establish ex ante remedies that apply on a technology-neutral and service-neutral basis wherever feasible; and

v. rely on market forces and withdraw, reduce or limit ex ante remedies in circumstances where the RA concludes that markets are effectively competitive or likely to become so within a reasonable period of time, taking into account actual and expected market circumstances.

456. The RA notes that, in some circumstances, these objectives may compete with one another. While a remedy such as imposing wholesale access can promote service-based competition and lead to lower prices for consumers (i.e. promoting objective i), it may act to reduce incentives for incumbents to invest (i.e. conflicting with objective ii).

457. Given these trade-offs, in considering the most appropriate form of regulation, the RA has struck a balance to achieve the best overall outcome for all stakeholders in the short term and long term.

458. Furthermore, the RA understands the important role that ex post competition powers, as specified in sections 85 and 86 of the RAA, can play in effective market regulation. As the RA is seeking to ensure that the overall regulatory framework utilizes ex post regulation appropriately and effectively, the RA plans to issue separate guidance on its use of ex post competition powers. In any event, the RA has the power and capability to investigate infringements and impose penalties for breaches of competition law in regulated sectors.

459. Notwithstanding this, in markets where sectoral providers hold single or joint SMP, competition law alone may not be sufficient to develop and sustain effective competition. This consideration is important in identifying markets that are susceptible to ex ante regulation, as set out in section 22 of the ECA.

460. In markets with SMP operators, there may be ongoing competition concerns that could result in undesirable market outcomes in the absence of regulation. These concerns could relate to excessively high prices, poor quality services, and a lack of innovation. Addressing such concerns solely with ex post regulatory tools would create a significant risk of consumer harm.

461. Specifically, if the RA is able to intervene only after the fact, this may be too late to ensure access for a potential new entrant. In contrast, ex ante regulation can promote the existence of the right industry environment to facilitate efficient market entry for access seekers. For instance, ex ante regulation will help ensure that the terms of wholesale access are transparent and do not favour the incumbent’s own retail business division.

462. Furthermore, when close market monitoring is required to determine whether competition is effective in the market, ex ante powers enable the RA to oblige SMP operators to provide accurate and timely information on a regular basis.

463. Finally, ex ante regulation allows for more timely intervention, which can be critical in a fast-moving market.
9.2 Overview of key remedies

464. The RA notes both that a number of the remedies did not exist under the 2013 market review and that the remedies are applied across multiple markets.

465. Given these two points, the RA is providing a general overview of five remedies that it is proposing to apply to some of the SMP operators:

- An obligation to maintain Accounting Separation;
- An obligation to provide regular, timely and accurate information to the RA;
- An obligation to ensure prices are Cost Oriented; and
- An obligation to provide wholesale access on FRAND terms.

466. These remedies are described below, together with a high-level explanation of: (i) the concern that the remedy addresses; and (ii) how the RA proposes that the remedy would work in practice.

467. Further details on the application of these remedies is provided in the Final Instructions and Guidance Notes. The Accounting Separation obligation and the remedy involving the Provision of Information and Key Performance Indicators are stipulated in greater detail in Final Instructions that are incorporated within the General Determination. This Final Report is also accompanied by two Guidance Notes and are published on the RA’s website [www.ra.bm]: one on Cost Orientation and the other on Wholesale Access: FRAND and Margin Squeeze. The Guidance Notes are informational in nature but they provide a clear indication to the industry on how the RA will act to enforce compliance with the underlying remedies to which they relate, namely, Cost Orientation and provision of wholesale access of FRAND terms. The Guidance Notes may be supplemented or amended from time to time as experience is gained with implementation these remedies.

468. As noted in Section 10, the RA has decided that it is in the public interest to retain certain limited Transitional Remedies carried over from the 2013 obligations to ensure the continued protection of consumers and competition. These Transitional Remedies will remain in effect until the RA determines they are no longer necessary following implementation of the new regulatory regime.

9.2.1 Accounting Separation

469. Accounting Separation is a regulatory tool that enables the RA to ascertain whether there are anti-competitive cross-subsidies among services provided by an SMP operator, or whether the operator is engaging in any form of anti-competitive pricing.

470. This remedy is based on an obligation to prepare separate accounts for each of the business divisions and/or product lines operated by the SMP provider, including retail and wholesale activities where relevant. The provider will bear the responsibility of having to identify and allocate the costs and revenues associated with each business division, as well as the business transactions between the divisions.
471. Accounting Separation is also an important component of a broader objective of the RA, namely, to ensure that charges for electronic communications services are transparent, non-discriminatory and cost-based (see the section below on Cost Orientation).

472. The Accounting Separation remedy requires the preparation and provision of:

i. a statement of mean capital employed;

ii. profit and loss accounts and

iii. further cost, volumes and revenue information

in a format that can be usefully employed for the assessment of compliance with a number of other regulatory obligations, as specified further in the Accounting Separation Final instructions included at Schedule 1 to Annex 1 of the General Determination.

473. In implementing Accounting Separation, the RA is mandating the following:

- Separated accounts must be prepared annually (and submitted within four months after the SMP operator’s financial year end, unless otherwise approved by the RA, which must be applied for by 20 business days before the deadline) and must be based on a transparent cost allocation method;

- The transparent cost allocation method must be based on the principle of cost causality. This requires costs to be attributed to components, services and business divisions strictly in accordance with the activities that cause those costs to be incurred. The RA would not allow the cost of any financial penalties or of outage compensation paid to customers to be included in such costs;

- Specifically, allocations under this methodology must not have the intention, or effect, of providing an advantage to the SMP operator at the expense of its competitors;

- Separated accounts must be prepared in accordance with generally accepted accounting conventions, unless such conventions are shown to be irrelevant;

- The allocation methodology must be applied consistently between accounting periods. Alternatively, where a change in the method of application can be objectively justified, it must be noted and comparative data provided according to the revised basis of allocation; and

- The separated accounts must be subject to annual audit.

474. Full details of the requirements of the Accounting Separation obligation, the approach to be followed and the supporting documentation to be provided alongside the separated accounts are described the Accounting Separation Final Instructions included at Schedule 1 to Annex 1 of the General Determination.

475. Compliance with these requirements will ensure that the RA has a good understanding of the Revenues and Fully Allocated Costs (FAC) associated with providing electronic communications services in Bermuda. As such, this remedy will support other remedies
that the RA is proposing in a number of markets, in particular Cost Orientation and the requirement to provide access on FRAND terms, both of which are discussed below.

476. In addition to the annual reporting, SMP operators will be required to present to the RA an interim set of statements for the 2-months following the publication of the GD (September-October 2020). These statements must be submitted to the RA no later than 30 November 2020. These statements must be prepared in accordance with the Accounting Separation Final Instructions—including the supporting documentation as outlined in Annex 2 of the Accounting Separation Final Instructions—but do not need to be audited.

477. The RA will use these interim accounts, and supporting documentation, as a basis for discussion with each SMP operator and intends to work closely with the operators to ensure that the form of reporting is consistent with that required by the Accounting Separation Final Instructions. Following receipt of the interim statements, the RA will review the operators’ submissions and work with them to finalize the approved methodology for preparation of the separated accounts. The RA will issue its final approval of each operator’s methodology or, if necessary issue a direction to the operator—as set out in the ‘basis of preparation’ document and other supporting documentation described in Annex 2 of the Accounting Separation Final Instructions—sufficiently in advance of the date for that operator’s submission of the first set of audited accounts, which are due four months after the SMP operator’s financial year end. As and when necessary, the RA may issue orders to clarify the application of the accounting separation rules set out in these Instructions based on experience gained with the format and content of the financial information submitted.

9.2.2 Information provision

478. In order for the RA to regulate effectively and to monitor compliance with ex ante remedies, it is critical that the RA has market information that is up to date, accurate and provided in a timely fashion.

479. To achieve this, in addition to the information on costs and revenues that will be provided by SMP operators in accordance with the Accounting Separation obligation, the RA is mandating that network, tariff and customer information will also need to be provided. This can include:

- network coverage, such as the geographic location and the number of premises covered or passed;
- the menu of tariffs offered to customers, such as prices, the services provided (e.g. broadband speed) and contract terms; and
- customer and subscriber numbers associated with each tariff, and the average revenue per customer, customer churn and average monthly usage.

480. Each SMP operator is required to submit this information to the RA once every 6 months. The information provided in each filing should be as fully up-to-date as possible and must be submitted to the RA within 20 business days after the relevant 6-month period.
481. The first delivery of this information must cover the 6-month period from April to September 2020, with the subsequent filings being every 6 months thereafter. This must be provided within 40 business days following the close of this period (i.e. by 25 November 2020).

482. Full details of the information to be provided are set out in the Provision of Information and Key Performance Indicators Final Instructions, included at Schedule 2 to Annex 1 of the General Determination.

9.2.3 Cost Orientation

483. In markets that lack effective competition, providers with SMP are likely to have the ability and incentive to set prices that can act to distort or restrict competition, as well as exploit consumers. Examples of such pricing practices include excessively high pricing and excessively low (predatory) pricing. Such pricing practices ultimately harm consumers by denying them the benefits that would result from an effectively competitive market.

484. In order to address the risks of such anti-competitive conduct, in addition to the existing regulatory competition powers which the RA has in a number of markets, including broadband and mobile, the RA has decided to impose an obligation on SMP operators to ensure that their retail prices are Cost Oriented. In simple terms, Cost Orientation imposes constraints on the prices that SMP operators can set. The RA will monitor the market and assess over time whether the prices charged by SMP operators are reflective of the operators' costs of providing the services, including the cost of capital.

485. In assessing compliance, the RA will take a phased approach.

486. In **Phase 1** the RA will use readily available information on prices and costs, which the operator will submit regularly to the RA in its separated accounts, to undertake initial screening tests which will take the following form:

- Where there are concerns about **excessively high pricing**, an assessment will be undertaken to compare ROCE with WACC. An alternative formulation of this is to compare prices/revenues with FAC from the separated accounts (plus an allowance for return on capital at the SMP operator’s WACC); and

- Where there are concerns about **excessively low pricing**, a comparison will be undertaken of prices/revenues with a LRIC estimate, which the RA will compute by applying a LRIC to FAC ratio to the FAC number from the separated accounts (plus an allowance for a return on capital at the SMP operator’s WACC).

487. These screening tests will be undertaken at the level of all SMP Product Groups, including Product Bundle Groups containing at least one retail SMP product that rely on SMP wholesale inputs.

488. If prices are within the bounds of LRIC and FAC (i.e. above LRIC and below FAC), the RA will be minded not to undertake further analysis. However, if, on the basis of the RA’s own

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122The SMP Product Groups are broadband and mobile services for both OneComm and Digicel Group, and fixed voice and high-speed leased lines (outside of the City of Hamilton) for Digicel Group alone.
Phase 1 assessment, and/or compelling evidence provided by stakeholders, the RA suspects there are grounds to believe that the SMP operator is in breach of the Cost Orientation obligation, it will proceed to a Phase 2 analysis.

489. Phase 2 will involve the RA assessing in more detail whether the SMP operator has complied with the Cost Orientation obligation, including assessing multiple years of information to understand whether any misalignment between prices and costs is temporary or is a more permanent issue. In cases where prices are significantly and persistently above FAC or below LRIC, and where there are no compelling explanations for such divergence, the RA is likely to reach a finding of non-compliance with the Cost Orientation obligation.

490. The RA sets out further details of the Cost Orientation remedy and how it would be applied in practice in the Cost Orientation Guidance published on the RA’s website www.ra.bm.

491. Furthermore, as discussed earlier and in section 10 below, to further re-enforce the cost orientation obligation, the RA may consult separately on the introduction of a form of price control on a small number of products (‘anchor products’) in certain retail and wholesale markets.

9.2.4 Wholesale access on FRAND terms

492. Market players with SMP are likely to have the ability and incentive to refuse or restrict access to their networks to other operators who wish to use the network to provide retail services. This restriction can harm consumers by limiting the scope for competition at the service level. As a result, the RA requires SMP operators in certain markets (i.e. broadband, mobile and high-speed leased lines outside of the City of Hamilton) to provide wholesale access to their networks.

493. As part of this obligation, SMP providers will be required to offer commercial terms to wholesale access seekers in accordance with FRAND.123

494. The FRAND obligation is intended to ensure that SMP providers offer access on price and non-price terms that are fair and reasonable, and do not discriminate between different access seekers, or between the SMP provider’s own retail arm and other sectoral providers.

495. Specifically, the RA will interpret the meaning of providing access on ‘fair and reasonable’, ‘non-discriminatory’ terms and the ‘obligation not to provide a margin squeeze’ as follows:

- **Access on fair and reasonable terms**—Access seekers and must meet any reasonable request for access. Requests for access may not be refused except for objectively justified reasons, backed up by evidence. Therefore, access requests will be presumed to be reasonable unless the SMP operator demonstrates that they are not reasonable. As such, in the case of a dispute, the SMP operator will need to

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123 The RA notes that joint SMP operators cannot gain wholesale access to each other’s network (in the market in which they have found to have joint SMP). However, the RA also clarifies that in those markets where only one operator has SMP (e.g. business connectivity) all other ICOLs could take advantage of the wholesale remedies (regardless of SMP in any other market).
demonstrate that the access request is not reasonable or does not conform to industry standards, rather than the access seeker being responsible for demonstrating that the access request is reasonable.

- **Non-discrimination**—The SMP operator must not discriminate between the terms of access provided to its downstream division and other access seekers. In assessing compliance with the non-discrimination obligation, the RA will apply the concept of Equivalence of Outputs (EOO). Specifically, the RA will assess whether the terms of wholesale access offered by the SMP operator provide the same level of functionality and service as the SMP operator offers to its own downstream divisions. As such, the SMP operator must not offer a reduced service to access seekers relative to the service that the operator provides to itself. The external and internal services must be identical on all key service and quality dimensions.

- **The obligation not to impose a margin squeeze**—the RA will assess the difference between retail prices and the wholesale access costs, which must be large enough to cover retail costs plus a reasonable profit margin. In any assessment of compliance with a margin squeeze, a choice must be made about the efficiency level of the access seeker, and whether that level is comparable to the scale (and implicitly the efficiency level) of the SMP operator. Under an assessment of margin squeeze the RA will adopt an approach based on the costs of an ‘Adjusted Equally Efficient Operator’, using information from the separated accounts, and adjusting for scale. The RA will assess compliance on the Product Groups for which the SMP operator has been found to have SMP at the wholesale level. It will also assess compliance on all the formats in which customers subscribe to the SMP service as part of a bundle i.e. on Product Bundle Groups involving at least one product or service over which the SMP operator is deemed to have SMP in a wholesale market.

496. There are two ways in which the RA will monitor and assess compliance with the FRAND obligation (including the obligation not to engage in a margin squeeze):

- The ongoing review of the information collected through the Accounting Separation obligation (including specific wholesale KPIs and financial data) will allow the RA to determine whether there are any concerns warranting the RA to launch a detailed investigation; and

- The RA will also act as an arbiter in the case of disputes over the provision of wholesale access. For example, the RA may receive formal complaints that SMP operators are not negotiating with access seekers in good faith; are failing to provide access upon reasonable request or are not meeting the obligations of offering wholesale access on FRAND terms.

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124 Under EOO, the access products offered by the wholesale SMP operator to alternative operators are comparable to the products that the wholesale SMP operator provides to its retail division in terms of functionality and price, but the products may be provided by different systems and using different processes.

125 The key wholesale KPIs to be provided are outlined in the Information Provision and Key Performance Indicators Final Instructions included at Schedule 2 to Annex 1 of the General Determination.
497. The RA notes that in the interim period before the first set of Regulatory Accounts is published in accordance with the Accounting Separation obligation, the RA will intervene in the case of a dispute in line with the steps outlined below.

498. Where both the SMP operator and access seekers have made all reasonable efforts to reach a commercial agreement but have been unable to do so, the RA will have the power to intervene if requested to do so by one of the parties and to determine whether the terms offered by the SMP operator comply with the FRAND obligation. This includes price and non-price dimensions of the FRAND obligation.

499. If a single iteration of negotiations between the parties is insufficient to come to an agreement, there must be at least a second iteration during which the parties elaborate on why they consider their proposed terms need to be adjusted to meet the FRAND requirements.

500. If an agreement cannot be reached after the SMP operator and access seeker have made all reasonable efforts, either the SMP operator or the access seeker may request the RA to step in to determine whether the FRAND terms have been met.

501. Other cases may arise that lead to a formal complaint being made to the RA. For example, an agreement to provide access has been enacted but an access seeker becomes concerned that the terms of the agreement are no longer compliant with FRAND terms in practice or that the SMP operator is not honouring the terms of access outlined in the agreement. In such cases, where a formal, well-evidenced complaint is made to the RA, the RA may initiate a detailed investigation.

502. Further details on how the Wholesale Access FRAND and Margin Squeeze obligations would be applied in practice are provided in the Wholesale Access FRAND and Margin Squeeze Guidance Note published on the RA’s website www.ra.bm.

9.3 Market specific remedies

503. The remainder of this section sets out the remedies that the RA is proposing with respect to those markets where it has identified SMP (in section 5). The remedies are structured on the basis of the five service areas in which the RA identified SMP in the defined relevant markets.

• Section 9.4: broadband;
• Section 9.5: mobile;
• Section 9.6: fixed voice;
• Section 9.7: subscription television; and
• Section 9.8: business connectivity.

9.4 Broadband

504. The RA determined that OneComm and Digicel Group hold joint SMP in both the retail and wholesale broadband markets.
505. Given this joint SMP finding, the RA is required to consider appropriate and proportionate remedies in each of the markets. Table 9.1 below summarizes the remedies.

**Table 9.1 - Remedies in the broadband markets**

<table>
<thead>
<tr>
<th>Market level</th>
<th>Operator(s) with SMP</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wholesale</td>
<td>OneComm, Digicel Group</td>
<td>• Obligation to provide wholesale re-sale, bitstream and virtual unbundled local access, physical unbundling and infrastructure access</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Obligation to ensure that wholesale access is provided on FRAND terms</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Obligation to publish wholesale key performance indicators</td>
</tr>
<tr>
<td>Retail</td>
<td>OneComm, Digicel Group</td>
<td>• Obligation to offer broadband on a stand-alone basis</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Obligation to ensure Accounting Separation</td>
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<tr>
<td></td>
<td></td>
<td>• Obligation to provide information to the RA</td>
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<tr>
<td></td>
<td></td>
<td>• Obligation to ensure that prices are Cost Oriented</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Obligation to publish retail key performance indicators</td>
</tr>
</tbody>
</table>

9.4.1 Retail broadband remedies

506. The RA has concluded that it is appropriate and proportionate to impose five retail broadband market remedies:

- an obligation to offer broadband on a stand-alone basis;
- an obligation to ensure Accounting Separation;
- an obligation to ensure prices are Cost Oriented;
- an obligation to provide information to the RA; and
- an obligation to publish retail KPIs.

Obligation to offer stand-alone retail broadband service

507. Stand-alone broadband refers to the offering of retail broadband services that allows the consumer to access the Internet. SMP operators would be allowed to bundle these services together.

508. Under this obligation, SMP operators are required to offer a retail broadband service that is unbundled from any other electronic communications service (e.g. fixed phone, mobile or PayTV).

509. The RA notes that if it saw evidence that operators were seeking to evade this regulation through pricing strategy, it would consider intervening through use of its ex post powers.

Accounting Separation

510. The RA requires SMP operators to maintain Accounting Separation. This obligation will enable the RA to observe, inter alia, the costs and revenues of providing broadband services on an end-to-end basis in the retail and wholesale market.
511. Further details on how the Accounting Separation obligations will be applied in practice are described in section 9.2.1 above and in the Accounting Separation Final Instructions included at Schedule 1 to Annex 1 of the General Determination.

Obligation to ensure prices are Cost Oriented

512. The RA requires SMP operators to ensure that retail broadband prices are Cost Oriented. Under the Cost Orientation obligation, revenue that is attributable to broadband services must not be significantly and persistently above the FAC of providing the broadband services, and prices must not be significantly and persistently below a price floor (hence preventing predatory pricing).

513. Further details on how the Cost Orientation obligations would be applied in practice are described in section 9.2.3 above and in the Cost Orientation Guidance Note published on the RA’s website [www.ra.bm].

514. The RA recognizes that there will be a period of time following the publication of this General Determination during which the two SMP operators will be preparing their separated accounts in line with the Accounting Separation remedy. Until the RA is in a position to evaluate the SMP operators’ compliance with the new cost orientation obligation based on these separated accounts, there will be a potential regulatory vacuum. Furthermore, the RA plans to assess whether it is necessary to reinforce the cost orientation obligation for certain SMP services (for example, by specifying an “anchor product” and associated price cap). For these reasons, the RA has decided to retain on a temporary basis certain limited Transitional Remedies carried over from the 2013 obligations. These Transitional Remedies will apply to a limited subset of retail broadband services in order to ensure the continued protection of consumers and competition, until the RA decides that the transitional safeguards are no longer necessary. These Transitional Remedies are discussed in Section 10 below.

515. The RA has concluded that it is necessary and proportionate to retain (during the transition period), a retail price cap on a subset of retail fixed broadband access services and ISP services (together defined as the provision of fixed broadband Internet connectivity in this market review), as described in more detail in Section 10 on the transitional remedies.

516. These transitional remedies will remain in place until: (1) the SMP operators have submitted their separated accounts (as required under the Accounting Separation obligation) to the RA and the RA determines, based on the information contained in the separated accounts, that the transitional remedies are no longer necessary to ensure

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126 The RA has identified a very limited subset of Transitional Remedies drawn from the 2013 SMP obligations that must remain in effect until the RA is satisfied that the new regulatory regime being adopted in this Final Decision are capable of being implemented effectively. The RA has carefully calibrated these limited Transitional Remedies so that they apply only to those relevant markets, and specific services within those markets, that are necessary to protect competition and consumers during the transition to the new regime. Furthermore, the Transitional Remedies will be time-bound, and will remain in place only until the relevant replacement obligation is capable of being implemented effectively. The RA notes in this regard that the Transitional Remedies apply only to certain relevant markets that were found to be characterized by SMP in the 2013 review and that remain subject to a finding of SMP as a result of the RA’s current review process. The restricted scope and duration of these Transitional Remedies is fully in line with the RA’s powers under ECA Section 24, subsections (5) and (6). The RA will terminate the Transitional Remedies as soon as the replacement obligations (as discussed below) are capable of being implemented effectively.
compliance by each SMP operator with the cost orientation and FRAND obligations (including the obligation not to engage in margin squeeze); and/or (2) the RA has had an opportunity to evaluate the need for, and implement, any new safeguards (in particular, by specifying an “anchor product” and associated price cap) to reinforce the cost orientation obligation for the protection of consumers and competition.

517. Furthermore, as discussed earlier and in section 10 below, the RA may consult separately on the need to further re-enforce the cost orientation obligation through the introduction of a form of price control on a small number of products (‘anchor products’) and whether this would be appropriate in the context of the retail fixed broadband market. If introduced, this ‘anchor product’ remedy would replace the transitionary price cap remedy and will remain in force at least until the separated accounts (required under the Accounting Separation obligation) are in place. At that point, the RA will be able to the data from the separated accounts to assess compliance of retail broadband prices with the cost orientation obligation, and will also be in a position to evaluate the continuation, extension or removal of the ‘anchor product’ remedy.

Obligation to provide information

518. The RA requires SMP providers to submit regular and detailed information to the RA every six months.127

519. Further details on the information to be provided is included in the Provision of Information and Key Performance Indicators Final Instructions included at Schedule 2 to Annex 1 of the General Determination.

Obligation to report retail KPIs

520. In addition to publishing KPIs in respect of wholesale services, SMP operators will be required to publish a small number of retail KPIs.

521. The RA’s objective in requiring the SMP operators to make such information public is to increase public awareness of the quality of service provided by the SMP operators, and to better inform consumers about what services are available. Most importantly, this information should encourage further competition between operators, specifically regarding the quality of their retail service.

522. As specified in the Provision of Information and Key Performance Indicators Final Instructions, the RA requires SMP operators to published the following retail broadband KPIs:

- the average actual achieved broadband download speed, sub-divided by tariff (i.e. the headline download speed);

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127 The RA will require regular information, but also wishes to ensure that the obligation is proportionate. As such, data reported every six months with annual auditing should balance the need for the RA to have regular and accurate information, while minimising the administrative burden on SMP operators.
• the number of customer complaints, sub-divided by topic (i.e. reliability, speed, contractual terms, or over-billing).

9.4.2 Wholesale broadband remedies

523. The RA is imposing the following obligations on the SMP providers in the wholesale broadband market (i.e. OneComm and Digicel Group):

• To provide wholesale access;
• To ensure that wholesale access is provided on FRAND terms; and
• To publish wholesale KPIs.

The obligation to provide wholesale access

524. Given recent developments in the market and the RA’s finding of joint SMP, as well as the scope for improving consumer outcomes by increasing service-based competition, the RA considers that it is necessary to continue to impose wholesale broadband access obligations on OneComm and Digicel Group.

525. Wholesale access obligations will encourage retail competition at the service level by giving efficient access seekers the opportunity to compete for customers. This can deliver significant consumer benefits, particularly in terms of lower prices to consumers.

526. “Wholesale broadband access” refers to the provision of wholesale broadband services by the owner of the network infrastructure to allow sectoral providers to access that network in order to offer their own retail broadband services.

527. Wholesale access can come in several forms, including the following:

• Re-sale: the access seeker buys a service that is identical to the incumbent’s retail service, and simply re-brands it;

• Bitstream: the access seeker interconnects at a single point in the network for the purposes of providing broadband services whereby the access seeker offloads traffic onto its own core network to enable Internet connectivity;

• Physical unbundling: the subscriber’s fixed connection is “unbundled”, allowing direct ownership by the access seeker. This requires the access seeker to install equipment at the location of the unbundled wiring. This form of access is relevant mainly to legacy forms of broadband;

• VULA unbundling: a virtual form of unbundling whereby the subscriber’s connection (i.e. fibre broadband connection) is virtually unbundled, allowing the access seeker to take ownership of the “last mile” of the individual subscriber’s connection. This form of access is relevant to newer (i.e. fibre-based) broadband networks; and

• Infrastructure access: access seekers can install their own cables into the SMP provider’s civil infrastructure (e.g. underground ducts and overhead poles). This is a purely passive form of access that requires the access seeker to have its own fully
independent active broadband network but does negate the need for the access seeker to conduct its own civil works in order to install cabling in its own ducts.

528. The RA requires that the SMP providers meet any reasonable request for all forms of wholesale broadband access listed. The RA anticipates that bitstream/VULA and re-sale are the most relevant for fibre-based broadband networks and are likely to be by far the most popular access products. However, SMP providers would also be required to provide physical unbundling or infrastructure access, if reasonably requested.

529. For the avoidance of doubt, as specified in the Wholesale Access: FRAND and Margin Squeeze Guidance Note, in the case of wholesale broadband access, the RA considers that the primary form of access should be bitstream/VULA and resale, except where the access seeker can demonstrate that these forms of access are inadequate for their requirements and/or business model. Therefore, requests for access in the form of bitstream/VULA or resale will be assumed reasonable (with the burden on the SMP operator to demonstrate otherwise). However, where a functioning bitstream/VULA and resale access product has been made available by the SMP operator, it may be allowed to refuse deeper forms of access unless there is a compelling reason (presented by the access seeker) why bitstream/VULA is not sufficient for that particular access seeker. The RA will take this into account when assessing any dispute in relation to wholesale broadband access.

530. The RA also makes clear that although the obligation to provide access will be imposed on a technology-neutral basis, the operator should not be prevented from decommissioning its legacy network (subject to the prior approval of the RA). However, the SMP operator must ensure that it continues to provide services to access seekers on its new/alternative network, and that consumers are no worse off. In other words, the service to consumers must be at least as good as before, for no greater price.

531. Unless the RA has given explicit approval, the requirement to ensure that access seekers and retail consumers are not worse off should be interpreted such that the practice of removing a product speed (say, 25 Mbps) and forcing consumers and access seekers to trade up to a higher speed product for a higher price is unlikely to be considered consistent with the principle, unless there is a compelling technical or economic reason.

532. In the case where the SMP operator wishes to decommission its legacy network, the RA will work together with the SMP operator to ensure that any wholesale or retail consumers on the legacy network are no worse off as a result of the decommissioning of the legacy network, in line with the obligations set out above. However, the RA emphasises that there should be no forced migration away from copper and onto fibre until the RA has completed a full review of the plans for decommissioning the copper network. Any choice to decommission legacy networks will be subject to the standards and procedures ultimately approved by the RA in a follow-on consultation that will focus on this issue, pursuant to the RA's powers under ECA Sections 5(1)(e) and 9(2)(c)(ix).

533. To provide further clarity and increased certainty and protection to access seekers, the RA proposes to consult separately on a specific requirement for the SMP operators to continue to offer a specific entry level product (i.e., an “anchor” product) for the duration of the market review period. This anchor product will be specified at the wholesale level on a technology neutral basis at a speed level that will meet the needs of the large majority
of retail broadband customers in Bermuda. This wholesale product will be equivalent in technical specifications to a retail ‘anchor product’ that will also be consulted upon. For the avoidance of doubt, the price of the wholesale service (relative to the mandated retail price for the equivalent retail anchor product) would be subject to the FRAND obligations, including the requirement not to engage in a margin squeeze. This condition would apply to both Digicel Group and OneComm.

534. Furthermore, the RA notes that joint SMP operators in the broadband market are not permitted to gain wholesale broadband access to each other’s network.

**Wholesale access must be provided on FRAND terms**

535. As part of this obligation to meet any reasonable request for wholesale broadband access, OneComm and Digicel Group must also ensure that all wholesale broadband services are provided in accordance with the FRAND obligation.

536. The FRAND obligation is intended to ensure that the SMP provider offers access on price and non-price terms that are fair and reasonable, and does not discriminate between different access seekers, or between the SMP provider’s own retail arm and other sectoral providers. The FRAND obligation also means that SMP operators have to negotiate in good faith with potential and existing access seekers. At a minimum, the RA considers that wholesale access should be available for each and every broadband tariff that the SMP operators offer at the retail level. Furthermore, any requests for other wholesale access services should also be met, if they are reasonable.

537. The SMP operator must not discriminate between the terms of access provided to its downstream division and other access seekers. In practice, this means that SMP operators will need to ensure that wholesale services provided to access seekers are equivalent to those that SMP operators supply to their own downstream divisions. As noted in section 9.2.4 above, in assessing compliance with the non-discrimination obligation, the RA will apply the concept of Equivalence of Outputs (EOO).\(^{128}\)

538. Further details on how the FRAND obligations would be applied in practice are provided in section 9.2.4 above and the Wholesale Access FRAND and Margin Squeeze Guidance Note published on the RA’s website [www.ra.bm].

**Ensuring that prices do not lead to a margin squeeze**

539. SMP operators will need to ensure that they do not engage in a margin squeeze for wholesale broadband access, as part of the FRAND obligation. A margin squeeze would occur if the SMP operator were to set wholesale and retail prices leaving insufficient room to recover all relevant and efficiently incurred costs, plus an appropriate profit margin.

540. As part of this wholesale access requirement, the RA will lift the wholesale price cap currently set at the retail price minus 15%. However, the RA notes that, on the basis of the evidence reviewed as part of the Market Review process, the RA understands that the

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\(^{128}\)Under EOO, the access products offered by the wholesale SMP operator to alternative operators are comparable to the products that the wholesale SMP operator provides to its retail division in terms of functionality and price, but the products may be provided by different systems and using different processes.
efficiently incurred retail costs are likely to be in excess of 15% of retail prices. The RA therefore expects that FRAND-compliant wholesale prices will result in a margin between retail and wholesale in excess of 15% of retail prices. However, the RA does not seek to mandate a specific figure, preferring instead a case-by-case analysis based on the evidence presented by the parties.

541. Further details on how the FRAND obligations including the obligation not to engage in a margin squeeze would be applied in practice are provided in section 9.2.4 above and the Wholesale Access FRAND and Margin Squeeze Guidance Note published on the RA’s website [www.ra.bm].

Obligation to publish wholesale KPIs

542. In order to track the service quality that SMP operators are offering to wholesale access seekers, the RA requires the SMP operators to provide directly to the RA and publish on their websites specific wholesale KPIs according to the service offered to access seekers, as well as the services that the operators provide to their own retail business divisions.

543. As specified in the Provision of Information and Key Performance Indicators Final Instructions, the RA requires SMP operators to published the following wholesale broadband KPIs:

- The time taken to connect and/or migrate a retail customer, according to the retail business division of the SMP provider and for each access seeker;

- The time taken to address network faults, from when the fault was first identified, according to the retail business division of the SMP provider and access seekers. Faults are defined here as lost or impaired service due to issues in the wholesale network (i.e. faults that are the responsibility of the SMP operator);

- The number of faults that need to be fixed according to the retail business division of the SMP provider and access seekers.

9.5 Mobile

544. The RA will apply several remedies to the joint SMP operators in the mobile market, which are detailed in this section. Table 9.2 summarizes the remedies in the wholesale and retail mobile markets.
Table 9.2 - Remedies in mobile markets

<table>
<thead>
<tr>
<th>Market</th>
<th>Operator(s) with SMP</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wholesale mobile</td>
<td>OneComm, Digicel Group</td>
<td>• Obligation to provide wholesale access</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Obligation to ensure that wholesale access is provided on FRAND terms</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Obligation to publish wholesale KPIs</td>
</tr>
<tr>
<td>Retail mobile</td>
<td>OneComm, Digicel Group</td>
<td>• Obligation to offer mobile services on a stand-alone basis</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Obligation to ensure Accounting Separation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Obligation to ensure prices are Cost Oriented</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Obligation to provide information to the RA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Obligation to publish retail KPIs</td>
</tr>
</tbody>
</table>

9.5.1 Retail mobile remedies

545. The RA imposes the following obligations:

- An obligation to offer stand-alone products;
- An obligation to ensure Accounting Separation;
- An obligation to set retail prices on a Cost Oriented basis;
- An obligation to provide information to the RA; and
- An obligation to publish retail KPIs.

Obligation to offer stand-alone products

546. The RA requires SMP operators to offer the mobile element of any of their service offerings on a stand-alone basis (i.e. unbundled from any other products with which the mobile services might be sold). For this purpose, mobile services constitute combinations of allowances of minutes, Internet data and text messages. The stand-alone obligation would require all technical criteria of the bundled offer (e.g. data limits or throttling) to be replicated.

547. The RA notes that if it sees evidence indicating that SMP operators are seeking to evade this regulation through pricing strategy, the RA would consider intervening through use of its *ex post* powers.

Obligation to ensure Accounting Separation

548. The RA obliges SMP operators to maintain Accounting Separation. This requirement, in conjunction with the information provision obligations set out below, will enable the RA to observe and analyse the costs and revenues of providing mobile services on an end-to-end basis (i.e. including retail and wholesale costs).

549. Further details on how the Accounting Separation obligations would be applied in practice are described in section 9.4.1 above and in the Accounting Separation Final Instructions included at Schedule 1 to Annex 1 of the General Determination.
Obligation to set retail prices on a Cost Oriented basis

550. The Cost Orientation obligation requires that revenue attributable to mobile services is not significantly and persistently above the FAC of providing mobile services. Furthermore, the Cost Orientation obligation would also mandate that prices not be predatory. As such, the regulated entity will need to ensure that its prices are not significantly and persistently below a price floor.

551. Further details on how the Cost Orientation obligations would be applied in practice are provided in section 9.2.3 above and in the Cost Orientation Guidance Note published on the RA’s website [www.ra.bm].

552. Furthermore, as discussed in section 10 below, the RA may consult separately on the need to further re-enforce the cost orientation obligation through the introduction of a form of price control on a small number of products (‘anchor products’) and whether this would be appropriate in the context of the retail mobile market.

Obligation to provide information

553. The RA requires SMP operators to submit information to the RA every six months.\(^{129}\)

554. Further details on the information to be provided is included in the Provision of Information and Key Performance Indicators Final Instructions included at Schedule 2 to Annex 1 of the General Determination.

Obligation to publish retail KPIs

555. In addition to publishing KPIs in respect of wholesale services, SMP operators will be required to publish a small number of retail KPIs.

556. The RA’s objective in requiring the SMP operators to make such information public is to increase public awareness of the quality of service provided by the SMP operators, and to better inform consumers about what services are available. Most importantly, this information should encourage further competition between operators, specifically regarding the quality of their retail service.

557. As specified in the Provision of Information and Key Performance Indicators Final Instructions, the RA requires SMP operators to published the following retail mobile KPIs:

- The actual service quality achieved by customers, sub-divided by tariff;
- The number of customer complaints, sub-divided by topic (i.e. reliability, speed, contractual terms, or over-billing).

\(^{129}\) The RA will require regular information, but also wishes to ensure that the obligation is proportionate. As such, data reported every six months with annual auditing should balance the need for the RA to have regular and accurate information, while minimising the administrative burden on SMP operators.
9.5.2 Wholesale mobile remedies

558. To address the finding of SMP in the wholesale mobile market, the RA has decided to impose three obligations on OneComm and the Digicel Group:

- An obligation to provide wholesale access;
- An obligation to ensure that wholesale access is provided on FRAND terms; and
- An obligation to publish wholesale KPIs.

Obligation to provide wholesale mobile access on FRAND terms (to complement prevailing licensee obligations)

559. To ensure that the mobile market is functioning efficiently, and that wholesale services can be effectively used by efficient access seekers, the RA requires that, in addition to the prevailing licensee obligation, wholesale mobile access is provided on FRAND terms.

560. As noted in the Consultation Document, the 4G licence conditions already include a number of provisions, at this time the RA imposes a suite of wholesale mobile access conditions on OneComm and Digicel that cover much the same obligations.

561. In particular, the RA requires that:

- SMP operators shall be required to negotiate in good faith and provide services, upon request to unaffiliated third parties seeking to act as credible MVNOs, on fair reasonable and non-discriminatory terms, in line with the FRAND Instructions;
- SMP operators shall promptly commence negotiations following receipt of a reasonably detailed request for the provisions on wholesale mobile services;
- SMP operators shall provide the requesting party with wholesale mobile access and termination services that enable the requesting party to provide the full range of mobile voice and data services to its customers on a resale basis, subject to reasonable terms and conditions.

562. In line with the process described in section 9.2.4 above and in the Wholesale Access FRAND and Margin Squeeze Guidance Notes published on the RA’s website [www.ra.bm], if an agreement cannot be reached after the SMP operator and access seeker have made all reasonable efforts, either the SMP operator or the access seeker may request the RA to step in to determine whether the FRAND terms have been met.

563. Consistent with the HDS-1 licence conditions, and the RA’s conclusions with respect to wholesale broadband access, if market evidence indicates that network operators are not meeting their FRAND obligations, the RA will intervene.

130 Schedule to Regulatory RA (Request for Applications for the Assignment of Designated HDS-1 Frequencies in the 850 MHz, 700 MHz, and 2100 MHz Bands) General Determination 2016 (19 May 2016), paragraph 67.
564. The RA notes that joint SMP operators in the mobile market are not permitted to gain wholesale mobile access to each other’s network.

565. Furthermore, as discussed in section 10 below, the RA may consult separately on the need to further re-enforce these obligations through the introduction of a form of price control on a small number of products (‘anchor products’) and whether this would be appropriate in the context of the wholesale mobile market.

Obligation to publish mobile wholesale KPIs

566. The RA has decided to oblige the SMP operators to publicly report on several KPIs in order to provide transparency about the operators’ service quality to wholesale customers (i.e. MVNOs), as well as evidence on which to assess whether the SMP operators are indeed meeting their FRAND obligations.

567. As specified in the Provision of Information and Key Performance Indicators Final Instructions, the RA requires SMP operators to published the following wholesale mobile KPIs:

- The number of days taken to port a mobile number, sub-divided by each MVNO, and for the SMP operator’s own retail arm;
- The number of days taken to restore service to a customer, sub-divided by each MVNO, and for the SMP operator’s own retail arm; and
- The number of calls dropped/blocked, sub-divided by each MVNO, and for the SMP operator’s own retail arm.

9.6 Fixed voice

568. The RA is imposing a number of remedies, as set out in Table 9.3 below.

Table 9.3 - Remedies in the fixed voice markets

<table>
<thead>
<tr>
<th>Market</th>
<th>Operator(s)</th>
<th>Remedy</th>
</tr>
</thead>
</table>
| Provision of retail voice call services (i.e. origination from a fixed location) | Digicel Group | • Obligation to offer fixed voice services on a stand-alone basis  
• Obligation to ensure Accounting Separation  
• Obligation to ensure prices are Cost Oriented  
• Obligation to provide information to the RA |

9.6.1 Retail fixed voice remedies

569. The RA is imposing the above listed obligations in Table 9.3 on Digicel Group in relation to its fixed voice products.

Obligation to offer stand-alone products

570. The RA requires Digicel Group to provide fixed voice services on a stand-alone basis, allowing consumers to subscribe to fixed voice services without buying other bundled
services, such as broadband. This remedy ensures that customers can choose the services that they wish to purchase from a range of options, and in what combination.

571. The RA notes that if it sees evidence that Digicel Group is seeking to evade this obligation through its pricing strategy, the RA would consider intervening, including under ex post powers.

**Accounting Separation**

572. The RA requires Digicel Group to maintain Accounting Separation. This obligation, will enable the RA to observe the costs and revenues of providing fixed voice services.

573. Further details on how the Accounting Separation obligations would be applied in practice are described in section 9.4.1 above and in the Accounting Separation Final Instructions included at Schedule 1 to Annex 1 of the General Determination.

**Obligation to set retail prices on a Cost Oriented basis**

574. The RA requires Digicel Group to ensure retail fixed voice service prices are Cost Oriented. The Cost Orientation obligation requires the revenue attributable to fixed voice services to not be significantly and persistently above the FAC of providing those services. Furthermore, the Cost Orientation obligation mandates that prices not be predatory and, as such, the provider entity will need to ensure that its prices are not significantly and persistently below a price floor.

575. Further details on how the Cost Orientation obligations would be applied in practice are described in section 9.2.3 above and in the Cost Orientation Guidance Note published on the RA’s website [www.ra.bm](http://www.ra.bm).

**Obligation to provide information**

576. The RA requires Digicel Group providers to submit regular and detailed information to the RA every six months.\(^{131}\)

577. Further details on the information to be provided is included in the Provision of Information and Key Performance Indicators Final Instructions included at Schedule 2 to Annex 1 of the General Determination.

**9.7 Business connectivity**

578. Given the finding that Digicel Group holds SMP in the retail and wholesale supply of high-speed leased lines outside of Hamilton, the RA is imposing a number of remedies, as set out in Table 9.4 below and described below.

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\(^{131}\) The RA will require regular information, but also wishes to ensure that the obligation is proportionate. As such, data reported every six months with annual auditing should balance the need for the RA to have regular and accurate information, while minimising the administrative burden on SMP operators.
Table 9.4 - Remedies in business connectivity markets

<table>
<thead>
<tr>
<th>Market</th>
<th>Operator(s)</th>
<th>Remedy</th>
</tr>
</thead>
</table>
| Wholesale high-speed (above 25Mbps) leased lines outside of the City of Hamilton | Digicel Group | • Obligation to provide wholesale access  
• Obligation to ensure wholesale access is provided on FRAND terms  
• Obligation to publish wholesale KPIs |
| Retail high-speed (above 25 Mbps) leased lines outside of the City of Hamilton | Digicel Group | • Obligation to ensure Accounting Separation  
• Obligation to provide information to the RA  
• Obligation to ensure prices are Cost Oriented |

9.7.1 Wholesale business connectivity remedies

579. To address competition concerns in the wholesale business connectivity market, the RA is imposing three broad obligations on Digicel Group:

- An obligation to provide wholesale access;
- An obligation to ensure wholesale access is provided on FRAND terms; and
- An obligation to publish wholesale KPIs.

Obligation to provide wholesale access on FRAND terms

580. The RA adopts a simplified approach to wholesale access based on the FRAND obligations.

- Wholesale access in respect of business connectivity services refers to active products. The RA proposes that the access obligation covers the requirement to meet any reasonable wholesale request, including providing physical infrastructure access to other operators for the purposes of those operators installing their own leased lines;
- At a minimum, all the services that Digicel Group offers to its own retail business division should be available at the wholesale level;
- The obligation to provide services on FRAND terms includes the requirement to ensure that the wholesale price does not lead to a margin squeeze;

581. Further details on how the FRAND obligations including the obligation not to engage in a margin squeeze would be applied in practice are provided in section 9.2.4 above and the Wholesale Access FRAND and Margin Squeeze Guidance Note published on the RA’s website [www.ra.bm].

Obligation to publish wholesale KPIs

582. In order to track the service quality that SMP operators are offering to wholesale access seekers, the RA requires the SMP operators to provide directly to the RA and publish on their websites specific wholesale KPIs according to the service offered to access seekers, as well as the services that the operators provide to their own retail business divisions.
As specified in the Provision of Information and Key Performance Indicators Final Instructions, the RA requires SMP operators to publish the following wholesale broadband KPIs:

- The time taken to connect and/or migrate a retail customer, sub-divided according to the retail division of Digicel Group and for each access seeker;

- The time taken to address network faults (from first identification), sub-divided according to the retail division of Digicel Group and access seekers. Faults are defined here as lost or impaired service due to issues in Digicel Group’s network (i.e. those faults that are the responsibility of Digicel Group); and

- The number of faults that require fixing, sub-divided according to the retail division of Digicel Group and access seekers.

This obligation will provide transparency about the wholesale service quality offered, as well as an evidential basis on which to assess whether Digicel Group is complying with its FRAND obligations.

**9.7.2 Retail business connectivity remedies**

To address competition concerns in the retail high-speed (above 25 Mbps) business connectivity market, the RA is imposing three broad obligations on Digicel Group:

- An obligation to ensure Accounting Separation;

- An obligation to provide information to the RA; and

- An obligation to ensure prices are Cost Oriented

These obligations are discussed below.

**Accounting Separation**

Further details on how the Accounting Separation obligations would be applied in practice are provided in the Accounting Separation Final Instructions included at Schedule 1 to Annex 1 of the General Determination.

**Obligation to ensure prices are Cost Oriented**

The Cost Orientation obligation would require that revenue attributable to retail high-speed (above 25Mbps) business connectivity services is not significantly and persistently above the FAC of providing those services. Furthermore, the Cost Orientation obligation would mandate that prices are not predatory. As such, Digicel Group will need to ensure that its prices are not significantly and persistently below a price floor.

Further details on how the Cost Orientation obligations would be applied in practice are provided in section 9.2.3 above the Cost Orientation Guidance Note published on the RA’s website [www.ra.bm].
Obligation to provide information

590. The RA requires SMP providers to submit regular and detailed information to the RA every six months\(^\text{132}\).

591. Further details on the information to be provided is included in the Provision of Information and Key Performance Indicators Final Instructions published on the RA’s website [www.ra.bm].

\(^{132}\) The RA will require regular information, but also wishes to ensure that the obligation is proportionate. As such, data reported every six months with annual auditing should balance the need for the RA to have regular and accurate information, while minimising the administrative burden on SMP operators.
10 TRANSITIONAL PROVISIONS

592. The SMP remedies will become effective in accordance with the timelines set forth below:

<table>
<thead>
<tr>
<th>SMP Remedies</th>
<th>Effective Date</th>
<th>Subsequent Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Accounting Separation</td>
<td>First interim filing required no later than 30 November 2020, covering the 2-month period September-October 2020.</td>
<td>Audited separated accounts must be prepared annually (and submitted within four months after the SMP operator’s financial year end unless otherwise approved by the RA, which approval must be applied for no later than 20 business days before the deadline).</td>
</tr>
<tr>
<td>2 Cost Orientation</td>
<td>Effective immediately</td>
<td>Not applicable</td>
</tr>
<tr>
<td>3 Information Provision and wholesale KPIs</td>
<td>Effective immediately, with the first report to be provided to the RA covering the 6-month period April-September 2020. This must be provided within 40 business days following the close of this period (i.e. by 25 November 2020).</td>
<td>Every 6 months from end of previous period. SMP operators must submit this information to the RA following the close of the relevant 6-month period. Information should be provided with 20 business days following the close of the 6-month period.</td>
</tr>
<tr>
<td>4 Wholesale Access: FRAND and Margin Squeeze</td>
<td>Effective immediately</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

593. For the avoidance of doubt, the RA provides an indicative timeline below, showing the reporting requirements in 2020 and 2021:

1. **25 November 2020 (40 business days after end of September 2020)**—Deadline for first Information Provision Report covering the 6 months Apr – Sep 2020 (OneComm and Digicel Group);
2. **30 November 2020**—Deadline for Interim Separated Accounts covering September – October 2020 (OneComm and Digicel Group);

3. **28 April 2021 (20 business days after end of March 2020)**—Deadline for second Information Provision Report covering the 6 months Oct – Mar 2020 (OneComm and Digicel Group);

594. The RA recognizes that there will be a period of time following the publication of this General Determination during which the two SMP operators will be preparing their separated accounts in line with the Accounting Separation remedy. Until the RA is in a position to evaluate the SMP operators’ compliance with the new cost orientation obligation based on these separated accounts, there will be a potential regulatory vacuum. Furthermore, the RA plans to assess whether it is necessary to reinforce the cost orientation obligation for certain SMP services (for example, by specifying an “anchor product” and associated price cap) in a consultation following on from this market review process. For these reasons, the RA has decided to retain on a temporary basis certain limited Transitional Remedies carried over from the 2013 obligations. These Transitional Remedies will apply to a limited subset of retail broadband services in order to ensure the continued protection of consumers and competition, until the RA decides that the transitional safeguards are no longer necessary.

595. The RA has identified a limited set of Transitional Remedies drawn from the 2013 SMP obligations that will remain in effect until the RA is satisfied that the new regulatory regime being adopted in this Final Decision is capable of being implemented effectively. The RA has carefully calibrated these limited Transitional Remedies so that they apply only to those relevant markets, and specific services within those markets, that are necessary to protect competition and consumers during the transition to the new regime. Furthermore, the Transitional Remedies will be time-bound, and will remain in place only until the relevant replacement obligation is capable of being implemented effectively.

596. The Transitional Remedies will apply only to fixed broadband markets, which were found to be characterized by SMP in the 2013 review and remain subject to a finding of SMP as a result of the RA’s current review process. The restricted scope and duration of these Transitional Remedies is fully in line with the RA’s powers to modify or withdraw SMP obligations under ECA Section 24, subsections (5) and (6). The RA intends to terminate the Transitional Remedies as soon as the replacement obligations (as discussed below) are capable of effective enforcement.

597. Specifically, the RA has concluded that, as a Transitional Remedy, it is necessary and proportionate to retain a retail price cap on a subset of retail fixed broadband access services and ISP services (together defined as the provision of fixed broadband Internet connectivity in this market review). The RA considers it appropriate to continue with a transitional retail price cap remedy for a subset of retail fixed broadband services, along with an advance tariff filing obligation for any proposed increases in the stand-alone prices for the relevant services and continuing information requirements, including in regard to the pricing of bundles that contain the relevant services. There are two main reasons for continuing these particular 2013 obligations for a limited period of time:
i. Until the SMP operators have published their separated accounts, the RA wishes to ensure consumers are protected from the risk of price increases on the broadband services to which they subscribe, which may result in a significant misalignment of prices with underlying costs;

ii. Furthermore, the RA is aware of some practices in the market that have been introduced recently where consumers in the retail broadband market have effectively been forced to take up a higher speed broadband service at a higher price than the service to which they originally subscribed, without being given the option to remain on their original broadband speed at a lower price. The RA considers that consumers should be granted additional protection against such behaviour, over and above that granted by consumer protection measures.

598. As defined in the 2013 General Determination the transitional price cap will be set such that the price per Mb/s cannot increase (unless there is an affirmative showing that prices are not recovering historical costs). While the 2013 remedies applied to the price per Mb/s for each broadband access speed offered, the RA is seeking to reduce the burden on SMP operators while still ensuring consumers are sufficiently protected during the transition period. Therefore, the RA will only apply the price per Mb/s price cap to a small number of lower bandwidth services, for which the large majority of user requirements will be met.

599. Specifically, the RA will apply the transitional price cap only for a sub-set of services (hereinafter, the “Relevant Services”).

600. For each operator, these services represent:

- An entry level service—the lowest stand-alone broadband speed currently advertised or recently offered by the operator;

- The cheapest stand-alone broadband speed that is also provided as part of a bundle, as currently advertised or recently offered by the operator (noting that SMP operators are required to provide stand-alone broadband alongside bundled offerings as part of the 2020 SMP remedies).

601. For OneComm, the Relevant Services are:

- an entry level service of (at least) 25 Mbps download (with at least 10 Mbps upload)—priced at $80 per month—this is the lowest speed currently advertised by OneComm; and

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133 Bermuda Regulatory Authority (Obligations For Operators With Significant Market Power) General Determination 2013 BR 79 / 2013

134 This relates to OneComm’s FibreWire 25 internet plan, as listed on the OneComm website, accessed on 11 August 2020: https://onecomm.bm/internet-plans
• a service of (at least) 75 Mbps download (with at least 15 Mbps upload) priced at $115 per month—this is the cheapest stand-alone broadband speed that is also provided as part of a bundle advertised by OneComm.\textsuperscript{135}

602. For Digicel, the Relevant Services are:

• an entry level service of (at least) 20 Mbps download (with at least 10 Mbps upload)—priced at $80 per month—this is closest recently offered Digicel equivalent to the lowest speed current advertised on the market by OneComm;\textsuperscript{136} and

• a service of (at least) 100 Mbps download (with at least 30 Mbps upload) priced at $100 per month—this is the cheapest stand-alone broadband speed that is also provided as part of a bundle advertised by Digicel.\textsuperscript{137}

603. For the avoidance of doubt the prices for the Relevant Services are the maximum prices for internet access and ISP combined on a stand-alone basis.

604. The RA notes that the stand-alone prices for these services may be set below this maximum price cap, and therefore, customers who are currently receiving the Relevant Services for less than the specified price caps should continue to receive the services at the price currently specified in their contract. Furthermore, this requirement does not prevent the SMP operators from launching higher speed services at the same or lower price, such that the price per Mb/s continues to fall, or the practice of offering lower speed services at a lower price.

605. This requirement applies equally to OneComm and Digicel. Therefore, if either operator is not currently advertising or providing a service at these speeds, it should make the Relevant Service available to any customer who requests it and do so at or below the price cap level specified above. The RA also expects that these Relevant Services will be advertised on the SMP operator’s website. However, the RA notes that as this is a short-term transitional measure, any customer taking up this ‘new’ product should not be required to commit to a long term contract. In line with the product market definition, the service to be provided is technology neutral.

606. At the discretion of the RA, the prices specified above for the Relevant Services may be adjusted if, within 10 business days following the date of issuance of the Final GD, SMP operators present credible evidence to show that these prices would not be sufficient to recover historical costs (in line with the wording of the broadband price caps as defined in paragraph 26 of the 2013 General Determination).\textsuperscript{138} Further adjustments to the

\textsuperscript{135} This relates to OneComm’s FibreWire 75 internet plan, as listed on the OneComm website, accessed on 11 August 2020: \url{https://onecomm.bm/internet-plans}

\textsuperscript{136} This relates to Digicel's Fibre 20 internet package, as communicated by Digicel to the RA in a letter, ‘Re. Update on Digicel Residential Fibre Internet Offers’, dated 20 June 2020.

\textsuperscript{137} This relates to Digicel’s Fibre 100 internet package, as listed on the Digicel website, accessed on 11 August 2020: \url{https://www.digicelgroup.com/bm/en/fibre.html}

\textsuperscript{138} As defined paragraph 26 of the 2013 General Determination the price cap will be set such that the price per Mb/s cannot increase (unless there is an affirmative showing that prices are not recovering historical costs). See: Bermuda Regulatory Authority (Obligations For Operators With Significant Market Power) General Determination 2013 BR 79 / 2013
transitionary price cap will only be considered after this initial 10 day period if there is a material change in circumstances, as supported by credible evidence, resulting in the proposed price cap not being sufficient to cover the costs of the SMP operator.

607. In addition, any proposed price increase for the Relevant Services will remain subject to the relevant provisions of the 2013 advance tariff filing notification procedure. To be clear, tariff filing only applies to services covered by the transitionary price caps, i.e., the Relevant Services defined above and, as discussed below, bundles containing the Relevant Services. In particular, the SMP operator will be required to file a notification with the Authority of any proposed increase in the prices for these stand-alone services at least 10 business days before the proposed effective date of the new tariff, with the exception of bundled offers including a relevant service, which will require at least 20 business days' notice prior to the effective date of the bundled tariff. The tariff notification shall include:

(a) a description of the service or services to which the tariff relates;

(b) a description of, and a complete copy of, the terms and conditions of provision of the tariff.

608. Furthermore, in the case of bundled offers involving the Relevant Services, the SMP operator will be required to comply not only with the 20-day advance tariff filing obligation specified above, but also to provide information demonstrating that the price for the bundle will not impose a price squeeze, if requested to so by the Authority.

609. The RA will be able to check compliance with this obligation through the information gathered as part of the ‘information provision’ obligations (as specified in the ‘Information Provision Final Instructions’, which stipulate that certain information (including information on tariffs and prices) should be provided every six months. The Authority also retains the right to request specific information from operators outside of this regular reporting period.

610. These transitional remedies will remain in place until: (1) the SMP operators have submitted their separated accounts (as required under the Accounting Separation obligation) to the RA and the RA determines, based on the information contained in the separated accounts, that the transitional remedies are no longer necessary to ensure compliance by each SMP operator with the cost orientation and FRAND obligations (including the obligation not to engage in margin squeeze); and/or (2) the RA has had an opportunity to evaluate the need for, and implement, any new safeguards (in particular, by specifying an “anchor product” and associated price cap) to reinforce the cost orientation obligation for the protection of consumers and competition.

611. Furthermore, as explained in more detail below, the RA may launch a separate consultation shortly after the publication of this document on the need to reinforce the Cost Orientation and FRAND obligations and to clarify the principle that consumers should be no worse off by the actions of SMP operators. This may result in the introduction of price controls for a small number of ‘anchor products’ in the retail and wholesale markets. If approved by the RA, these anchor products would replace the Transitional Remedy described above.
10.1 Next Steps

612. The RA considers it a priority to ensure that an effective accounting separation regime, as set out in the Final Instructions that form part of this Final Decision, is put into place as soon as practicably possible. This will require cooperation from the SMP operators. The RA anticipates that even with such cooperation, it will take as long as a year for the accounts to be available in a form that the RA can rely on in order to assess the operators’ compliance with the new cost orientation and FRAND obligations that are being adopted in this Final Decision.

613. Given the lead time needed to implement these new obligations, the RA considers it important for the SMP operators to commence their data gathering efforts to implement the baseline accounting separation requirement without delay in line with this Final Decision. The RA may, however, take the steps identified below as follow-ups to this consultation:

   i. Conduct a public consultation on the need to reinforce the Cost Orientation and FRAND obligations and to clarify the principle that consumers should be made no worse off by the actions of SMP operators, including consideration of whether the RA should specify an ‘anchor product’ requirement in the fixed broadband market and mobile markets at both the retail and wholesale levels;

   ii. Conduct a public consultation on the standards, procedures and timetable for the decommissioning of SMP Operators’ existing copper access facilities pursuant to ECA Sections 5(1)(e) and 9(2)(c)(ix); and

   iii. Seek feedback from industry and other stakeholders on whether the Merger Control Conditions that currently apply to the two SMP operators remain necessary and proportionate and should be rescinded.

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139 We use the term “anchor product regulation” to describe the approach of regulating the price of a lower-bandwidth (or ‘anchor’) product, to provide a degree of constraint on higher-bandwidth products, which otherwise benefit from pricing flexibility, subject to compliance with the overall cost orientation obligation.
11 DECISION

614. The RA will adopt the general determination set out in Annex 1.
Order:
Market Review of the Electronic Communications Sector

Order #20200901
Date: 1 September 2020
The Regulatory Authority of Bermuda (the “RA”), pursuant to sections 12, 13 and 62 of the Regulatory Authority Act 2011 and sections 20 through 25 of the Electronic Communications Act 2011, hereby:

(a) Adopts the General Determination attached hereto, defining relevant markets, assessing significant market power within the relevant markets and applying ex ante remedies to sectoral providers with significant market power in those markets;

(b) Directs the Chief Executive of the RA to forward the General Determination to the Cabinet Secretary; and

(c) Authorises the General Determination to take effect on the date of its publication in the Official Gazette.

So Ordered this 1 day of September 2020.
APPENDIX B: GENERAL DETERMINATION
The Regulatory Authority, in the exercise of the power conferred by section 62 of the Regulatory Authority Act 2011, as read with sections 12 and 13 of that Act and sections 20 to 25 of the Electronic Communications Act 2011, makes the following General Determination:

**Citation**

This General Determination may be cited as the Regulatory Authority (Market Review of the Electronic Communications Sector) General Determination 2020.

**Interpretation**

In this General Determination, unless the context otherwise requires, terms shall have the meaning given in the Regulatory Authority Act 2011 and the Electronic Communications Act 2011.

**General purpose**

This General Determination identifies the relevant markets which the Regulatory Authority has concluded require ex ante regulation and sets out the obligations that will
apply, going forward, to those sectoral providers that have been found to have significant market power in the relevant markets.

**Determination**


        (2) Taking into account the received responses to the Consultation Documents and the Preliminary Report, Preliminary Decision and Order and for the reasons given in the Decision, the RA determines that the provisions set forth in the Schedule are consistent with the purposes of the Electronic Communications Act 2011.

**Terms and conditions of General Determination**

5  (1) The Schedule has effect.

        (2) The Schedule is published on the Regulatory Authority’s website (www.ra.bm), and is also available for inspection at the offices of the Authority (1st Floor, Craig Appin House, 8 Wesley Street, Hamilton HM 11) during ordinary business hours.

**Revocation of the 2013 General Determinations**

6  Except as otherwise stipulated in Part E of Annex 1 of the Schedule in relation to transitional measures, the Regulatory Authority (Market Definition and Significant Market Power) General Determination 2013 and Regulatory Authority (Obligations for Operators with Significant Market Power) General Determination 2013 are hereby revoked and superseded by this General Determination.

**Effective date of General Determination**

7  This General Determination shall become effective on the day it is published in the Gazette.
Signed this 1st day of September 2020

Chairman, Regulatory Authority

[Operative Date: 01 September 2020]
Schedule to the
Market Review of the Electronic
Communications Sector General
Determination

General Determination
Matter: 20200901
Date: 1 September 2020
TABLE OF CONTENTS

1 Definitions
2 Interpretation
3 Legislative and Procedural Background
4 Final Determination

Annex 1 – Relevant Markets, Significant Market Power and Remedies

   Schedule 1 – Final Instructions: Accounting Separation

   Schedule 2 – Final Instructions: Provision of Information and Key Performance Indicators
This General Determination is made pursuant to Part 4 of the Electronic Communications Act 2011 ("ECA"), particularly sections 20, 23 and 24 of the ECA, and section 70 of the Regulatory Authority Act 2011 ("RAA"). In this General Determination, the Regulatory Authority of Bermuda (the "RA") identifies the relevant markets which it has concluded require *ex ante* regulation and sets out the obligations that will apply, going forward, to those Sectoral Providers that have been found to have Significant Market Power ("SMP") in the relevant markets.

1. **DEFINITIONS**

4G: Fourth generation of mobile communications technology standards, including the Long-Term Evolution ("LTE") technology standard, which provides faster mobile data speeds than the 3G standards.

Access services: The service which links an end-user to the services of an Internet Service Provider ("ISP"). The link in question comprises local access, backhaul and data stream aggregation, terminating at an ISP's premises.

Accounting Separation: An obligation set forth in the Market Review of the Electronic Communications Sector General Determination to produce financial statements that report the performance of each Product Group of an SMP operator. Accounting Separation enables the RA to monitor whether an operator with SMP is compliant with certain price-based obligations, such as to ensure prices are cost orientated.

Average revenue per user ("ARPU"): A measurement used to indicate the average monthly revenue earned from a subscriber.

Backhaul: Relates to the transmission of data between the core or backbone network and the network “edge”. Examples of backhaul include the transmission of data from mobile telephony masts to data centers to enable end-users of mobile services to access the Internet.

Bill and Keep: An approach to call termination pricing whereby communications providers make no payments to each other for call termination (that is, where termination rates are zero).

Bluewave: A provider of Wi-Fi-based high-speed Internet to residents and businesses in Bermuda. Bluewave is the brand name of Telecommunications Networks Limited, which is owned by East End Group Limited.

Broadband: An Internet service or connection generally defined as being “always on”, providing a bandwidth greater than narrowband.

Bundle: Communications services sold together in a package (e.g. broadband and mobile phone, or broadband and subscription TV), in contrast to each service sold on a stand-alone basis.

Chains of substitution: These exist when end-users perceive variants of a specific product type to be reasonably substitutable. For example, if there are three speeds of broadband in the market (20Mbps, 30Mbps and 40Mbps), consumers may be willing to switch between them if the price of one increased. If a consumer was on the 30Mbps tariff, and that tariff increased significantly, the consumer might switch down to the 20Mbps tariff if the cost saving was worthwhile.

Churn: In this context, means the number of customers lost.
Coaxial cable: A transmission line that consists of a tube of electrically conducting material surrounding a central conductor held in place by insulators and that is used to transmit telegraph, telephone, television, and Internet signals. Used by cable networks alongside fibre-optic to deliver broadband services, as well as television services, directly to homes. Coaxial cables are capable of delivering superfast broadband speeds.

Communications Operating Licence (“COL”): An individual or class licence granted for the provision of some or all regulated electronic communications services.

Consultation Document: The document published by the RA on 15 February 2019, titled the “Review of the electronic communications sector: Ensuring the delivery of benefits for Bermuda via regulation”. The document sets out the RA’s view, at that time, on which electronic communications markets in Bermuda may require ex ante regulation.

Core network: The backbone of a communications network, which carries different services such as voice or data.

Cost causality: The attribution of costs to components, services and business divisions strictly in accordance with the activities that cause those costs to be incurred.

Cost Orientation: The principle that the price charged for the provision of a service should reflect the costs incurred in providing that service.

Digicel Group: A group of companies that includes the following Integrated Communications Operating Licence (“ICOL”) holders: Telecommunications (Bermuda & West Indies) Limited, Transact Limited and Bermuda Telephone Company Limited.

Digital Subscriber Line (“DSL”): A family of technologies generically referred to as DSL, or xDSL, capable of transforming ordinary phone lines (also known as “twisted copper pairs”) into high-speed digital lines that support advanced services such as fast Internet access and video-on-demand. ADSL (Asymmetric Digital Subscriber Line), HDSL (High data rate Digital Subscriber Line) and VDSL (Very high data rate Digital Subscriber Line) are all variants of DSL.

Ducts: Existing trenches and pipes which hold copper and fibre lines.


EOO: Equivalence of outputs. Services provided to access seekers are no different to those that SMP operators supply to their own business divisions.

Ex ante remedy: A regulatory obligation imposed by the RA on one or more sectoral providers with significant market power in order to prevent anti-competitive conduct and promote competition.

Fully Allocated Costs (“FAC”): An accounting method for attributing all the costs of a company to defined activities such as products and services. Typically, this method will follow the principle of cost causality.

FRAND: Fair, reasonable and non-discriminatory.

General Determination (“GD”): A statutory instrument made pursuant to section 62 of the Regulatory RA Act 2011 (“RAA”). The General Determination is applicable to all sectoral
participants, or to such sub-category of sectoral participants as falls within the scope of the statutory instrument.

**HDS:** High Demand Spectrum.

**HDS-1:** The process for the assignment of HDS-1 Frequencies.

**HDS-1 Frequencies:** The HDS-1 Lots in the 850 MHz, 700 MHz and 2100 MHz bands designated by the RA as suitable for assignment through HDS-1.

**Integrated Communications Operating Licence ("ICOL"):** A licence granting the licensee the right to establish, construct and operate one or more electronic communications networks and to provide electronic communications services, on an integrated basis, within the territorial limits of Bermuda and between Bermuda and other countries.

**Internet:** A global network of networks, using a common set of standards (e.g. Internet protocol), accessed by users with a computer or other devices via a service provider.

**Internet protocol ("IP"):** A family of protocols describing software that tracks the internet address of nodes, routes outgoing messages and recognizes incoming messages.

**Internet protocol television ("IPTV"):** Television and/or video signals that are delivered to subscribers or viewers using Internet protocol ("IP"). IPTV is typically used in the context of streamed linear and on-demand content, but also sometimes for downloaded video clips.

**Internet Service Provider ("ISP") services:** The provisioning of access to local and international Internet networks together with the provisioning of Internet services such as web hosting and email accounts.

**Key Performance Indicator ("KPI"):** In the context of this document a measurable value that demonstrates how effectively key objectives are achieved.

**Leased line:** A transmission facility that is leased by an end-user from a public Electronic Communications service provider which is dedicated to that user’s traffic.

**Long-run incremental costs ("LRIC"):** The costs caused by the provision of a defined increment of output, taking a long-run perspective, assuming that some output is already produced. The "long run" refers to the time horizon over which all costs (including capital investment) are variable.

**Long Term Evolution ("LTE"):** The technical standard for 4G mobile services.

**Margin squeeze test:** An assessment of the margin that exists between the wholesale and retail prices set by an entity, in order to determine whether the prices are set so that an efficient entity purchasing the wholesale product would be unable to earn a reasonable return.

**Mbps:** Megabits per second, a measure of data transfer speed. A transfer speed of 1 Mbps is equal to one megabyte per second.

**Mobile voice call termination ("MCT"):** A wholesale service offered by a mobile service provider to connect a customer, i.e. a call recipient, on its network.
Mobile virtual network operator ("MVNO"): An entity that provides mobile telephony services to its customers, but which does not have allocation of spectrum or its own wireless network.

Ofcom: Office of Communications, the national regulatory authority for the broadcasting, telecommunications and postal industries of the United Kingdom.

One Communications ("OneComm"): A group of companies that includes the following ICOL holders: BDB Ltd., Bermuda Digital Communications Ltd., Logic (formerly Bermuda Cablevision Limited) and Cable Co. Ltd., collectively operating under the brand name One Communications.

Over-the-top ("OTT"): The delivery of audio-visual content over the "open" Internet rather than over a managed IPTV architecture or through traditional satellite or antenna-based broadcast technologies.

PayTV: Subscription-based television services.

Predatory pricing: Pricing below a particular measure of cost which may incur short-term losses in order to eliminate, discipline or discourage one or more actual or potential efficient competitors.

Preliminary Consultation Document: The document published by the RA on 17 October 2017, titled the “Review of the electronic communications sector: Ensuring the delivery of benefits for Bermuda via regulation”. The document sets out the RA’s view, at that time, on which electronic communications markets in Bermuda may require ex ante regulation. The document also sets out the RA’s first consultation on the Sectoral Review.


RA: The Regulatory Authority of Bermuda.

RAA: The Regulatory Authority Act 2011.

Sectoral Review: In the context of this document, the 2018 comprehensive review of the Electronic Communications sector pursuant to section 17 of the RAA.

Significant market power ("SMP"): A position of economic strength in the relevant market or markets that affords an entity, either individually or jointly with others, the power to behave to an appreciable extent independently of competitors, customers and ultimately consumers, which may provide a basis for the imposition of ex ante remedies.

Superfast broadband: Sometimes known as next generation broadband, superfast broadband delivers headline download speeds of at least 30 Mbps.

Tariff: Refers to all relevant characteristics of a service. For example, a pre-pay mobile tariff comprises not only the monthly price, but also the included voice, text and data allowances. In addition, the cost for incremental usage of services, the quality and speed of the service, and service/cancellation fees are all also components of the tariff.

Throttling: The intentional slowing of an Internet service.
**Virtual unbundled local access ("VULA"):** A broadband access remedy that requires a network operator to provide access to its superfast broadband network. VULA provides a connection from the nearest “local” aggregation point to a customer’s premises.

**Weighted Average Cost of Capital ("WACC"):** The rate that a company is expected to pay on average to all its security holders to finance the company’s assets.

**Wi-Fi:** Short-range wireless technologies that allow an over-the-air connection between a wireless device and a base station, or between two wireless devices. Wi-Fi has a range from the base station of approximately 30 meters indoors, and around 1 kilometre outside.

**Wireless broadband:** Also known as “fixed wireless”, wireless broadband that provides Internet connectivity via a wireless radio receiver rather than a physical wire connection. Similar to Internet access via a mobile device (e.g. 4G), wireless broadband technology can offer superfast broadband speeds, allowing it to compete directly with other modern broadband technologies such as coaxial cable and fibre.
2. **INTERPRETATION**

1 For purposes of interpreting this General Determination:

1.1 Unless the context otherwise requires, words or expressions shall have the meaning assigned to them by the RAA and the ECA;

1.2 Where there is any conflict between the provisions of this General Determination and the ECA or RAA, the provisions of the ECA or RAA, as the case may be (subject to section 3 of the ECA), shall prevail;

1.3 Terms defined herein and in the ECA and RAA have been capitalized;

1.4 Headings and titles used herein are for reference only and shall not affect the interpretation or construction of this General Determination;

1.5 References to any law or statutory instrument include any modification, re-enactment or legislative provisions substituted for the same;

1.6 A document referred to herein shall be incorporated into and form part of this General Determination and a reference to such document is to the document as modified from time to time;

1.7 Expressions cognate with those used herein shall be construed accordingly;

1.8 Use of the word “include” or “including” is to be construed as being without limitation; and

1.9 Words importing the singular shall include the plural and vice versa, and words importing the whole shall be treated as including a reference to any part unless explicitly limited.
3. LEGISLATIVE AND PROCEDURAL BACKGROUND

2 The RA has been established as a cross-sectoral, “…independent and accountable regulatory authority to protect the rights of consumers, encourage the deployment of innovative and affordable services, promote sustainable competition, foster investment, promote Bermudian ownership and employment and enhance Bermuda’s position in the global market…”, as set forth in the First Recital to the RAA.

3 The RA’s principal functions under section 12 of the RAA include ensuring that the regulation of the electronic communications sector is such as to:

(a) promote and preserve competition;

(b) promote the interests of the residents and consumers of Bermuda;

(c) promote the development of the Bermudian economy, Bermudian employment and Bermudian ownership;

(d) promote innovation; and

(e) fulfill any additional functions specified by sectoral legislation.

4 Part 4 of the ECA sets out the process for imposing SMP obligations on an ex ante basis. Namely, ECA section 20(1) enables the Authority:

“…to make administrative determinations on a communications provider in respect of its provision of electronic communications, or the provision of subscription audiovisual programming content in a relevant market or markets if, individually or together with others, the communications provider has significant market power in that market.”

5 Further, ECA section 20(2) requires the Authority:

“…to conduct a review of a relevant market or markets… in accordance with section 23 [of the ECA]…and section 59(2) of the Regulatory Authority Act 2011.”

6 RAA section 59(1) generally empowers the Authority to impose ex ante remedies on a sectoral provider where that sectoral provider occupies a dominant position in any relevant market and uses that position so as to abuse it, and also when authorized to impose ex ante remedies by sectoral legislation. Section 59(2) states:

“In any case in which sectoral legislation directs the Authority to conduct a market review prior to imposing or maintaining ex ante remedies on a sectoral participant, the RA, in accordance with sectoral legislation, shall –

(a) identify those relevant markets in which ex ante remedies may be appropriate;

(b) conduct a market review of each relevant market identified to determine whether a sectoral provider has significant market power; and
c) determine whether imposition or maintenance of ex ante remedies on a sectoral provider with significant market power is necessary and, if so, impose or maintain proportionate remedies."

7 ECA section 21 sets out the principles and objectives the Authority must seek to satisfy when determining whether to impose remedies on one or more SMP providers in a market. These are:

“(a) develop or maintain effective and sustainable competition for the benefit of consumers with regard to price, innovation and choice;
“(b) promote investment in the electronic communications sector;
“(c) establish ex ante remedies that are effective but proportionate, taking into account the costs of compliance and the ultimate benefits to consumers;
“(d) establish ex ante remedies that apply on a technology-neutral and service neutral basis whenever feasible; and
“(e) rely on market forces and withdraw, reduce or limit ex ante remedies in circumstances where the RA concludes that markets are effectively competitive or likely to become so within a reasonable period of time, taking into account actual and expected market circumstances.”

8 Section 23(2) of the ECA provides guidance on the conduct of the of the market assessment pursuant to section 23(1) as follows:

“The Authority shall, in conducting a market assessment pursuant to subsections (1)(a), (b) or (c), consider all of the factors that it deems relevant under the circumstances, which may include the following—

(a) the overall size of the communications provider and its share of the relevant market;
(b) the volatility of shares in the relevant market;
(c) the communications provider’s control over infrastructure not easily duplicated;
(d) the communications provider’s technological advantages or superiority;
(e) the degree of countervailing buyer power;
(f) the communications provider’s ability to access capital and financial markets relative to that of its competitors;
(g) the existence of economies of scale or scope;
(h) the diversification of products or services (including bundles);
(i) the relative advantages of vertical integration enjoyed by the sectoral provider;
(j) the presence of de jure or de facto barriers to market entry or expansion; and
Section 23(3) of the ECA sets out the factors that the Authority must consider when assessing whether two or more communications providers operating in the same relevant market jointly have significant market power in the following terms:

“In assessing whether two or more communications providers operating in the same relevant market jointly have significant market power, the Authority shall consider, among other relevant factors, whether -

(a) the relevant market is concentrated;

(b) each provider has a relatively high and stable share of the relevant market;

(c) significant and enduring barriers to entry exist; and

(d) there are reasonable grounds for concluding that these factors, in combination with any relevant factors set out in subsection (2), are evidence of a market structure that is likely to give rise to tacit coordination and thereby prevent, restrict or distort competition in the provision of products or services in the relevant market.”

Section 23(4) of the ECA requires the Authority to review those markets identified in accordance with ECA section 22 that, in the RA’s view, are susceptible to ex ante regulation. ECA section 23(4) further requires the public consultation to include a review of any relevant product or geographic market identified as requiring ex ante regulation. The purposes of the public consultation are stated as follows:

(a) “evaluating whether these relevant markets are, or continue to be, correctly defined based on an economic assessment of supply and demand;

(b) analysing whether a communications provider, individually or with others, in fact possesses, or continues to hold, significant market power in one or more of these relevant markets based on the applicable facts and circumstances; and

(c) deciding which obligations, if any, should be imposed in respect of each relevant market characterised by significant market power in order to promote or preserve effective competition, in accordance with ECA section 24.”

Pursuant to ECA section 23(5), the Authority is required to issue one or more general determinations (i) designating any communications provider that has significant market power in each relevant market reviewed pursuant to ECA section 23(4), either individually or jointly; and (ii) specifying any ex ante obligations that shall apply in accordance with section ECA section 24. The Authority is also empowered, acting pursuant to ECA section 24(6), to carry out a further review of any relevant product or geographic market acting either up on its own initiative or, at its discretion, upon the request of an interested party.
ECA section 23(4)(c) requires the Authority to conduct a public consultation for the purposes of “…deciding which obligations, if any, should be imposed in respect of each relevant market characterised by significant market power in order to promote or preserve effective competition, in accordance with (ECA) section 24.”

Section 24(1) of the ECA empowers the Authority to make an Administrative Determination imposing *ex ante* remedies where necessary to prevent or deter anticompetitive effects that are or are likely to be caused by the presence of SMP in a relevant market.

Section 24(5) authorizes the Authority to modify any ex ante obligations that are currently imposed in regard to relevant markets that continue to be characterized by the lack of effective competition, following a public consultation, by issuing an administrative determination that modifies the relevant obligations or imposes such additional remedies as the Authority deems necessary, taking into account the impact and efficacy of the existing obligations and the costs and benefits of any changes.

Section 24(6) provides that for purposes of assessing the costs and benefits of imposing, modifying or withdrawing an ex ante remedy and evaluating the relevant evidence, including cost data and factors relating to technical or commercial feasibility, the burden of proof for demonstrating that a remedy should not be imposed, or should be modified or withdrawn, shall rest with the communications provider that is designated as having significant market power in the relevant market.

Pursuant to Part 4 of the ECA, this General Determination concludes a multi-phase market review process that the RA initiated with its publication of a consultation document issued on 17 October 2017, entitled Review of the electronic communications sector: Ensuring the delivery of benefits for Bermuda via regulation (the “Initial Consultation”). The RA’s Initial Consultation was followed by a further Consultation Document issued on 15 February 2019, and thereafter a Preliminary Report issued on 23 August 2019 (the “Preliminary Report”). The detailed underpinnings of this General Determination are contained in the RA’s Final Report, Decision and Order (“Final Report”), which sets forth the RA’s rationale and conclusions on the relevant electronic communications markets that should be subject to ex ante regulation going forward, the RA’s SMP assessment in relation to those markets, and the ex ante obligations necessary to promote or preserve effective competition in the electronic communications sector for the foreseeable future.
4. FINAL DETERMINATION

17 Pursuant to section 62 of the RAA as read with sections 59 of the RAA, and in accordance with Part 4 of the ECA using the general powers granted to the Authority under section 13 of the RAA and in accordance with the procedures established for this purpose in section 62 of the RAA, the Authority hereby determines that:

17.1 The following markets are relevant to the determination of SMP: Broadband; Mobile; Fixed Voice; Subscription television; Business connectivity; and Off-island connectivity.

18 The following Operators have SMP in the relevant markets indicated below:

18.1 In the provision of retail and wholesale Broadband service, OneComm and Digicel Group have joint SMP.

18.2 In the provision of retail and wholesale mobile service, OneComm and Digicel Group have joint SMP.

18.3 In the provision of Fixed Voice service, Digicel Group has SMP.

18.4 In the provision of Subscription television service, no operator has SMP.

18.5 In the provision of Business connectivity, Digicel Group has SMP regarding retail and wholesale high-speed leased lines outside of the City of Hamilton.

18.6 In the provision of Off-island connectivity, no operator has SMP.

19 The conclusions on relevant markets, the presence of SMP in those markets, and the remedies and obligations applicable to each provider found to have SMP are set out in Annex 1 to this General Determination.

20 This General Determination shall become effective on the date on which it is published in the Gazette.
ANNEX 1 – RELEVANT MARKETS, SIGNIFICANT MARKET POWER AND REMEDIES

Part A. Overview of RA’s Conclusions on Relevant Markets, SMP and Applicable Remedies

1 The RA’s detailed conclusions on the relevant electronic communications markets, the presence (or not) of SMP and where a market is characterized by SMP, the applicable remedies or obligations are discussed in detail in Parts B through D below.

2 The Accounting Separation obligation and the remedy involving the Provision of Information and Key Performance Indicators are stipulated in greater detail in Final Instructions that accompany the Final Report and are published on the RA’s website. The Final Instructions form part of the General Determination and are included as Schedules 1 and 2 to this Annex 1.

3 The Final Report also is accompanied by two Guidance Notes, one on Cost Orientation and the other on Wholesale Access: FRAND and Margin Squeeze. The Guidance Notes are informational in nature but they provide a clear indication to the industry on how the RA will act to enforce compliance with the underlying remedies to which they relate, namely, Cost Orientation and provision of wholesale access of FRAND terms. The Guidance Notes may be supplemented or amended from time to time as experience is gained with implementation of these remedies.

4 Table 1 below provides a summary of the conclusions on SMP and the applicable remedies for each relevant market. This summary as well as those provided in the additional summary tables that follow are provided for convenience only and in the event of any inconsistency between the tables and the corresponding text in Parts B through D of this Annex 1, the detailed text shall take precedence.

Table 1: Summary of Conclusions on Relevant Markets, SMP and Remedies

<table>
<thead>
<tr>
<th>Service type</th>
<th>Market #</th>
<th>Market description</th>
<th>SMP operator</th>
<th>Remedies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broadband</td>
<td>1</td>
<td>Retail provision of fixed broadband</td>
<td>OneComm and Digicel Group</td>
<td>Obligation to offer broadband on a stand-alone basis</td>
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<td></td>
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<td>Obligation to ensure Accounting Separation</td>
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<td>Obligation to provide information to the RA</td>
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<td>Obligation to ensure prices are Cost Oriented</td>
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<td>Obligation to publish retail key performance indicators</td>
</tr>
<tr>
<td>Service type</td>
<td>Market #</td>
<td>Market description</td>
<td>SMP operator</td>
<td>Remedies</td>
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<td>2</td>
<td>Wholesale provision of fixed broadband</td>
<td>OneComm and Digicel Group</td>
<td>Obligation to provide wholesale bitstream access and virtual unbundled local access&lt;br&gt;&lt;br&gt;Obligation to ensure wholesale access is provided on fair, reasonable and non-discriminatory terms&lt;br&gt;&lt;br&gt;Obligation to publish wholesale key performance indicators</td>
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<td>Mobile</td>
<td>3</td>
<td>Retail mobile services</td>
<td>OneComm and Digicel Group</td>
<td>Obligation to offer mobile services on a stand-alone basis&lt;br&gt;&lt;br&gt;Obligation to ensure Accounting Separation&lt;br&gt;&lt;br&gt;Obligation to provide information to the RA&lt;br&gt;&lt;br&gt;Obligation to ensure prices are Cost Oriented&lt;br&gt;&lt;br&gt;Obligation to publish retail key performance indicators</td>
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<td>4</td>
<td>Wholesale mobile access</td>
<td>OneComm and Digicel Group</td>
<td>Obligation to provide wholesale access&lt;br&gt;&lt;br&gt;Obligation to ensure wholesale access is provided on fair, reasonable and non-discriminatory terms&lt;br&gt;&lt;br&gt;Obligation to publish wholesale key performance indicators</td>
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<td>Service type</td>
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<td>Fixed voice</td>
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<td><strong>Retail</strong> fixed voice services (i.e. call origination)</td>
<td>Digicel Group</td>
<td>Obligation to offer fixed voice services on a stand-alone basis</td>
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<td>Obligation to ensure Accounting Separation</td>
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<td>Obligation to ensure prices are Cost Oriented</td>
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<td>Subscription</td>
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<td><strong>Retail</strong> subscription TV services</td>
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<td>television</td>
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<td>Business</td>
<td>7</td>
<td><strong>Retail</strong>, low-speed leased lines in the city of Hamilton (25Mbps and below)</td>
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<td>connectivity</td>
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<td><strong>Retail</strong>, low-speed leased lines outside of the City of Hamilton (25Mbps and below)</td>
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<td><strong>Wholesale</strong> low-speed leased lines in the city of Hamilton (25Mbps and below)</td>
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<td></td>
<td>11</td>
<td><strong>Retail</strong> high-speed leased lines in the City of Hamilton (above 25Mbps)</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td></td>
<td>12</td>
<td><strong>Retail</strong> high-speed leased lines outside of the City of Hamilton (above 25Mbps)</td>
<td>Digicel Group</td>
<td>Obligation to ensure Accounting Separation</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Obligation to provide information to the RA</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Obligation to ensure prices are Cost Oriented</td>
</tr>
<tr>
<td></td>
<td>13</td>
<td><strong>Wholesale</strong> high-speed leased lines in the city of Hamilton (above 25Mbps)</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>Service type</td>
<td>Market #</td>
<td>Market description</td>
<td>SMP operator</td>
<td>Remedies</td>
</tr>
<tr>
<td>---------------------</td>
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<td>--------------------------------------------------------------</td>
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<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Wholesale</td>
<td>14</td>
<td>Wholesale high-speed leased lines outside of the City of Hamilton (above 25Mbps)</td>
<td>Digicel Group</td>
<td>Obligation to provide wholesale access</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Obligation to ensure wholesale access is provided on fair, reasonable and non-discriminatory terms</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Obligation to publish wholesale key performance indicators</td>
</tr>
<tr>
<td>Off-island connectivity</td>
<td>15</td>
<td>International data transmission</td>
<td>–</td>
<td></td>
</tr>
</tbody>
</table>


Part B. Conclusions on Relevant Markets

This section sets out the RA’s final market definitions with respect to the electronic communications sector. The RA has identified the following 15 distinct market definitions.

### Table 2: Relevant market definitions

<table>
<thead>
<tr>
<th>Service type</th>
<th>Relevant markets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broadband</td>
<td>Retail provision of fixed broadband Internet connectivity, provided over any technology, and for any speed, on an island wide basis</td>
</tr>
<tr>
<td></td>
<td>Wholesale provision of fixed broadband Internet connectivity, provided over any technology, and for any speed, on an island wide basis</td>
</tr>
<tr>
<td>Mobile</td>
<td>The island wide provision of retail mobile services (voice, text and data)</td>
</tr>
<tr>
<td></td>
<td>The island wide provision of wholesale mobile access</td>
</tr>
<tr>
<td>Fixed voice</td>
<td>The island wide provision of retail fixed voice services (i.e. voice call origination from a fixed location)</td>
</tr>
<tr>
<td>Subscription television</td>
<td>The island wide provision of retail subscription television services</td>
</tr>
<tr>
<td>Business connectivity</td>
<td>Retail low-speed leased lines in the city of Hamilton (25 Mbps and below)</td>
</tr>
<tr>
<td></td>
<td>Retail low-speed leased lines outside of the City of Hamilton (25 Mbps and below)</td>
</tr>
<tr>
<td></td>
<td>Wholesale low-speed leased lines in the city of Hamilton (25 Mbps and below)</td>
</tr>
<tr>
<td></td>
<td>Wholesale low-speed leased lines outside of the City of Hamilton (25 Mbps and below)</td>
</tr>
<tr>
<td></td>
<td>Retail high-speed leased lines in the city of Hamilton (above 25 Mbps)</td>
</tr>
<tr>
<td></td>
<td>Retail high-speed leased lines outside of the City of Hamilton (above 25 Mbps)</td>
</tr>
<tr>
<td></td>
<td>Wholesale high-speed leased lines in the city of Hamilton (above 25 Mbps)</td>
</tr>
<tr>
<td></td>
<td>Wholesale high-speed leased lines outside of the City of Hamilton (above 25 Mbps)</td>
</tr>
<tr>
<td>Off-island connectivity</td>
<td>The provision of off-island connectivity (i.e. international data transmission)</td>
</tr>
</tbody>
</table>
Broadband Services (Markets 1 & 2)

6 Broadband Internet services can be provided via a range of technologies, including the following:
   - digital subscriber line (“DSL”);
   - coaxial cable;
   - fibre; and
   - wireless broadband technology (“fixed wireless”).

7 Two operators, OneComm and Digicel Group, have broadband network coverage that is currently offered as a service across the entire island of Bermuda.

8 These two incumbent networks differ in terms of technology:
   - OneComm operates a broadband network based on fibre and coaxial cable technology; and
   - Digicel Group operates a fibre broadband network (and a legacy DSL (copper) network).

9 Both incumbents have upgraded their networks in order to offer broadband speeds in excess of 30Mbps download. With speeds currently being offered to consumers of up to 300 Mbps download.

10 The RA understands that other operators, such as Link and Bluewave, do not have wide-scale broadband networks and although they do offer broadband services such companies have a very small number of broadband customers.

11 Despite the range of technologies that are used to provide broadband services in Bermuda, from the perspective of consumers, the technology is largely irrelevant. The RA’s view is that the factors that are important to consumers apply irrespective of the technology, and instead relate to service characteristics such as speed, data allowance, latency, and uptime, as well as other service quality elements such as customer service.

12 On these grounds, it would not be appropriate to define markets on the basis of technology. The RA is therefore proceeding with establishing market definitions for broadband that are neutral to the technology used to deliver the service.

13 In terms of the appropriate product market, the RA has defined the market to include any broadband speed. This is consistent with the approach taken in many other jurisdictions, and with the idea that broadband services of different speeds will act to constrain each other due to the chain of substitution that exists across such services.¹

¹ Chains of substitution exist when end-users perceive variants of a specific product type to be reasonably substitutable. For example, if there are three speeds of broadband in the market (20Mbps, 30Mbps and 40Mbps), consumers may be willing to switch between them if the price of one increased. If a consumer was on the 30Mbps tariff, and that tariff increased significantly, the consumer may switch down to the 20Mbps tariff if the cost saving were worthwhile.
Regarding the geographic market definition, the RA considers that the competitive conditions do not vary materially across specific localities in Bermuda. This is because the two largest providers, Digicel Group and OneComm, offer island wide broadband coverage. They also have national pricing policies such that they have a single national price for each broadband tariff. Given the apparent island wide nature of competition, the RA has adopted a relevant geographic market definition that is island wide.

Finally, for the sake of clarity, the RA does not define separate relevant markets for ISP and Access services. Access services relate to the management of the physical network that exists in Bermuda, in terms of the cabling and electronics that are required to link an end-user’s home to the point of interconnection with the ISP. ISP services provide the connectivity to the Internet, including offshore capacity, along with customer-facing functions such as marketing, sales and customer care. The RA considers that these two services currently exist separately as a result of a previous licensing regulatory framework that is no longer in effect.

Accordingly, the RA has adopted the following market definitions in its General Determination:

- Retail provision of fixed broadband Internet connectivity, provided over any technology, and for any speed, on an island wide basis.
- Wholesale provision of fixed broadband Internet connectivity, provided over any technology, and for any speed, on an island wide basis.

Mobile Services (Markets 3 & 4)

At present, two providers offer 4G LTE mobile services, Digicel Group and OneComm. They provide mobile communications services which broadly fall into three categories:

- voice calls;
- text messaging; and
- mobile data

The RA has concluded that defining distinct retail and wholesale markets is appropriate given that the competitive constraints in these markets may not evolve in the same way over time.

The RA has specifically considered whether the RA ought to define a market for mobile call termination. While the industry continues to operate a “Bill and Keep” model for mobile call termination, the RA considers that the application of ex post competition rules is likely to be sufficient to deal with any concerns in this market. If there are any observed changes to the applicability of the market tests contained within section 22(2) of the ECA, the RA may reconsider the need to define a market for mobile voice call termination and assess the need for ex ante remedies.

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2 Wholesale mobile voice call termination ("MCT") is the service necessary for a network operator to connect a caller with the intended mobile recipient of a call on a different network.

3 A pricing scheme for the two-way interconnection of two networks under which the reciprocal call termination charge is zero. That is, each network agrees to terminate calls from the other network at no charge.
Accordingly, the RA has adopted the following market definitions in its General Determination:

- The island wide provision of retail mobile services (i.e. voice, text and data).
- The island wide provision of wholesale mobile access.

**Fixed Voice (Market 5)**

The fixed voice market provides the consumer with the ability to make, as well as receive, phone calls between a fixed location in Bermuda and any other phone number, be it a local or long-distance (i.e. international) phone call.\(^4\)

The RA has concluded that it would not be appropriate to define a fixed voice market that includes both call origination and call termination. Specifically, the two services are very different and not substitutable in any way.

The RA has concluded that fixed voice origination is a relevant market in its own right because fixed voice origination provides the means for retail fixed voice customers to make calls. In other words, fixed call origination is synonymous with retail fixed voice services.

By contrast, call termination is a wholesale product that is provided by one operator, to another, for the purposes of allowing incoming calls onto the network. The RA has decided not to define a wholesale call termination market at this time.

In cases where the industry operates a “Bill and Keep” model\(^5\) for voice call termination, the RA considers that the application of \textit{ex post} competition rules is likely to be sufficient to deal with any concerns in this market. In the absence of ‘Bill and Keep’, where there are a small number of players in the market, each player can exercise countervailing buyer power on each other and the RA considers it unlikely to be a competition issue. Furthermore, any issues that do arise can be dealt with effectively by \textit{ex post} competition law. This is in accordance with the tests for markets susceptible to review under section 22(2) of the ECA. If there are any observed changes to the applicability of the market tests contained within section 22(2) of the ECA, the RA may reconsider the need to define a market for fixed voice call termination and assess the need for \textit{ex ante} remedies.

The RA finds that fixed voice services are not being constrained by mobile and therefore they do not form a single relevant market.

The RA is defining the market on a technology-neutral basis and therefore includes PSTN, ISDN and managed VoIP services within this market. The RA has also not made any distinction between the provision of residential or non-residential (business) services. Over-the-top (“OTT”) services and unmanaged VoIP services are not included in this market.

Based on the information available to the RA it has no reason to believe that the conditions of competition are significantly different between the residential and

\(^4\) The calls can be made to another fixed phone line or to a mobile phone.

\(^5\) A pricing scheme for the two-way interconnection of two networks under which the reciprocal call termination charge is zero. That is, each network agrees to terminate calls from the other network at no charge.
Accordingly, the RA has adopted the following market definition in its General Determination:

- The island wide provision of retail voice services (i.e. voice call origination) from a fixed location.
- Note: This relevant market includes the provision of services over PSTN, ISDN and managed VoIP services. It excludes OTT and unmanaged VoIP.

**Subscription television (Market 6)**

The subscription television (or PayTV) sector encompasses services and technologies capable of delivering audio-visual content to end-users.

Traditional subscription television services can include the following delivery mechanisms:

- cable-based subscription television, in which a coaxial cable connection is used to access television services;
- satellite-based subscription television, in which a satellite dish (and associated decoder box) is used to access television services;
- antennae-based subscription television, in which digital signals are “broadcast” from a local transmission tower and received at the subscriber's home using a small outdoor antenna;
- Internet protocol television (“IPTV”), in which live television is streamed through an Internet connection.

As a result of the increase in the speed and capacity of broadband networks, audio-visual content is increasingly consumed through OTT services, where content is streamed via an online service (for example, Netflix, Amazon Prime, Hulu).

The starting point for market definition was the traditional PayTV services market, which include the cable-based subscription television service currently offered by OneComm, antennae based services offered by WoW, and the IPTV-based services offered by Digicel Group. The RA has concluded that these services should all be included in the same relevant market in light of the fact these services offer directly comparable propositions to consumers at similar price points. The key question regarding retail market definition of subscription television services in this market review is whether the relevant market is wider than traditional PayTV services, and specifically, whether the relevant market should also include OTT services.

To understand whether OTT services form part of the relevant market, it was necessary to understand the degree to which consumers see OTT services as substitutable to traditional PayTV services.

The recent decline in traditional PayTV customers and high penetration of OTT services suggest that consumers are systematically leaving traditional PayTV and
instead favouring OTT services for their content consumption requirements. However, further evidence was needed to inform the market definition exercise.

36 In August 2018, the RA conducted a consumer survey of 400 residents of Bermuda. The survey explored what PayTV and broadband⁶ services people use, as well as their preferences in relation to such services. A report on the main findings of the consumer survey is published on the RA’s website.

37 Based on the results of the consumer survey conducted by the RA, the RA has concluded that the levels of claimed switching to paid OTT services (in response to a 10% increase in the price of their PayTV package) are high enough to suggest that the relevant retail market is wider than just traditional PayTV. On the basis of this analysis, the RA considers that the relevant retail market includes paid OTT services. Free OTT services do not form part of the relevant market.

38 The RA intends to continue to monitor the subscription television market and gather further information. If new data becomes available that suggests that consumers are switching away from traditional PayTV and toward paid OTT services in response to a 10% price rise is not above critical levels, the RA may reopen the question of the relevant retail market definition in respect of subscription television services in a future market review.

39 Accordingly, the RA has adopted the following market definition in its General Determination:

- The island wide provision of retail subscription television services.

- Notes:
  - The RA clarifies that this definition would include retail paid OTT services.
  - The RA has decided not to define a wholesale subscription broadcast market.

**Business connectivity (Markets 7-14)**

40 Business connectivity services (often called “leased lines” services) provide symmetric, uncontended data connectivity services between two network aggregation nodes or business premises, or connectivity to cloud-based services. These connections can be point-to-point or point-to-multipoint. The primary users of these services are larger businesses and telecommunications service providers.

41 Businesses use these services to connect multiple offices to remote business servers located in Bermuda, or to connect with international data transmission networks in order to access data centers outside of Bermuda.

42 Telecommunications service providers might use these services to connect different parts of their own networks, for example backhaul from a regional aggregation node to

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⁶ Broadband is relevant to this assessment because a broadband connection is required to access OTT services.
the core network, or for connecting to submarine cable landing points to enable off-island connectivity to the Internet.

43 The existing market is defined according to services provided within the City of Hamilton and contiguous suburbs, and those provided outside of Southside and the City of Hamilton and contiguous suburbs. The RA has concluded that there is a lack of clarity as to the geographic borders of the relevant market, given that the “contiguous suburbs” and Southside are not explicitly defined within the market review in 2013 or geographically within Bermuda. The RA has therefore decided to maintain the two geographic markets in relation to the City of Hamilton, but will remove the references to “Southside” and “the contiguous suburbs” in order to eliminate confusion about the geographic scope of the relevant markets.

44 Furthermore, no evidence has been provided by any parties to show that other than OneComm’s network upgrade (which focuses mainly on the residential end of the market) there has been entry and expansion of networks outside of the City of Hamilton and that these networks would be capable of providing high-speed business connectivity services. In the absence of any concrete and compelling evidence that the conditions of competition inside and outside of the City of Hamilton are equivalent, the RA sees no reason to depart from the geographic market definitions proposed.

45 In relation to the product market definitions, the RA considers it appropriate to distinguish between retail and wholesale leased line services. The RA has reached this view on the basis that the retail and wholesale markets are separate in their function and operation; and therefore, it proposes to maintain the distinction between the two markets.

46 The RA has decided to draw a distinction between leased line services under 25 Mbps and those above this threshold.

47 The RA defines leased lines services with speeds of 25 Mbps or less as “low-speed” and clarifies that low-speed leased lines are reflective of observed download and upload speeds that are less than or equal to 25 Mbps. “High-speed” leased lines correspond to leased lines where both the download and the upload speeds are in excess of 25 Mbps.

48 The RA also includes on-island submarine cable interconnectivity and backhaul services within the definition of “high-speed” leased lines, given that such services require capacity well in excess of 25 Mbps.

49 Accordingly, the RA has adopted the following 8 relevant business connectivity markets in its General Determination, consistent in wording with those defined in 2013. However, the RA has provided a new definition of low- and high-speed leased lines.

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7 Including by mobile network operators that need to use such connections to link together their mobile masts and provide the necessary backhaul.

8 In the event that further network investments are implemented that offer higher upload speeds and afford sector providers the ability to provide broadband services that replicate business connectivity services, the RA is open to revisiting this market definition.
Table 3: Business connectivity (leased line) market definitions

<table>
<thead>
<tr>
<th>Market Definition</th>
<th>Retail leased lines markets</th>
<th>Wholesale leased lines markets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low-speed (25 Mbps and below)</td>
<td>In the City of Hamilton</td>
<td>In the City of Hamilton</td>
</tr>
<tr>
<td></td>
<td>Outside of the City of Hamilton</td>
<td>Outside of the City of Hamilton</td>
</tr>
<tr>
<td>High-speed (above 25Mbps)</td>
<td>In the City of Hamilton</td>
<td>In the City of Hamilton</td>
</tr>
<tr>
<td></td>
<td>Outside of the City of Hamilton</td>
<td>Outside of the City of Hamilton</td>
</tr>
</tbody>
</table>

Off-island connectivity (Market 15)

50 Off-island (submarine cable) connectivity relates to the span of connectivity that allows for the transfer of data traffic between Bermuda and other countries, most especially to facilitate access to the Internet as well as international calls. The relevant market therefore is not confined to Bermuda, but instead from any location to or from Bermuda, so long as the service offers end to end connectivity, both for sending and receiving data or calls.

51 The RA considers that the market definition should be neutral as to the use of the connectivity. That is, whether the connection is being used to route voice calls or to connect to the internet, the same relevant market would apply.

52 Accordingly, the RA has adopted the following market definition in its General Determination:

- The provision of off-island connectivity (i.e. international data transmission).

Part C. Decision on the Assessment of SMP in the Relevant Markets

53 The RA’s determinations on SMP in each of the relevant markets identified in the previous sections are summarized in the table below.

Table 4: Summary of SMP Determinations

<table>
<thead>
<tr>
<th>Service type</th>
<th>Market #</th>
<th>Relevant markets</th>
<th>SMP operator(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broadband</td>
<td>1</td>
<td>Retail provision of fixed broadband Internet connectivity, provided over any technology, and for any speed, on an island wide basis</td>
<td>OneComm and Digicel Group</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Wholesale provision of fixed broadband Internet connectivity, provided over any technology, and for any speed, on an island wide basis</td>
<td>OneComm and Digicel Group</td>
</tr>
<tr>
<td>Mobile</td>
<td>3</td>
<td>The island wide provision of retail mobile services (voice, text and data)</td>
<td>OneComm and Digicel Group</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>The island wide provision of wholesale mobile access</td>
<td>OneComm and Digicel Group</td>
</tr>
<tr>
<td>Fixed voice</td>
<td>5</td>
<td>The island wide provision of retail fixed voice services (i.e. voice call origination from a fixed location)</td>
<td>Digicel Group</td>
</tr>
</tbody>
</table>
The RA’s determinations on SMP in each of the relevant markets defined in Part B above are set out below.

### Broadband (Markets 1 & 2)

The RA has concluded that the relevant market includes the island wide provision of broadband services. Furthermore, the RA has concluded that separate markets should be defined for both retail and wholesale broadband services.

The RA concludes that OneComm and Digicel Group hold joint SMP in the retail broadband market. This conclusion is based on the market evidence considered below:

- retail broadband market shares of OneComm and Digicel Group have historically been highly symmetric;
- historically, prices for broadband services of OneComm and Digicel Group were very closely aligned, and for many of the most popular tariffs were often identical; and
- the evidence presented suggests that OneComm and Digicel Group are likely to have engaged in tacit coordination in the past.

OneComm and Digicel Group continue to have the incentives and ability to coordinate and sustain such an outcome. The continued alignment in pricing on the new, faster networks is clear evidence of that the tacit coordination observed in the past is likely to persist over the market review period. Therefore, despite their investments in fibre networks, the RA is not confident that the market conditions are such that the risk of tacit coordination in the future has been eliminated.

<table>
<thead>
<tr>
<th>Subscription television</th>
<th>The island wide provision of retail subscription television services</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Business connectivity</strong></td>
<td><strong>Retail low-speed leased lines in the City of Hamilton (25 Mbps and below)</strong></td>
</tr>
<tr>
<td>7</td>
<td>–</td>
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<tr>
<td>8</td>
<td>–</td>
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<td>9</td>
<td>–</td>
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<tr>
<td>10</td>
<td>–</td>
</tr>
<tr>
<td>11</td>
<td>–</td>
</tr>
<tr>
<td>12</td>
<td>Retail high-speed leased lines outside of the City of Hamilton (above 25 Mbps)</td>
</tr>
<tr>
<td>13</td>
<td>Wholesale high-speed leased lines in the City of Hamilton (above 25 Mbps)</td>
</tr>
<tr>
<td>14</td>
<td>Wholesale high-speed leased lines outside of the City of Hamilton (above 25 Mbps)</td>
</tr>
<tr>
<td><strong>Off-island connectivity</strong></td>
<td><strong>The provision of off-island connectivity (i.e. international data transmission)</strong></td>
</tr>
<tr>
<td>15</td>
<td>–</td>
</tr>
</tbody>
</table>
A finding of joint SMP at the retail level is highly indicative of joint SMP at the wholesale level. This is because, if the wholesale market were competitive, the RA would be more likely to observe a competitive retail market. The observable evidence is consistent with the hypothesis that OneComm and Digicel Group enjoy joint SMP at the wholesale broadband level.

There is an almost one-to-one correlation between market shares at the retail level and at the wholesale level. Thus, it is possible to extrapolate the stability of market shares from the wholesale level to the retail level.

The RA has seen no evidence to suggest that the wholesale market is functioning effectively. Furthermore, the finding of joint SMP at the retail level is likely to be strengthened by the absence of a thriving wholesale access market, for the reasons outlined above. The RA therefore concludes that OneComm and Digicel Group also have joint SMP at the wholesale level.

**Mobile (Markets 3 & 4)**

With respect to mobile services, the RA has concluded that the relevant markets include the island wide provision of retail mobile services, as well as wholesale mobile access.

The RA concludes that OneComm and Digicel Group have joint SMP in the retail mobile market. This conclusion is based on the market evidence considered below:

- closely aligned prices of OneComm and Digicel Group for the most popular mobile tariffs;
- high mobile data prices relative to relevant international comparators;
- evidence of high profitability in the provision of mobile services; and
- almost perfect symmetry in market shares over time.

The wholesale mobile market is directly relatable to the retail mobile market on the basis that both retail operators are vertically integrated and only self-supply.

Unless there are competitive constraints present at the wholesale level that suggest otherwise, the joint SMP finding from the retail level would indicate joint SMP at the wholesale level as well.

Accordingly, the RA concludes that both Digicel Group and OneComm possess joint SMP in the wholesale and retail markets.

This SMP finding is consistent with the observable market outcomes, including the evolution of market shares, prices and profits.

In addition, the competitive conditions in the mobile market, such as the lack of external destabilizers and their disciplining power, incentivise and allow Digicel Group and OneComm to maintain stable tacit coordination.
Fixed voice (Market 5)

Historically, the fixed telephony market has been largely served by Bermuda Telephone Company Ltd (now operated by Digicel Group), with sectoral providers such as Link and TeleBermuda International Limited serving, and operating in, small parts of the market. This continues to be the case.

In the RA's 2013 market review, Bermuda the Telephone Company Ltd (“BTC”) was deemed to have SMP in the market for fixed voice services, which was defined as "narrowband access lines and local calls."

The evidence that fixed voice customer numbers are increasing, and that ARPU increased in 2017, supports the hypothesis that fixed customers are not migrating away to mobile services. This evidence also reinforces the conclusion that fixed voice is a separate market from mobile.

There is no indication that joint SMP could be present in this market, and as such the RA proceeds with an assessment of single SMP.

Digicel Group is the dominant provider of fixed services, and the RA also notes that its revenues have been increasing over time.

The RA concludes that Digicel Group has SMP in the fixed voice market.

Subscription television (Market 6)

The RA has defined subscription television services as a relevant market requiring an SMP assessment. The RA has carried out its assessment at both the retail and wholesale levels.

In 2013 Bermuda Cable Vision, a subsidiary company now owned by OneComm, was identified as having SMP in the subscription television market at both the wholesale and retail level.

Since 2013, there have been a number of changes in the subscription television market, including the growing use of OTT services and the recent entry of Digicel Group and its IPTV service.

At the present time, and for the next few years, it appears that OneComm, despite having a high market share, may be limited in its ability to profitably increase prices because of the competitive constraints of alternative providers and the willingness of large cohorts of consumers to switch.

The RA concludes that there are currently no SMP operators in this market but notes that it intends to monitor market outcomes closely over the next few years given that current market trends may lead to a situation where OneComm would have SMP. Should the market dynamics warrant, the RA may reconsider its assessment of this market.

Business connectivity (Markets 7-14)

The RA has identified eight relevant markets for business connectivity according to all the possible combinations of the following three criteria:
• market level: retail versus wholesale;
• product: high-speed versus low-speed (leased lines); and
• geographic: in the city of Hamilton versus outside it.

In 2013, high-speed leased lines in the city of Hamilton and contiguous suburbs were found to be effectively competitive.

Based on information provided by operators in response during the market review process, it is evident that Digicel has significantly large shares across all of Bermuda. Therefore, the RA considers that even if the market was defined as one national market, Digicel would still be considered to have a very strong position in the market.

The RA has no grounds to depart from the previous finding that high-speed leased lines in the city of Hamilton were considered effectively competitive, so maintains this finding.

The RA has been presented with no concrete or compelling evidence to show that the conditions of competition inside and outside of the City of Hamilton are equivalent. Therefore, the only defined markets in which the RA concludes that there is SMP are high-speed leased lines outside of the city of Hamilton.

The RA concludes that Digicel Group holds SMP in the high-speed wholesale and retail markets of leased lines that provide at least 25 Mbps upload and 25 Mbps download speeds outside of the City of Hamilton.

Table 5: Relevant markets and SMP operators

<table>
<thead>
<tr>
<th>Wholesale leased lines markets</th>
<th>Retail leased lines markets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low-speed (25 Mbps and below) leased lines in the City of Hamilton</td>
<td>Low-speed (25 Mbps and below) leased lines in the City of Hamilton</td>
</tr>
<tr>
<td>No SMP</td>
<td>No SMP</td>
</tr>
<tr>
<td>Low-speed (25 Mbps and below) leased lines outside of the City of Hamilton</td>
<td>Low-speed (25 Mbps and below) leased lines outside of the City of Hamilton</td>
</tr>
<tr>
<td>No SMP</td>
<td>No SMP</td>
</tr>
<tr>
<td>High-speed (above 25 Mbps) leased lines in the City of Hamilton</td>
<td>High-speed (above 25 Mbps) leased lines in the City of Hamilton</td>
</tr>
<tr>
<td>No SMP</td>
<td>No SMP</td>
</tr>
<tr>
<td>High-speed (above 25 Mbps) leased lines outside of the City of Hamilton</td>
<td>High-speed (above 25 Mbps) leased lines outside of the City of Hamilton</td>
</tr>
<tr>
<td>Digicel Group has SMP</td>
<td>Digicel Group has SMP</td>
</tr>
</tbody>
</table>

Off-Island connectivity (Market 15)

The RA has defined the relevant market for off-island connectivity for the assessment of SMP.

At present there are no capacity constraints that would limit the ability of any of the three submarine cable owners to win business from the other providers of submarine
connectivity. The market conditions currently appear to be sufficient to deliver a competitive outcome.

87 The RA therefore concludes that there are currently no SMP operators in this market.

Part D. Decision on Remedies

88 The RA may, in accordance with section 20(1) of the ECA, make administrative determinations that impose ex ante remedies. The RA’s ex ante measures aim to promote effective and sustainable competition in the markets in which a sectoral provider(s) was deemed to have SMP.

89 Each remedy here fulfils the RA’s statutory duties and satisfies the legal tests for imposing such remedies.

90 The section is structured as follows:

- Overview of key remedies summarizes new remedies that the RA will apply to the SMP operators in certain markets;
- Broadband remedies sets out the remedies that the RA will apply to the SMP operators (OneComm and Digicel Group) in the provision of broadband services;
- Mobile remedies sets out the remedies that the RA will apply to the SMP operators (OneComm and Digicel Group) in the provision of mobile services;
- Fixed voice remedies sets out the remedies that the RA will apply to the SMP operator (Digicel Group) in the provision of fixed voice services; and
- Business connectivity remedies sets out the remedies that the RA will apply to the SMP operator (Digicel Group) in the provision of business connectivity services.

Overview of key remedies

91 The RA has decided to apply the following types of remedies to the specified SMP operators:

- An obligation to maintain Accounting Separation;
- An obligation to provide regular, timely and accurate information to the RA;
- An obligation to ensure prices are Cost Oriented; and
- An obligation to provide wholesale access on FRAND terms.

92 These remedies are described below, together with a high-level explanation of: (i) the concern that the remedy addresses; and (ii) how the RA proposes that the remedy would work in practice.
Furthermore, the RA has decided that it is in the public interest to retain certain limited Transitional Remedies carried over from the 2013 obligations to ensure the continued protection of consumers and competition. As discussed in Part E below, these Transitional Remedies, which will apply to specified fixed broadband services, will remain in effect until the RA determines they are no longer necessary following implementation of the new regulatory regime.

**Accounting Separation**

Accounting Separation is a regulatory tool that enables the RA to ascertain whether there are anti-competitive cross-subsidies among services provided by an SMP operator, or whether the operator is engaging in any form of anti-competitive pricing.

This remedy is based on an obligation to prepare separate accounts for each of the business divisions and/or product lines operated by the SMP provider, including retail and wholesale activities where relevant. The provider will bear the responsibility of having to identify and allocate the costs and revenues associated with each business division, as well as the business transactions between the divisions.

Accounting Separation is also an important component of a broader objective of the RA, namely, to ensure that charges for electronic communications services are transparent, non-discriminatory and cost-based (see the section below on Cost Orientation).

The Accounting Separation remedy requires the preparation and provision of:

97.1 a statement of mean capital employed;

97.2 profit and loss accounts;

97.3 further cost, volumes and revenue information; and

97.4 in a format that can be usefully employed for the assessment of compliance with a number of other regulatory obligations, as specified further in the Accounting Separation Final instructions.

In implementing Accounting Separation, the RA is mandating the following:

98.1 Separated accounts must be prepared annually (unless otherwise approved by the RA for good cause shown following a justified extension request submitted to the RA no later than 20 business days before this deadline) and must be based on a transparent cost allocation method;

98.2 The transparent cost allocation method must be based on the principle of cost causality. This requires costs to be attributed to components, services and business divisions strictly in accordance with the activities that cause those costs to be incurred. The RA would not allow the cost of any financial penalties or of outage compensation paid to customers to be included in such costs;

98.3 Specifically, allocations under this methodology must not have the intention, or effect, of providing an advantage to the SMP operator at the expense of its competitors;
98.4 Separated accounts must be prepared in accordance with Internationally accepted accounting standards, unless such standards are shown to be irrelevant;

98.5 The allocation methodology must be applied consistently between accounting periods. Alternatively, where a change in the method of application can be objectively justified, it must be noted and comparative data provided according to the revised basis of allocation; and

98.6 The separated accounts must be subject to annual audit.

99 Full details of the requirements of the Accounting Separation obligation, the approach to be followed and the supporting documentation to be provided alongside the separated accounts are described in the Accounting Separation Final Instructions, the contents of which form part of this Annex 1 and are included as Schedule 1.

100 These requirements will ensure that the RA has a reasonable degree of information on the Revenues and Fully Allocated Costs (FAC) associated with providing electronic communications services in Bermuda. As such, this remedy will support other remedies that the RA is proposing in a number of markets, in particular Cost Orientation and the requirement to provide access on FRAND terms, both of which are discussed below. In addition to the annual reporting, SMP operators will be required to submit to the RA an interim set of statements for the first 2-months following the publication of this General Determination (September-October 2020). These statements must be submitted to the RA no later than 30 November 2020. These statements must be prepared in accordance with the Accounting Separation Final Instructions—including a draft of the supporting documentation as outlined in Annex 2 of the Accounting Separation Final Instructions, in particular the ‘basis of preparation’ document. However, these statements do not need to be audited. The RA will use these interim accounts, and supporting documentation, as a basis for discussion with each SMP operator and intends to work closely with the operators to ensure that the form of reporting is consistent with that required by the Accounting Separation Final Instructions. Following receipt of the interim statements, the RA will review the operators’ submissions and work with them to finalize the approved methodology for preparation of the separated accounts.

101 The RA will issue its final approval of each operator’s methodology, or, if necessary, issue a direction to the operator — in line with the requirements set out in the ‘basis of preparation’ document and other supporting documentation described in Annex 2 of the Accounting Separation Final Instructions—sufficiently in advance of the deadline for that operator’s submission of the first set of audited accounts, which are due four months after the SMP operator’s financial year end. During this process and subsequently, as experience is gained with the information presented in the separated accounts, the RA may issue orders as and when necessary to clarify the application of the requirements set out in these Final Instructions.

Information provision

102 In order for the RA to regulate effectively and to monitor compliance with ex ante remedies, it is critical that the RA has market information that is up to date, accurate and provided in a timely fashion.
To achieve this, in addition to the information on costs and revenues that will be provided by SMP operators in accordance with the Accounting Separation obligation, the RA is mandating that network, tariff and customer information will also need to be provided. This can include:

- network coverage, such as the geographic location and the number of premises covered or passed;
- the menu of tariffs offered to customers, such as prices, the services provided (e.g. broadband speed) and contract terms; and
- customer and subscriber numbers associated with each tariff, and the average revenue per customer, customer churn and average monthly usage.

Each SMP operator is required to submit this information to the RA once every 6 months. The information provided in each filing should be as fully up-to-date as possible and must be submitted to the RA within 20 business days after the relevant 6-month period. The first delivery of this information must cover the 6-month period from April to September 2020, with the subsequent filings being every 6 months thereafter.

Full details of the information to be provided are set out in the Provision of Information and Key Performance Indicators Final Instructions, the contents of which form part of this Annex 1 and are included as Schedule 2.

Cost Orientation

In markets that lack effective competition, providers with SMP are likely to have the ability and incentive to set prices that can act to distort or restrict competition, as well as exploit consumers. Examples of such pricing practices include excessively high pricing and excessively low (predatory) pricing. Such pricing practices ultimately harm consumers by denying them the benefits that would result from an effectively competitive market.

In order to address the risks of such anti-competitive conduct, in addition to the existing regulatory competition powers which the RA has in a number of markets, including broadband and mobile, the RA has decided to impose an obligation on SMP operators to ensure that their retail prices are Cost Oriented. In simple terms, Cost Orientation imposes constraints on the prices that SMP operators can set. The RA will monitor the market and assess over time whether the prices charged by SMP operators are reflective of the operators’ costs of providing the services, including the cost of capital.

In assessing compliance, the RA will take a phased approach.

In Phase 1 the RA will use readily available information on prices and costs, which the operator will submit regularly to the RA in its separated accounts, to undertake initial screening tests which will take the following form:

- Where there are concerns about excessively high pricing, an assessment will be undertaken to compare ROCE with WACC. An alternative formulation of this is to compare prices/revenues with FAC from the
separated accounts (plus an allowance for return on capital at the SMP operator’s WACC); and

- Where there are concerns about excessively low pricing, a comparison will be undertaken of prices/revenues with a LRIC estimate, which the RA will compute by applying a LRIC to FAC ratio to the FAC number from the separated accounts (plus an allowance for a return on capital at the SMP operator’s WACC).

110 These screening tests will be undertaken at the level of all SMP Product Groups, including Product Bundle Groups containing at least one retail SMP product that rely on SMP wholesale inputs.

111 If prices are within the bounds of LRIC and FAC (i.e. above LRIC and below FAC), the RA will be minded not to undertake further analysis. However, if, on the basis of the RA’s own Phase 1 assessment, and/or compelling evidence provided by stakeholders, the RA suspects there are grounds to believe that the SMP operator is in breach of the Cost Orientation obligation, it will proceed to a Phase 2 analysis.

112 Phase 2 will involve the RA assessing in more detail whether the SMP operator has complied with the Cost Orientation obligation, including assessing multiple years of information to understand whether any misalignment between prices and costs is temporary or is a more permanent issue. In cases where prices are significantly and persistently above FAC or below LRIC, and where there are no compelling explanations for such divergence, the RA is likely to reach a finding of non-compliance with the Cost Orientation obligation.

113 The RA sets out further information on the Cost Orientation remedy and how it would be applied in practice in the Cost Orientation Guidance Notes, which are published at: www.ra.bm.

Wholesale access on FRAND terms

114 Market players with SMP are likely to have the ability and incentive to refuse or restrict access to their networks to other operators who wish to use the network to provide retail services. This restriction can harm consumers by limiting the scope for competition at the service level. As a result, the RA requires SMP operators in certain markets (i.e. broadband, mobile and high-speed leased lines outside of the City of Hamilton) to provide wholesale access to their networks.

115 As part of this obligation, SMP providers will be required to offer commercial terms to wholesale access seekers in accordance with FRAND.\(^{10}\)

116 The FRAND obligation is intended to ensure that SMP providers offer access on price and non-price terms that are fair and reasonable, and do not discriminate between

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\(^9\)The SMP Product Groups are broadband and mobile services for both OneComm and Digicel Group, and fixed voice and high-speed leased lines (outside of the City of Hamilton) for Digicel Group alone.

\(^{10}\)The RA notes that joint SMP operators cannot gain wholesale access to each other’s network (in the market in which they have found to have joint SMP). However, the RA also clarifies that in those markets where only one operator has SMP (e.g. business connectivity) all other ICOLs could take advantage of the wholesale remedies (regardless of SMP in any other market).
different access seekers, or between the SMP provider’s own retail arm and other sectoral providers.

117 Specifically, the RA will interpret the meaning of providing access on ‘fair and reasonable’, ‘non-discriminatory’ terms and the ‘obligation not to provide a margin squeeze’ as follows:

117.1 **Access on fair and reasonable terms**—Access seekers and must meet any reasonable request for access. Requests for access may not be refused except for objectively justified reasons, backed up by evidence. Therefore, access requests will be presumed to be reasonable unless the SMP operator demonstrates that they are not reasonable. As such, in the case of a dispute, the SMP operator will need to demonstrate that the access request is not reasonable or does not conform to industry standards, rather than the access seeker being responsible for demonstrating that the access request is reasonable.

117.2 **Non-discrimination**—The SMP operator must not discriminate between the terms of access provided to its downstream division and other access seekers. In assessing compliance with the non-discrimination obligation, the RA will apply the concept of Equivalence of Outputs (EOO). Specifically, the RA will assess whether the terms of wholesale access offered by the SMP operator provide the same level of functionality and service as the SMP operator offers to its own downstream divisions. As such, the SMP operator must not offer a reduced service to access seekers relative to the service that the operator provides to itself. The external and internal services must be identical on all key service and quality dimensions.

117.3 **The obligation not to impose a margin squeeze**—the RA will assess the difference between retail prices and the wholesale access costs, which must be large enough to cover retail costs plus a reasonable profit margin. In any assessment of compliance with a margin squeeze, a choice must be made about the efficiency level of the access seeker, and whether that level is comparable to the scale (and implicitly the efficiency level) of the SMP operator. Under an assessment of margin squeeze the RA will adopt an approach based on the costs of an ‘Adjusted Equally Efficient Operator,’ using information from the separated accounts, and adjusting for scale. The RA will assess compliance on the Product Groups for which the SMP operator has been found to have SMP at the wholesale level. It will also assess compliance on all the formats in which customers subscribe to the SMP service as part of a bundle (i.e. on Product Bundle Groups involving at least one product or service over which the SMP operator is deemed to have SMP in a wholesale market).

11 Under EOO, the access products offered by the wholesale SMP operator to alternative operators are comparable to the products that the wholesale SMP operator provides to its retail division in terms of functionality and price, but the products may be provided by different systems and using different processes.

12 The key wholesale KPIs to be provided are outlined in the Information Provision and Key Performance Indicators Instructions included at Schedule 2 to Annex 1 of this General Determination.
There are two ways in which the RA will monitor and assess compliance with the FRAND obligation (including the obligation not to engage in a margin squeeze):

- The ongoing review of the information collected through the Accounting Separation obligation (including specific wholesale KPIs and financial data) will allow the RA to determine whether there are any concerns warranting the RA to launch a detailed investigation; and

- The RA will also act as an arbiter in the case of disputes over the provision of wholesale access. For example, the RA may receive formal complaints that SMP operators are not negotiating with access seekers in good faith; are failing to provide access upon reasonable request or are not meeting the obligations of offering wholesale access on FRAND terms.

The RA notes that in the interim period before the first set of Regulatory Accounts is published in accordance with the Accounting Separation obligation, the RA will intervene in the case of a dispute in line with the steps outlined below.

Where both the SMP operator and access seekers have made all reasonable efforts to reach a commercial agreement but have been unable to do so, the RA will have the power to intervene if requested to do so by one of the parties and to determine whether the terms offered by the SMP operator comply with the FRAND obligation. This includes price and non-price dimensions of the FRAND obligation.

If a single iteration of negotiations between the parties is insufficient to come to an agreement, there must be at least a second iteration during which the parties elaborate on why they consider their proposed terms need to be adjusted to meet the FRAND requirements.

If an agreement cannot be reached after the SMP operator and access seeker have made all reasonable efforts, either the SMP operator or the access seeker may request the RA to step in to determine whether the FRAND terms have been met.

Other cases may arise that lead to a formal complaint being made to the RA. For example, an agreement to provide access has been enacted but an access seeker becomes concerned that the terms of the agreement are no longer compliant with FRAND terms in practice or that the SMP operator is not honouring the terms of access outlined in the agreement. In such cases, where a formal, well-evidenced complaint is made to the RA, the RA may initiate a detailed investigation.

Further details on how the Wholesale Access FRAND and Margin Squeeze obligations would be applied in practice are provided in the Wholesale Access FRAND and Margin Squeeze Guidance Note at published on the RA’s website www.ra.bm.

**Market specific remedies**

Set out the remedies that the RA is proposing with respect to those markets where it has identified SMP (in section 5). The remedies are structured on the basis of the five service areas in which the RA identified SMP in the defined relevant markets.
**Broadband**

126 The RA determined that OneComm and Digicel Group hold joint SMP in both the retail and wholesale broadband markets.

127 Given this joint SMP finding, the RA is required to consider appropriate and proportionate remedies in each of the markets. The Table below summarizes the applicable remedies.

**Table 6: Remedies in the broadband markets**

<table>
<thead>
<tr>
<th>Market level</th>
<th>Operator(s) with SMP</th>
<th>Remedy</th>
</tr>
</thead>
</table>
| Wholesale    | OneComm, Digicel Group | Obligation to provide wholesale re-sale, bitstream and virtual unbundled local access, physical unbundling and infrastructure access  
|              |                      | Obligation to ensure that wholesale access is provided on FRAND terms  
|              |                      | Obligation to publish wholesale key performance indicators  |
| Retail       | OneComm, Digicel Group | Obligation to offer broadband on a stand-alone basis  
|              |                      | Obligation to ensure Accounting Separation  
|              |                      | Obligation to provide information to the RA  
|              |                      | Obligation to ensure that prices are Cost Oriented  
|              |                      | Obligation to publish retail key performance indicators  |

**Retail broadband remedies**

128 The RA has concluded that it is appropriate and proportionate to impose five retail broadband market remedies:

128.1 an obligation to offer broadband on a stand-alone basis;

128.2 an obligation to ensure Accounting Separation;

128.3 an obligation to ensure prices are Cost Oriented;

128.4 an obligation to provide information to the RA; and

128.5 an obligation to publish retail KPIs.

**Obligation to offer stand-alone retail broadband service**

129 Stand-alone broadband refers to the offering of retail broadband services that allows the consumer to access the Internet. SMP operators would be allowed to bundle these services together.

130 Under this obligation, SMP operators are required to offer a retail broadband service that is unbundled from any other electronic communications service (e.g. fixed phone, mobile or PayTV).
The RA notes that if it saw evidence that operators were seeking to evade this regulation through pricing strategy, it would consider intervening through use of its ex post powers.

**Accounting Separation**

The RA requires SMP operators to maintain Accounting Separation. This obligation will enable the RA to observe, inter alia, the costs and revenues of providing broadband services on an end-to-end basis in the retail and wholesale market.

Further details on how the Accounting Separation obligations will be applied in practice are described in the Accounting Separation Final Instructions included at Schedule 1 of this General Determination.

**Obligation to ensure prices are Cost Oriented**

The RA requires SMP operators to ensure that retail broadband prices are Cost Oriented. Under the Cost Orientation obligation, revenue that is attributable to broadband services must not be significantly and persistently above the FAC of providing the broadband services, and prices must not be significantly and persistently below a price floor (hence preventing predatory pricing).

Further details on how the Cost Orientation obligations would be applied in practice are described in the Cost Orientation Guidance Note published on the RA’s website [www.ra.bm](http://www.ra.bm).

The RA recognizes that there will be a period of time following the publication of this General Determination during which the two SMP operators will be preparing their separated accounts in line with the Accounting Separation remedy. Until the RA is in a position to evaluate the SMP operators’ compliance with the new cost orientation obligation based on these separated accounts, there will be a potential regulatory vacuum. Furthermore, the RA may assess whether it is necessary to reinforce the cost orientation obligation for certain SMP services (for example, by specifying an “anchor product” and associated price cap) in a consultation following on from this market review process. For these reasons, the RA has decided to retain on a temporary basis certain limited Transitional Remedies carried over from the 2013 obligations. These Transitional Remedies will apply to specified fixed broadband services and will remain in effect until the RA determines through an order they are no longer necessary following implementation of the new regulatory regime. These Transitional Remedies are discussed in Part E below.

**Obligation to provide information**

The RA requires SMP providers to submit regular and detailed information to the RA every six months.\(^\text{13}\)

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\(^{13}\) The RA will require regular information, but also wishes to ensure that the obligation is proportionate. As such, data reported every six months with annual auditing should balance the need for the RA to have regular and accurate information, while minimising the administrative burden on SMP operators.
Further details on the information to be provided is included in the Provision of Information and Key Performance Indicators Final Instructions included at Schedule 1 of this General Determination.

Obligation to report retail KPIs

In addition to publishing KPIs in respect of wholesale services, SMP operators will be required to publish a small number of retail KPIs.

The RA’s objective in requiring the SMP operators to make such information public is to increase public awareness of the quality of service provided by the SMP operators, and to better inform consumers about what services are available. Most importantly, this information should encourage further competition between operators, specifically regarding the quality of their retail service.

As specified in the Provision of Information and Key Performance Indicators Final Instructions, the RA requires SMP operators to publish the following retail broadband KPIs:

141.1 the average actual achieved broadband download speed, sub-divided by tariff (i.e. the headline download speed);

141.2 the number of customer complaints, sub-divided by topic (i.e. reliability, speed, contractual terms, or over-billing).

Wholesale broadband remedies

The RA is imposing the following obligations on the SMP providers in the wholesale broadband market (i.e. OneComm and Digicel Group):

- to provide wholesale access;
- to ensure that wholesale access is provided on FRAND terms; and
- to publish wholesale KPIs.

Obligation to provide wholesale access

Given recent developments in the market and the RA’s finding of joint SMP, as well as the scope for improving consumer outcomes by increasing service-based competition, the RA considers that it is necessary to continue to impose wholesale broadband access obligations on OneComm and Digicel Group.

Wholesale access obligations will encourage retail competition at the service level by giving efficient access seekers the opportunity to compete for customers. This can deliver significant consumer benefits, particularly in terms of lower prices to consumers.

“Wholesale broadband access” refers to the provision of wholesale broadband services by the owner of the network infrastructure to allow sectoral providers to access that network in order to offer their own retail broadband services.

Wholesale access can come in several forms, including the following:
- Re-sale: the access seeker buys a service that is identical to the incumbent's retail service, and simply re-brands it;

- Bitstream: the access seeker interconnects at a single point in the network for the purposes of providing broadband services whereby the access seeker offloads traffic onto its own core network to enable Internet connectivity;

- Physical unbundling: the subscriber's fixed connection is “unbundled”, allowing direct ownership by the access seeker. This requires the access seeker to install equipment at the location of the unbundled wiring. This form of access is relevant mainly to legacy forms of broadband;

- VULA unbundling: a virtual form of unbundling whereby the subscriber's connection (i.e. fibre broadband connection) is virtually unbundled, allowing the access seeker to take ownership of the “last mile” of the individual subscriber's connection. This form of access is relevant to newer (i.e. fibre-based) broadband networks; and

- Infrastructure access: access seekers can install their own cables into the SMP provider’s civil infrastructure (e.g. underground ducts and overhead poles). This is a purely passive form of access that requires the access seeker to have its own fully independent active broadband network but does negate the need for the access seeker to conduct its own civil works in order to install cabling in its own ducts.

The RA requires that the SMP providers meet any reasonable request for all forms of wholesale broadband access listed. The RA anticipates that bitstream/VULA and resale are the most relevant for fibre-based broadband networks and are likely to be by far the most popular access products. However, SMP providers would also be required to provide physical unbundling or infrastructure access, if reasonably requested.

For the avoidance of doubt, as specified in the Wholesale Access: FRAND and Margin Squeeze Guidance Note, in the case of wholesale broadband access, the RA considers that the primary form of access should be bitstream/VULA and resale, except where the access seeker can demonstrate that these forms of access are inadequate for their requirements and/or business model. Therefore, requests for access in the form of bitstream/VULA or resale will be assumed reasonable (with the burden on the SMP operator to demonstrate otherwise). However, where a functioning bitstream/VULA and resale access product has been made available by the SMP operator, it may be allowed to refuse deeper forms of access unless there is a compelling reason (presented by the access seeker) why bitstream/VULA is not sufficient for that particular access seeker. The RA will take this into account when assessing any dispute in relation to wholesale broadband access.

The RA also makes clear that although the obligation to provide access will be imposed on a technology-neutral basis, the operator should not be prevented from decommissioning its legacy network (subject to the prior approval of the RA). However, the SMP operator must ensure that it continues to provide services to access seekers on its new/alternative network, and that consumers are no worse off. In other words, the service to consumers must be at least as good as before, for no greater price.
Unless the RA has given explicit approval, the requirement to ensure that access seekers and retail consumers are not worse off should be interpreted such that the practice of removing a product speed (say, 25 Mbps) and forcing consumers and access seekers to trade up to a higher speed product for a higher price is unlikely to be considered consistent with the principle, unless there is a compelling technical or economic reason.

In the case where the SMP operator wishes to decommission its legacy network, the RA will work together with the SMP operator to ensure that any wholesale or retail consumers on the legacy network are no worse off as a result of the decommissioning of the legacy network, in line with the obligations set out above. However, the RA emphasises that there should be no forced migration away from copper and onto fibre until the RA has completed a full review of the plans for decommissioning the copper network. Any choice to decommission legacy networks will be subject to the standards and procedures ultimately approved by the RA in a follow-on consultation that will focus on this issue, pursuant to the RA’s powers under ECA Sections 5(1)(e) and 9(2)(c)(ix).

Furthermore, the RA notes that joint SMP operators in the broadband market are not permitted to gain wholesale broadband access to each other’s network.

Wholesale access must be provided on FRAND terms

As part of this obligation to meet any reasonable request for wholesale broadband access, OneComm and Digicel Group must also ensure that all wholesale broadband services are provided in accordance with the FRAND obligation.

The FRAND obligation is intended to ensure that the SMP provider offers access on price and non-price terms that are fair and reasonable, and does not discriminate between different access seekers, or between the SMP provider’s own retail arm and other sectoral providers. The FRAND obligation also means that SMP operators have to negotiate in good faith with potential and existing access seekers. At a minimum, the RA considers that wholesale access should be available for each and every broadband tariff that the SMP operators offer at the retail level. Furthermore, any requests for other wholesale access services should also be met, if they are reasonable.

The SMP operator must not discriminate between the terms of access provided to its downstream division and other access seekers. In practice, this means that SMP operators will need to ensure that wholesale services provided to access seekers are equivalent to those that SMP operators supply to their own downstream divisions. As noted above, in assessing compliance with the non-discrimination obligation, the RA will apply the concept of Equivalence of Outputs (EOO).

Further details on how the FRAND obligations would be applied in practice are provided in the Wholesale Access FRAND and Margin Squeeze Guidance Note published on the RA’s website www.ra.bm.

SMP operators will need to ensure that they do not engage in a margin squeeze for wholesale broadband access, as part of the FRAND obligation. A margin squeeze

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14 Under EOO, the access products offered by the wholesale SMP operator to alternative operators are comparable to the products that the wholesale SMP operator provides to its retail division in terms of functionality and price, but the products may be provided by different systems and using different processes.
would occur if the SMP operator were to set wholesale and retail prices leaving insufficient room to recover all relevant and efficiently incurred costs, plus an appropriate profit margin.

158 As part of this wholesale access requirement, the RA will lift the wholesale price cap currently set at the retail price minus 15%. However, the RA notes that, on the basis of the evidence reviewed as part of the Market Review process, the RA understands that the efficiently incurred retail costs are likely to be in excess of 15% of retail prices. The RA therefore expects that FRAND-compliant wholesale prices will result in a margin between retail and wholesale in excess of 15% of retail prices. However, the RA does not seek to mandate a specific figure, preferring instead a case-by-case analysis based on the evidence presented by the parties.

159 Further details on how the FRAND obligations including the obligation not to engage in a margin squeeze would be applied in practice are provided above and the Wholesale Access FRAND and Margin Squeeze Guidance Note published on the RA’s website www.ra.bm.

Obligation to publish wholesale KPIs

160 In order to track the service quality that SMP operators are offering to wholesale access seekers, the RA requires the SMP operators to provide directly to the RA and publish on their websites specific wholesale KPIs according to the service offered to access seekers, as well as the services that the operators provide to their own retail business divisions.

161 As specified in the Provision of Information and Key Performance Indicators Final Instructions, the RA requires SMP operators to published the following wholesale broadband KPIs:

161.1 The time taken to connect and/or migrate a retail customer, according to the retail business division of the SMP provider and for each access seeker;

161.2 The time taken to address network faults, from when the fault was first identified, according to the retail business division of the SMP provider and access seekers. Faults are defined here as lost or impaired service due to issues in the wholesale network (i.e. faults that are the responsibility of the SMP operator);

161.3 The number of faults that need to be fixed according to the retail business division of the SMP provider and access seekers.

Mobile

162 The RA will apply several remedies to the joint SMP operators in the mobile market, which are detailed in this section. The table below summarizes the remedies in the wholesale and retail mobile markets.
**Table 7: Remedies in mobile markets**

<table>
<thead>
<tr>
<th>Market</th>
<th>Operator(s) with SMP</th>
<th>Remedy</th>
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<tbody>
<tr>
<td>Wholesale mobile</td>
<td>OneComm, Digicel Group</td>
<td>Obligation to provide wholesale access</td>
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<tr>
<td></td>
<td></td>
<td>Obligation to ensure that wholesale access is provided on FRAND terms</td>
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<td></td>
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<td>Obligation to publish wholesale KPIs</td>
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<tr>
<td>Retail mobile</td>
<td>OneComm, Digicel Group</td>
<td>Obligation to offer mobile services on a stand-alone basis</td>
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<td>Obligation to ensure Accounting Separation</td>
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<td>Obligation to ensure prices are Cost Oriented</td>
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<td>Obligation to provide information to the RA</td>
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<td>Obligation to publish retail KPIs</td>
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</table>

**Retail mobile remedies**

163 The RA imposes the following obligations:

163.1 An obligation to offer stand-alone products;

163.2 An obligation to ensure Accounting Separation;

163.3 An obligation to set retail prices on a Cost Oriented basis;

163.4 An obligation to provide information to the RA; and

163.5 An obligation to publish retail KPIs.

**Obligation to offer stand-alone products**

164 The RA requires SMP operators to offer the mobile element of any of their service offerings on a stand-alone basis (i.e. unbundled from any other products with which the mobile services might be sold). For this purpose, mobile services constitute combinations of allowances of minutes, Internet data and text messages. The stand-alone obligation would require all technical criteria of the bundled offer (e.g. data limits or throttling) to be replicated.

165 The RA notes that if it sees evidence indicating that SMP operators are seeking to evade this regulation through pricing strategy, the RA would consider intervening through use of its *ex post* powers.

**Obligation to ensure Accounting Separation**

166 The RA obliges SMP operators to maintain Accounting Separation. This requirement, in conjunction with the information provision obligations set out below, will enable the RA to observe and analyse the costs and revenues of providing mobile services on an end-to-end basis (i.e. including retail and wholesale costs).

167 Further details on how the Accounting Separation obligations would be applied in practice are described above and in the Accounting Separation Final Instructions included at Schedule 1 of this General Determination.
Obligation to set retail prices on a Cost Oriented basis

The Cost Orientation obligation requires that revenue attributable to mobile services is not significantly and persistently above the FAC of providing mobile services. Furthermore, the Cost Orientation obligation would also mandate that prices not be predatory. As such, the regulated entity will need to ensure that its prices are not significantly and persistently below a price floor.

Further details on how the Cost Orientation obligations would be applied in practice are provided above and in the Cost Orientation Guidance Note published on the RA’s website www.ra.bm.

Obligation to provide information

The RA requires SMP operators to submit information to the RA every six months.15

Further details on the information to be provided is included in the Provision of Information and Key Performance Indicators Final Instructions included at Schedule 2 of this General Determination.

Obligation to publish retail KPIs

In addition to publishing KPIs in respect of wholesale services, SMP operators will be required to publish a small number of retail KPIs.

The RA’s objective in requiring the SMP operators to make such information public is to increase public awareness of the quality of service provided by the SMP operators, and to better inform consumers about what services are available. Most importantly, this information should encourage further competition between operators, specifically regarding the quality of their retail service.

As specified in the Provision of Information and Key Performance Indicators Final Instructions, the RA requires SMP operators to published the following retail mobile KPIs:

- The actual service quality achieved by customers, sub-divided by tariff;
- The number of customer complaints, sub-divided by topic (i.e. reliability, speed, contractual terms, or over-billing).

Wholesale mobile remedies

To address the finding of SMP in the wholesale mobile market, the RA has decided to impose three obligations on OneComm and the Digicel Group:

175.1 An obligation to provide wholesale access;

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15 The RA will require regular information, but also wishes to ensure that the obligation is proportionate. As such, data reported every six months with annual auditing should balance the need for the RA to have regular and accurate information, while minimising the administrative burden on SMP operators.
175.2 An obligation to ensure that wholesale access is provided on FRAND terms; and

175.3 An obligation to publish wholesale KPIs.

\textit{Obligation to provide wholesale mobile access on FRAND terms (to complement prevailing licensee obligations)}

176 To ensure that the mobile market is functioning efficiently, and that wholesale services can be effectively used by efficient access seekers, the RA requires that, in addition to the prevailing licensee obligation, wholesale mobile access is provided on FRAND terms.

177 As noted in the Consultation Document, the 4G licence conditions already include a number of provisions,\textsuperscript{16} at this time the RA imposes a suite of wholesale mobile access conditions on OneComm and Digicel that cover much the same obligations.

178 In particular, the RA requires that:

178.1 SMP operators shall be required to negotiate in good faith and provide services, upon request to unaffiliated third parties seeking to act as credible MVNOs, on fair reasonable and non-discriminatory terms, in line with the FRAND Instructions;

178.2 SMP operators shall promptly commence negotiations following receipt of a reasonably detailed request for the provisions on wholesale mobile services

178.3 SMP operators shall provide the requesting party with wholesale mobile access and termination services that enable the requesting party to provide the full range of mobile voice and data services to its customers on a resale basis, subject to reasonable terms and conditions.

179 In line with the process described above and in the Wholesale Access FRAND and Margin Squeeze Guidance Notes published on the RA’s website \url{www.ra.bm}, if an agreement cannot be reached after the SMP operator and access seeker have made all reasonable efforts, either the SMP operator or the access seeker may request the RA to step in to determine whether the FRAND terms have been met.

180 Consistent with the HDS-1 licence conditions, and the RA’s conclusions with respect to wholesale broadband access, if market evidence indicates that network operators are not meeting their FRAND obligations, the RA will intervene.

181 The RA notes that joint SMP operators in the mobile market are not permitted to gain wholesale mobile access to each other’s network.

\textsuperscript{16} Schedule to Regulatory Authority (Request for Applications for the Assignment of Designated HDS-1 Frequencies in the 850 MHz, 700 MHz, and 2100 MHz Bands) General Determination 2016 (19 May 2016), paragraph 67 [Link].
Obligation to publish mobile wholesale KPIs

The RA has decided to obligate the SMP operators to publicly report on several KPIs in order to provide transparency about the operators’ service quality to wholesale customers (i.e. MVNOs), as well as evidence on which to assess whether the SMP operators are indeed meeting their FRAND obligations.

As specified in the Provision of Information and Key Performance Indicators Final Instructions, the RA requires SMP operators to published the following wholesale mobile KPIs:

183.1 The number of days taken to port a mobile number, sub-divided by each MVNO, and for the SMP operator’s own retail arm;

183.2 The number of days taken to restore service to a customer, sub-divided by each MVNO, and for the SMP operator’s own retail arm; and

183.3 The number of calls dropped/blocked, sub-divided by each MVNO, and for the SMP operator’s own retail arm.

Fixed voice

The RA is imposing a number of remedies, as set out in the table below.

Table 8: Remedies in the fixed voice markets

<table>
<thead>
<tr>
<th>Market</th>
<th>Operator(s)</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provision of retail voice call services (i.e. origination from a fixed location)</td>
<td>Digicel Group</td>
<td>Obligation to offer fixed voice services on a stand-alone basis</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Obligation to ensure Accounting Separation</td>
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<tr>
<td></td>
<td></td>
<td>Obligation to ensure prices are Cost Oriented</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Obligation to provide information to the RA</td>
</tr>
</tbody>
</table>

Retail fixed voice remedies

The RA is imposing the above listed obligations in the above table on Digicel Group in relation to its fixed voice products.

Obligation to offer stand-alone products

The RA requires Digicel Group to provide fixed voice services on a stand-alone basis, allowing consumers to subscribe to fixed voice services without buying other bundled services, such as broadband. This remedy ensures that customers can choose the services that they wish to purchase from a range of options, and in what combination.

The RA notes that if it sees evidence that Digicel Group is seeking to evade this obligation through its pricing strategy, the RA would consider intervening, including under ex post powers.
Accounting Separation

The RA requires Digicel Group to maintain Accounting Separation. This obligation, will enable the RA to observe the costs and revenues of providing fixed voice services.

Further details on how the Accounting Separation obligations will be applied in practice are described above and in the Accounting Separation Final Instructions, which are included as Schedule 1 of this General Determination.

Obligation to set retail prices on a Cost Oriented basis

The RA requires Digicel Group to ensure retail fixed voice service prices are Cost Oriented. The Cost Orientation obligation requires the revenue attributable to fixed voice services to not be significantly and persistently above the FAC of providing those services. Furthermore, the Cost Orientation obligation mandates that prices not be predatory and, as such, the provider entity will need to ensure that its prices are not significantly and persistently below a price floor.

Further details on how the Cost Orientation obligations would be applied in practice are described above and in the Cost Orientation Guidance Note published on the RA’s website www.ra.bm.

Obligation to provide information

The RA requires Digicel Group providers to submit regular and detailed information to the RA every six months.\textsuperscript{17}

Further details on the information to be provided is included in the Provision of Information and Key Performance Indicators Final Instructions included at Schedule 1 of this General Determination.

Business connectivity

Given the finding that Digicel Group holds SMP in the retail and wholesale supply of high-speed leased lines outside of Hamilton, the RA is imposing a number of remedies, as set out in the table below and described below.

\textsuperscript{17} The RA will require regular information, but also wishes to ensure that the obligation is proportionate. As such, data reported every six months with annual auditing should balance the need for the RA to have regular and accurate information, while minimising the administrative burden on SMP operators.
Table 9: Remedies in business connectivity markets

<table>
<thead>
<tr>
<th>Market</th>
<th>Operator(s)</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wholesale high-speed (above 25Mbps) leased lines outside of the City of Hamilton</td>
<td>Digicel Group</td>
<td>Obligation to provide wholesale access&lt;br&gt;Obligation to ensure wholesale access is provided on FRAND terms&lt;br&gt;Obligation to publish wholesale KPIs</td>
</tr>
<tr>
<td>Retail high-speed (above 25 Mbps) leased lines outside of the City of Hamilton</td>
<td>Digicel Group</td>
<td>Obligation to ensure Accounting Separation&lt;br&gt;Obligation to provide information to the RA&lt;br&gt;Obligation to ensure prices are Cost Oriented</td>
</tr>
</tbody>
</table>

*Wholesale business connectivity remedies*

195 To address competition concerns in the wholesale business connectivity market, the RA is imposing three broad obligations on Digicel Group:

195.1 An obligation to provide wholesale access;

195.2 An obligation to ensure wholesale access is provided on FRAND terms; and

195.3 An obligation to publish wholesale KPIs.

**Obligation to provide wholesale access on FRAND terms**

196 The RA adopts a simplified approach to wholesale access based on the FRAND obligations.

197 Wholesale access in respect of business connectivity services refers to active products. The RA decides that the access obligation covers the requirement to meet any reasonable wholesale request, including providing physical infrastructure access to other operators for the purposes of those operators installing their own leased lines;

198 At a minimum, all the services that Digicel Group offers to its own retail business division should be available at the wholesale level;

199 The obligation to provide services on FRAND terms includes the requirement to ensure that the wholesale price does not lead to a margin squeeze;

200 Further details on how the FRAND obligations including the obligation not to engage in a margin squeeze would be applied in practice are provided above and the Wholesale Access FRAND and Margin Squeeze Guidance Note published on the RA’s website [www.ra.bm](http://www.ra.bm).

**Obligation to publish wholesale KPIs**

201 In order to track the service quality that SMP operators are offering to wholesale access seekers, the RA requires the SMP operators to provide directly to the RA and publish on their websites specific wholesale KPIs according to the service offered to access seekers, as well as the services that the operators provide to their own retail business divisions.
As specified in the Provision of Information and Key Performance Indicators Final Instructions, the RA requires SMP operators to published the following wholesale broadband KPIs:

202.1 The time taken to connect and/or migrate a retail customer, sub-divided according to the retail division of Digicel Group and for each access seeker;

202.2 The time taken to address network faults (from first identification), sub-divided according to the retail division of Digicel Group and access seekers. Faults are defined here as lost or impaired service due to issues in Digicel Group’s network (i.e. those faults that are the responsibility of Digicel Group); and

202.3 The number of faults that require fixing, sub-divided according to the retail division of Digicel Group and access seekers.

This obligation will provide transparency about the wholesale service quality offered, as well as an evidential basis on which to assess whether Digicel Group is complying with its FRAND obligations.

*Retail business connectivity remedies*

To address competition concerns in the retail high-speed (above 25 Mbps) business connectivity market, the RA is imposing three broad obligations on Digicel Group:

204.1 An obligation to ensure Accounting Separation;

204.2 An obligation to provide information to the RA; and

204.3 An obligation to ensure prices are Cost Oriented

These obligations are discussed below.

**Accounting Separation**

Further details on how the Accounting Separation obligations would be applied in practice are provided in the Accounting Separation Final Instructions, which are included as Schedule 1 of this General Determination.

**Obligation to ensure prices are Cost Oriented**

The Cost Orientation obligation would require that revenue attributable to retail high-speed (above 25Mbps) business connectivity services is not significantly and persistently above the FAC of providing those services. Furthermore, the Cost Orientation obligation would mandate that prices are not predatory. As such, Digicel Group will need to ensure that its prices are not significantly and persistently below a price floor.

Further details on how the Cost Orientation obligations would be applied in practice are provided above the Cost Orientation Guidance Note published on the RA’s website [www.ra.bm](http://www.ra.bm).
Obligation to provide information

The RA requires SMP providers to submit regular and detailed information to the RA every six months.

Further details on the information to be provided is included in the Provision of Information and Key Performance Indicators Final Instructions, which are included as Schedule 2 of this General Determination.


The SMP remedies identified above will become effective in accordance with the timelines set forth below:

<table>
<thead>
<tr>
<th>SMP Remedies</th>
<th>Effective Date</th>
<th>Subsequent Reporting</th>
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<tbody>
<tr>
<td>Accounting Separation</td>
<td>First interim filing required no later than 30 November 2020, covering the 2-month period September-October 2020.</td>
<td>Audited separated accounts must be prepared annually (and submitted within four months after the SMP operator's financial year end unless otherwise approved by the RA, which approval must be applied for no later than 20 business days before the deadline.</td>
</tr>
<tr>
<td>Cost Orientation</td>
<td>Effective immediately</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Information Provision and wholesale KPIs</td>
<td>Effective immediately, with the first report to be provided to the RA covering the 6-month period April-September 2020. This must be provided within 40 business days following the close of this period (i.e. by 30 November 2020).</td>
<td>Every 6 months from end of previous period. SMP operators must submit this information to the RA following the close of the relevant 6-month period. Information should be provided within 20 business days following the close of the 6-month period.</td>
</tr>
<tr>
<td>Wholesale Access: FRAND and Margin Squeeze</td>
<td>Effective immediately</td>
<td>Not applicable</td>
</tr>
</tbody>
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The RA recognizes that there will be a period of time following the publication of this General Determination during which the two SMP operators will be preparing their separated accounts in line with the Accounting Separation remedy. Until the RA is in a position to evaluate the SMP operators' compliance with the new cost orientation obligation based on these separated accounts, the RA considers it necessary to avoid a potential regulatory vacuum. Furthermore, the RA plans to assess whether it is necessary to reinforce the cost orientation obligation for certain SMP services (for example, by specifying an "anchor product") in a consultation following from this market review process. For these reasons, the RA has decided to retain on a temporary basis certain limited Transitional Remedies carried over from the 2013 obligations. These Transitional Remedies will apply to a limited subset of retail broadband services in
order to ensure the continued protection of consumers and competition, until the RA decides that the transitional safeguards are no longer necessary.

The RA has carefully calibrated these limited Transitional Remedies so that they apply only to those relevant markets, and specific services within those markets, that are necessary to protect competition and consumers during the transition to the new regime, in particular, a limited subset of retail broadband services. Furthermore, the Transitional Remedies will remain in place only until the new regulatory regime is capable of being implemented effectively.

The Transitional Remedies will apply only to fixed broadband markets, which were found to be characterized by SMP in the 2013 review and remain subject to a finding of SMP as a result of the RA’s current review process. The restricted scope and duration of these Transitional Remedies is fully in line with the RA’s powers to modify or withdraw SMP obligations under ECA Section 24, subsections (5) and (6). The RA intends to terminate the Transitional Remedies as soon as the replacement obligations (as discussed below) are capable of effective enforcement.

Specifically, the RA has concluded that, as a Transitional Remedy, it is necessary and proportionate to retain a retail price cap on a subset of retail fixed broadband access services and ISP services (together defined as the provision of fixed broadband Internet connectivity in this market review). The RA considers it appropriate to continue with a transitional retail price cap remedy for a subset of retail fixed broadband services, along with an advance tariff filing obligation for any proposed increases in the standalone prices for the relevant services and continuing information requirements, including in regard to the pricing of bundles that contain the relevant services. There are two main reasons for continuing these particular 2013 obligations for a limited period of time:

- Until the SMP operators have published their separated accounts, the RA wishes to ensure consumers are protected from the risk of price increases on the broadband services to which they subscribe, which may result in a significant misalignment of prices with underlying costs;

- Furthermore, the RA is aware of some practices in the market that have been introduced recently where consumers in the retail broadband market have effectively been forced to take up a higher speed broadband service at a higher price than the service to which they originally subscribed, without being given the option to remain on their original broadband speed at a lower price.

As defined in the 2013 General Determination the transitional price cap will be set such that the price per Mb/s cannot increase (unless there is an affirmative showing that prices are not recovering historical costs). While the 2013 remedies applied to the price per Mb/s for each broadband access speed offered, the RA is seeking to reduce the burden on SMP operators while still ensuring consumers are sufficiently protected during the transition period. Therefore, the RA will only apply the price per Mb/s price cap to a small number of lower bandwidth services, for which the large majority of user requirements will met.

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18 Bermuda Regulatory Authority (Obligations For Operators With Significant Market Power) General Determination 2013 BR 79 / 2013
Specifically, the RA will apply the transitional price cap only for the following services (hereinafter, the “Relevant Services”):

- an entry level service of (at least) 25 Mbps download (with at least 10 Mbps upload) priced at $80 per month—this is the lowest speed currently advertised by OneComm or Digicel; and

- a service of (at least) 100 Mbps download (with at least 30 Mbps upload) priced at $100 per month—this is the cheapest stand-alone broadband speed that is also provided as part of a bundle that is advertised by OneComm or Digicel (noting that SMP operators are required to provide stand-alone broadband alongside bundled offerings as part of the 2020 SMP remedies).

These are the prevailing prices where the Relevant Services are currently being advertised on a stand-alone basis. For the avoidance of doubt, this is the maximum price for internet access and ISP combined on a standalone basis.

The RA notes that the stand-alone prices for the Relevant Services may be set below this maximum price cap, and therefore, customers who are currently receiving these services for less than the specified price caps should continue to receive the services at the price currently specified in their contracts. Furthermore, this requirement should not affect the practice of introducing higher speed services at the same price, such that the price per MB/s continues to fall.

This requirement applies equally to OneComm and Digicel. Therefore, if either operator is not currently advertising or providing a service at these speeds, it should make the Relevant Service available to any customer who requests it and do so at or below the price cap level specified above. However, the RA notes that as this is a short-term transitionary measure, any customer taking up this 'new' product should not be required to commit to a long term contract. In line with the product market definition, the service to be provided is technology neutral.

At the discretion of the RA, the prices specified above for the Relevant Services may be adjusted if, within 10 business days following the date of issuance of the Final General Determination, SMP operators present credible evidence to show that these prices would not be sufficient to recover historical costs (in line with the wording of the broadband price caps as defined in paragraph 26 of the 2013 General Determination). Further adjustments to the transitional price cap will only be considered after this initial 10 day period if there is a material change in circumstances, as supported by credible evidence, resulting in the proposed price cap not being sufficient to cover costs of the SMP operator.

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19 This relates to OneComm’s FibreWire 25 internet plan, as listed on the OneComm website, accessed on 11 August 2020: https://onecomm.bm/internet-plans

20 This relates to Digicel’s Fibre 100 internet package, as listed on the Digicel website, accessed on 11 August 2020: https://www.digicelgroup.com/bm/en/fibre.html

21 As defined paragraph 26 of the 2013 General Determination the price cap will be set such that the price per Mb/s cannot increase (unless there is an affirmative showing that prices are not recovering historical costs). See: Bermuda Regulatory Authority (Obligations For Operators With Significant Market Power) General Determination 2013 BR 79 / 2013
In addition, any proposed price increase for the Relevant Services will remain subject to the relevant provisions of the 2013 advance tariff filing notification procedure. To be clear, tariff filing only applies to services covered by the transitional price caps, i.e., the retail fixed broadband services at 25 Mbps download (with at least 10 Mbps upload) and 100 Mbps download (with at least 30 Mbps upload) and, as discussed below, bundles containing the Relevant Services. In particular, the SMP operator will be required to file a notification with the Authority of any proposed increase in the prices for these standalone services at least 10 business days before the proposed effective date of the new tariff, with the exception of bundled offers including a relevant service, which will require at least 20 business days’ notice prior to the effective date of the bundled tariff. The tariff notification shall include:

- a description of the service or services to which the tariff relates;
- a description of, and a complete copy of, the terms and conditions of provision of the tariff.

Furthermore, in the case of bundled offers involving the Relevant Services, the SMP operator will be required to comply not only with the 20-day advance tariff filing obligation specified above, but also to provide information demonstrating that the price for the bundle will not impose a price squeeze, if requested by the Authority.

The RA will be able to check compliance with this obligation through the information gathered as part of the ‘information provision’ obligations (as specified in the ‘information Provision Final Instructions’, which stipulate that certain information (including information on tariffs and prices) should be provided every six months. The Authority also retains the right to request specific information from operators outside of this regular reporting period.

These transitional remedies will remain in place until: (1) the SMP operators have submitted their separated accounts (as required under the Accounting Separation obligation) to the RA and the RA determines, based on the information contained in the separated accounts, that the transitional remedies are no longer necessary to ensure compliance by each SMP operator with the cost orientation and FRAND obligations (including the obligation not to engage in margin squeeze); and/or (2) the RA has had an opportunity to evaluate the need for, and implement, additional safeguards (in particular, by specifying an “anchor product” and associated price cap) to reinforce the cost orientation obligation for the protection of consumers and competition.
Schedule 1 – Accounting Separation

Final Instructions

Date: 1 September 2020
About these Instructions

These Final Instructions on Accounting Separation have been adopted by the Regulatory Authority of Bermuda (the “RA”) as part of its General Determination on the Market Review of the Electronic Communications Sector, which imposes certain accounting separation obligations on sectoral providers found to have significant market power (“SMP”) in the relevant markets. The purpose of these Final Instructions is to provide further detail on the requirements that make up the accounting separation obligation.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definitions</td>
<td>4</td>
</tr>
<tr>
<td>1  Introduction</td>
<td>9</td>
</tr>
<tr>
<td>2  Objectives of Accounting Separation</td>
<td>11</td>
</tr>
<tr>
<td>3  Principles of Accounting Separation</td>
<td>13</td>
</tr>
<tr>
<td>4  Approach to Accounting Separation</td>
<td>15</td>
</tr>
<tr>
<td>4.1 The form and presentation of separated accounts</td>
<td>15</td>
</tr>
<tr>
<td>4.2 What should be presented in the separated accounts</td>
<td>17</td>
</tr>
<tr>
<td>4.3 How costs and revenues should be allocated across regulatory</td>
<td>20</td>
</tr>
<tr>
<td>separated accounts</td>
<td></td>
</tr>
<tr>
<td>4.4 How should assets in the regulatory separated accounts be treated</td>
<td>20</td>
</tr>
<tr>
<td>4.4.1 Asset valuation</td>
<td>20</td>
</tr>
<tr>
<td>4.4.2 Depreciation</td>
<td>22</td>
</tr>
<tr>
<td>ANNEX 1: pro forma templates</td>
<td>22</td>
</tr>
<tr>
<td>ANNEX 2: Supporting documentation</td>
<td>35</td>
</tr>
</tbody>
</table>
Tables and figures

Table A1.1 – Minimum level of disaggregated cost information to be presented in the separated accounts .................................................................24
Table A1.2 – Recommended format for the consolidated statement of mean capital employed..................................................................................25
Table A1.3 – Recommended format for the consolidated profit and loss statement ..........................................................27
Table A1.4 – Recommended format for the consolidated profit and loss statement for each Product group ..........................................................28
Table A1.5 – Recommended format for the profit and loss statement for each Product Group and Product Bundle Group ..............................30
Table A1.6 – Recommended format for the breakdown of assets and liabilities by Product Group and Product Bundle Group .........................31
Table A1.7 – Recommended format for the breakdown of costs by Product Group and Product Bundle Group ...................................................32
Table A1.8 – Recommended format for the reconciliation statement between the statutory and separated accounts—P&L...............................33
Table A1.9 – Recommended format for the reconciliation statement between the statutory and separated accounts—mean capital employed ......33
Table A1.10 – Recommended format for the additional information on Product Groups and Product Bundle Groups ........................................34
Definitions

**Access Network**: Relates to the part of the network that connects directly to customers, from a local aggregation/distribution point.

**Accounting Separation**: An obligation set forth in the Market Review of the Electronic Communications Sector General Determination to produce financial statements that report the performance of each Product Group of an SMP operator. Accounting Separation enables the RA to monitor whether an operator with SMP is compliant with certain price-based obligations, such as to ensure prices are cost orientated.

**Activity-based costing ("ABC")**: A cost allocation methodology where costs are assigned to the services based on allocation keys presenting a causal link with the costs incurred.

**Adjusted equally efficient operator ("adjusted EEO")**: One of three possible standards used to identify the retail costs to be recovered; in this case, the costs to be recovered are the retail costs of the SMP provider, adjusted to the scale of an entrant. See also “EEO” and “REO”.

**Average avoidable cost ("AAC")**: The average of the costs that could have been avoided if the operator had not produced a discrete amount of (extra) output.

**Average customer lifetime ("ACL")**: The average revenue-generation duration for which a customer stays with a particular service provider.

**Average revenue per user ("ARPU")**: A measurement used to indicate the average monthly revenue earned from a customer who subscribes to a service.

**Average variable cost ("AVC")**: The average variable cost for a given unit of output.

**Bandwidth**: The amount of data that can be transmitted within a fixed amount of time, expressed in bits per second (bps) or bytes per second.

**Broadband**: An Internet service or connection generally defined as being “always on”, providing a bandwidth greater than narrowband.

**Bundle**: Communications services sold together in a package, in contrast to each service being sold on a stand-alone basis.

**Capital expenditure ("CAPEX")**: Funds used by a company to acquire, upgrade, and maintain assets such as property, industrial buildings, or equipment.

**Common costs**: Costs that are shared between multiple services supplied by an entity.

**Consumer**: Someone who purchases an electronic communications service (i.e. a retail product such as broadband). Consumer can also refer to a wholesale consumer, i.e. a supplier in the value chain who buys a service or product and then supplies it to the final consumer (or end-user).

**Contract period**: The duration of a fixed-term contract, for example a post-pay mobile tariff may have a contract period of 18 months. See also “Fixed-term contract”.


**Core Network**: The backbone of a communications network, which carries different services such as voice or data.

**Cost causality**: The attribution of costs to components, services and business divisions strictly in accordance with the activities that cause those costs to be incurred.

**Cost Orientation**: An obligation set forth in [name the final GD] to ensure that prices charged for products or services are reflective of the underlying cost of provision.

**Current cost accounting** ("CCA"): A form of depreciation in which an operator’s asset base is annualized based on the gross replacement cost of the assets.

**Customer**: Someone who purchases an electronic communications service. Customer and consumer are used interchangeably in this report, but customer usually refers to a customer of a specific service provider (i.e. a OneComm customer).

**Customer premises equipment** ("CPE"): Electronic equipment that is located in a customer’s premises such as an Internet modem or PayTV set-top box.

**Ducts**: Existing trenches and pipes in which copper and fibre lines are, or could be, installed.

**Discounted cash flow** ("DCF"): Approach used to calculate profitability, where revenues and costs are aggregated over time and discounted using an appropriate discount rate.

**EBIT**: Earnings before interest and taxes; an indicator of a company’s profitability.

**ECA**: Electronic Communications Act 2011.

**Equivalence of inputs** ("EOI"): Under the FRAND obligation, the SMP operator must treat all access seekers equally. Under EOI, the downstream access product retailed by the vertically integrated operator with SMP in the wholesale market uses exactly the same physical upstream inputs as the downstream product supplied by competitors. The product development process is therefore the exact equivalent in terms of functionality and price. See also "EEO".

**Equally efficient operator** ("EEO"): One of three possible standards used to identify the retail costs to be recovered; in this case, the costs to be recovered are the retail costs of the SMP provider. See also “adjusted EEO” and “REO”.

**Equivalence of outputs** ("EOO"): Under the FRAND obligation, the SMP operator must treat all access seekers equally. Under EEO, the access products offered by the wholesale SMP operator to alternative operators are comparable to the products that the wholesale SMP operator provides to its retail division in terms of functionality and price, but the products may be provided by different systems and using different processes. See also “EOI”.

**Ex ante remedy**: A regulatory obligation imposed by the RA on one or more SMP operators in order to prevent anticompetitive conduct and promote competition.

**Financial capital maintenance** ("FCM"): An approach under which the financial capital of the company is maintained in current-price terms. Capital is assumed to be maintained if shareholders’ funds at the end of the period are maintained in real terms at the same
level as at the beginning of the period. This means that the depreciation charge to the profit and loss account includes holding gains or losses due to changes in asset prices.

**Fixed-term contract:** A contractual relationship between a provider of (electronic communication) services and a consumer that lasts for a specified period, also known as the “Contract period”.

**Fully Allocated Costs (“FAC”):** An accounting method for attributing all the costs of a company to defined activities such as products and services. Typically, this method will follow the principle of cost causality.

**Generally accepted accounting principles (“GAAP”):** A collection of commonly followed accounting rules and standards for financial reporting.

**General Determination:** A statutory instrument made pursuant to section 62 of the Regulatory Authority Act 2011 (“RAA”). The General Determination is applicable to all operators, or to such sub-category of operators as falls within the scope of the statutory instrument.

**Gross book value:** The original price paid for an asset, without depreciation deductions.

**FRAND:** Fair, reasonable and non-discriminatory.

**Historical cost accounting (“HCA”):** An approach to accounting whereby the costs that the operator actually incurs are used in the accounting statement.

**Holding gains and losses:** Annual changes in the value of an asset.

**Individual Products:** An individual service, product or tariff offered by an operator. Examples include a specific pre-pay mobile tariff, a 150 Mbps fibre broadband, or a specific PayTV package.

**Individual Product Bundles:** A specific bundled product made up of a two or more Individual Products. Examples include a bundle of 150 Mbps fibre broadband and a specific PayTV package; or a triple-play bundle of 150 Mbps fibre broadband, a specific PayTV package and a specific pre-pay mobile tariff.


**Integrated Communications Operating Licence (“ICOL”):** A licence granting the licensee the right to establish, construct and operate one or more electronic communications networks and to provide electronic communications services, on an integrated basis, within the territorial limits of Bermuda, and between Bermuda and other countries.

**Internal rate of return (“IRR”):** The rate of return for an investment project that sets the net present value (“NPV”) of all cash flows (both positive and negative) from the investment equal to zero.

**Key performance indicator (“KPI”):** A measurable value that demonstrates how effectively a company is achieving its key business objectives.
Leased line: A transmission facility that is leased by a customer from a public carrier and which is dedicated to that customer’s traffic.

Long-run incremental costs (“LRIC”): The average of all the (variable and fixed) costs that an operator incurs to produce a particular product.

Margin squeeze test: An assessment of the margin that exists between the wholesale and retail prices set by an entity, in order to understand whether the prices are set such that an efficient entity purchasing the wholesale product would be unable to earn a reasonable return.

Mean capital employed: Total assets less current liabilities, excluding corporate taxes, dividends payable and long-term liabilities, with the mean computed from the start and end values for the financial year.

Mobile virtual network operator (“MVNO”): A provider of mobile telephony services, who does not have an allocation of spectrum or its own wireless network.

Modern equivalent asset (“MEA”): An approach to deriving asset values based on assessing the most efficient available technology that performs the function of the asset in question.

Net present value (“NPV”): The value of all future cash flows (positive and negative) over the lifetime of an investment discounted to the present.

Non-SMP Product Groups: Products that are within a market that is not subject to ex ante regulation, i.e. the market is not covered by an SMP determination. Non-SMP Product Groups include subscription television, high speed leased lines (inside of Hamilton), low speed leased lines (inside and outside of Hamilton), and submarine capacity/off-island connectivity.

Office of Communications (“Ofcom”): UK regulator responsible for the regulation of the electronic communications sector.

Office of Fair Trading (“OFT”): (former) UK regulator responsible for ensuring fair trading, and now part of the UK competition authority.

Operating expenditure (“OPEX”): The costs of the day-to-day operation of a company, such as staff costs, repairs and maintenance expenditure, and overheads.

PayTV: Subscription-based television services.

Pure long-run incremental cost (“Pure LRIC”): A cost standard approach that assesses the variable cost to provide service for one additional customer.

Product Bundle Groups: Any combination of two or more Product Groups sold together in a package, i.e. as a bundle. Examples include broadband and PayTV bundles; and broadband and mobile bundles.

Product Groups: Major groups of products offered by an operator, and which include broadband, mobile, fixed voice, subscription television, business connectivity (i.e. leased lines) and off-island connectivity (i.e. submarine capacity). A further distinction is made between SMP Product Groups and non-SMP Product Groups.
Profit and loss statement (“P&L”): A financial statement showing a firm’s financial performance in terms of revenues and expenses.

RAA: Regulatory Authority Act 2011.

REO: Reasonably efficient operator—one of three possible standards used to identify the retail costs to be recovered; in this case, the costs to be recovered are the retail costs of an entrant (with less scale than the SMP operator). See also “adjusted EEO” and “EEO”.

Regulatory asset value (“RAV”): The value ascribed by the RA to the capital employed in the SMP operator’s regulated business.

Return on capital employed (“ROCE”): A measure of how efficiently capital is being used. It is calculated as accounting profit divided by the capital employed.

Second Consultation: The document published by the RA in February 2019, titled the “Market review of the electronic communications sector”. The document set out the RA’s provisional view, at that time, on relevant economic markets, significant market power and requisite remedies.

Service level agreements, or guarantees (“SLAs”, “SLGs”): Commercial agreements under which the SMP operator is obliged to provide access to wholesale services with a specified level of quality.

Significant market power (“SMP”): A position of economic strength in the relevant market or markets that affords an entity, either individually or jointly with others, the power to behave to an appreciable extent independently of competitors and consumers, which may provide a basis for the imposition of ex ante remedies.

SMP Product Groups: Groups of products for which the operator has been found to have SMP. The SMP Product Groups have been found to be broadband and mobile services (OneComm and Digicel Group), and fixed voice and high speed leased lines (outside of Hamilton) (Digicel Group).

Sub-groups of Products: A group of Individual Products within a Product Group. Examples of Sub-groups of Products include all pre-pay mobile services; or all fibre broadband products above a certain speed.

The RA: The Regulatory Authority of Bermuda, or “RA”.

Time preference of money: In economics, the principle that people place a greater value on receiving a good or service earlier rather than later.

Virtual unbundled local access (“VULA”): A broadband access remedy that requires a network operator to provide access to its superfast broadband network. VULA provides a connection from the nearest “local” aggregation point to a customer’s premises.

Weighted Average Cost of Capital (“WACC”): The rate that a company is expected to pay on average to all its security holders to finance the company’s assets.
1 INTRODUCTION

1. Section 12 of the Regulatory RA Act 2011 ("RAA"), sets out the principal functions of the Regulatory RA of Bermuda (the "RA"). These include ensuring that the regulation of the electronic communications sector promotes competition, the interests of residents and consumers in Bermuda, the development of the Bermudian economy, Bermudian employment and Bermudian ownership.

2. Separately, the Electronic Communications Act 2011 ("ECA") requires the RA to complete a market review process in order to determine what, if any, *ex ante* regulatory remedies are required to address SMP in the supply of electronic communications services.

3. In the most recent market review (completed in 2020), the RA identified SMP in a number of markets in the electronic communications sector. As a result of this finding of SMP, the RA imposed remedies to address the competition concerns.

4. A number of SMP remedies are new to the electronic communications sector in Bermuda and span several markets. Specifically, these remedies are the obligations to:
   1. comply with Accounting Separation;
   2. ensure Cost Orientation of prices;
   3. require SMP operators to provide wholesale access on fair, reasonable and non-discriminatory (FRAND) terms, including by not engaging in a margin squeeze; and
   4. provide key performance indicators and timely information on market data.

5. The RA has decided to provide instructions and explicit guidance on these four key remedies, in order to:
   - provide more clarity and certainty on how the RA will expect the SMP operators to act in order to ensure they are compliant with their regulatory obligations;
   - provide greater clarity and certainty to the SMP operators on how the RA will investigate compliance with these obligations; and
   - assist interested stakeholders contemplating making a complaint to the RA in relation to non-compliance with these obligations in understanding the evidential threshold that needs to be met and the information that the RA will require.

6. This document sets out instructions in relation to the Accounting Separation obligation.¹

7. Accounting Separation is an important remedy because it will enable the RA to gather relevant financial and operational information, in a format that can be usefully

¹ Separate Guidance notes on Cost Orientation and FRAND are available on the RA's website [www.ra.bm](http://www.ra.bm).
employed for the assessment of compliance with a number of key regulatory obligations. Such obligations include Cost Orientation and the provision of wholesale access on FRAND terms (including by not engaging in a margin squeeze), as well as obligations under competition rules in accordance with sections 84(1)(a), 85 and 86 of the RAA. As such, the RA considers Accounting Separation to be a core building block of the regulatory regime.

8. These instructions relate to the regulatory obligation for Accounting Separation put in place following an SMP designation pursuant to Part 4 of the ECA and is without prejudice to the application of ex post competition rules, requirements or obligations established by the RA in accordance with sections 84(1)(a), 85 and 86 of the RAA.

9. In these instructions, the RA provides information on what the SMP operators will need to do to ensure compliance with the Accounting Separation obligation. The Note is structured as follows:

- **section 2** explains the objectives of the Accounting Separation obligation;
- **section 3** sets out the principles that underpin the Accounting Separation obligation;
- **section 4** provides instructions to SMP operators on how they can ensure compliance with the Accounting Separation obligation;
- **Annex 1** provides example templates for how the SMP operators should present their separated accounts; and
- **Annex 2** details the information that the SMP operators will need to include in the documentation that must accompany their separated accounts.
OBJECTIVES OF ACCOUNTING SEPARATION

10. Regulatory separated accounts are required in order to provide informative financial information about a regulated company for use by the RA, the industry, consumers and other stakeholders.

11. The Accounting Separation obligation seeks to achieve three main objectives:

   i. to monitor compliance with SMP obligations. The regulatory separated accounts will provide transparency on the SMP operator's cost base and revenues, thereby allowing the RA to monitor compliance with SMP obligations—most notably, the Cost Orientation and the obligation not to engage in a margin squeeze when providing wholesale access on FRAND terms;

   ii. to inform market analysis and set SMP obligations. Information from the regulatory separated accounts can be used in market analysis to monitor the evolution of markets, evaluate the behaviour of firms operating in those markets and enable the RA to decide on appropriate remedies in such markets (if necessary). For example, if the information provided in the separate accounts reveals a persistent breach of (or full compliance with) the SMP operator's obligations, this evidence will directly inform the RA's assessment and decisions in future market reviews. It may also result in the RA revising the published instructions and guidance on existing remedies, or introducing new remedies altogether during the relevant market review; and

   iii. to undertake ex post competition investigations and resolve disputes. The requirement to produce regulatory separated accounts can be useful for ensuring that the RA has relevant up-to-date information to undertake ex post competition investigations and/or resolve disputes.

12. As set out in these Instructions, the SMP operator will be required to submit certain information to the RA and make this publicly available as part of its Accounting Separation obligation.

13. However, the RA reserves the right to request additional data from the SMP operator on an ad hoc basis. This is because at this stage it is not possible to anticipate every piece of information that the RA may need for regulatory decision-making purposes. Requiring the SMP operator to produce a wide range of information that may not be used would be disproportionate. Instead, the Accounting Separation obligation will require the SMP operator to ensure that its accounting system has the flexibility to produce more detail on costs, revenues and services than is required to produce the standard outputs described in these Instructions.

14. This means that there are two main outputs of the Accounting Separation process. First, the regulatory separated accounts and supporting documents described in these Instructions. Second, underlying the production of these accounts should be a robust and audited accounting system that will allow the SMP operator to respond efficiently to more detailed data requests. Having consistency between the system used to produce the regulatory separated accounts and that used to respond to detailed data requests will increase confidence in the accuracy and consistency of the data provided by the SMP operators.
15. The RA highlights that these Instructions set out that SMP operators will need to provide information and regulatory separated accounts for all Product Groups\(^2\) and Product Bundle Groups\(^3\) for which the SMP operator offers services in Bermuda, not just those services where the operator has been deemed to have SMP. This is because, in many cases, costs and revenues are shared across SMP and non-SMP markets—for example, in the case of bundles of products, or costs that are common to a number of different services. As a result, the accounting system required to meet the Accounting Separation obligation will need to have a wider scope than the SMP markets alone.

16. The RA will ensure that the regulatory separated accounts are available to other stakeholders by requiring the SMP operator to publish the accounts on the operator’s website. This will allow industry stakeholders to assess the accounts for themselves. The stakeholders will then be able to make evidence-based representations to the RA regarding any practices that the stakeholders suspect might be in breach of the SMP obligations or competition rules in sections 84(1)(a), 85 and 86 of the RAA.

17. Based on the representations that the RA receives from stakeholders, or on the RA’s own initiative, the RA may launch in-depth investigations into the compliance with SMP obligations and/or under the competition rules. In launching an investigation, the RA is likely to require the SMP operator to provide the RA with more detailed accounting information, in order to inform the RA’s assessment.

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\(^2\) Product Groups relate to major groups of products, and include broadband, mobile, fixed voice, subscription television, business connectivity (i.e. leased lines) and off-island connectivity (i.e. submarine capacity). A further distinction is made between SMP Product Groups and non-SMP Product Groups.

\(^3\) Product Bundle Groups relate to any combination of two or more Product Groups sold together in a package, i.e. as a bundle. Examples include broadband and PayTV bundles; and broadband and mobile bundles.
3 PRINCIPLES OF ACCOUNTING SEPARATION

18. The regulatory separated accounts shall be established in accordance with the general principles set out below.

i. **Objectivity**: The accounts shall present a fair view of the SMP operator's business in Bermuda; shall be based on objective evidence as far as possible; and shall not contain any systematic biases. The basis chosen for attributing costs and revenues shall be objective. The attribution shall not be done in a way that is intended to benefit the licensee itself or any other licensee, relevant market or individual service.

ii. **Transparency**: The SMP operators shall provide a clear and transparent description of the methodologies used to prepare the separated accounts. The SMP operators shall clearly identify the data and information on which the regulatory separated accounts rely. The methods and basis used for allocation of costs, revenues, assets and liabilities shall be transparent. The activity that caused the cost to be incurred (the “cost driver”) or the revenue to be earned, together with the systems and processes used to synthesize them into the form of the statements, shall be clearly explained so that the appropriateness of the drivers can be considered.

iii. **Causality**: Costs, revenues, assets and liabilities shall be attributed based on causation where possible. This shall be done in accordance with the activities having a causal link to the costs, revenues, assets and liabilities recorded in the SMP operators’ accounts. As such, each cost or revenue item shall be reviewed, and the cost driver shall be identified. The cost or revenue item shall then be attributed to the service in which the activity is undertaken. As a result, only costs relevant to the activities in question should be included—for example, activities unrelated to electronic communications, or related to operations outside of Bermuda should not be included in the separated accounts. For clarity, costs of unregulated electronic communications activities in Bermuda should be included in the separated accounts, but they should be clearly identifiable from costs related to regulated activities.

iv. **Internal consistency**: The SMP operator shall ensure that the assumptions and allocation rules used to prepare the regulatory separated accounts are consistent across all of the separated accounts.

v. **Materiality**: The SMP operator shall adapt the rigor and level of detail of the approach to the materiality of the costs, revenues, assets and liabilities in question. Costs, revenues, assets and liabilities that have significant causal impact on all or part of the regulatory separated accounts shall be apportioned following an accordingly rigorous methodology. The evidence provided to support these material items shall be accordingly detailed.

vi. **Consistency over time**: The regulatory separated accounts shall be consistent and comparable from one year to another. The same basis of allocation and apportionment shall be used from year to year, unless there are justifiable reasons for changes. Where there are material changes to the accounting methodology in a given year—such as attribution methods that have a material effect on the information reported in the separated accounts—then the previous year’s regulatory separated accounts shall be restated accordingly.
vii. **Compliance with best-practice accounting standards**: Except for areas where the Accounting Separation instructions specifies otherwise, the regulatory separated accounts should be consistent with the accounting standards used in the SMP operator's statutory accounts and should be reconciled with the SMP operator's statutory accounts. If the SMP operator does not have statutory accounts, then compliance should be ensured by applying widely accepted accounting standards, such as International Financial Reporting Standards ("IFRS"), Canadian, CPA Canada Standards or US generally accepted accounting principles ("US GAAP").
4 APPROACH TO ACCOUNTING SEPARATION

19. This section provides instructions on the approach that the SMP operator shall follow in preparing regulatory separated accounts in order to ensure compliance with the Accounting Separation obligation. The issues on which instructions are provided, and which provide the structure for this section, are as follows:

- **section 4.1**: the form and presentation of separated accounts;
- **section 4.2**: what should be presented in the separated accounts;
- **section 4.3**: how costs and revenues should be allocated across separated accounts; and
- **section 4.4**: how assets in the regulatory separated accounts should be treated.

4.1 The form and presentation of separated accounts

20. The SMP operators shall be responsible for ensuring compliance with the Accounting Separation obligation. This includes developing pro forma templates and supporting documentation that the RA will review and approve ahead of the preparation of the first set of separated accounting information. This approval process will take place following a review of an interim set of accounts provided by the SMP operators for the 2-months following the publication of the General Determination (September - October 2020). These statements must be submitted to the RA no later than 30 November 2020. These interim statements must be prepared in accordance with the instructions below but would not require an audit. Examples of the expected format for the pro-formas are provided in Annex 1 of these instructions.

21. Other than the interim set of accounts described above, regulatory separated accounts must be produced annually (and submitted within four months after the SMP operator’s financial year end, unless otherwise approved by the RA, which must be applied for by 20 business days before the deadline).

22. SMP operators are required to reconcile the accounts to the annual statutory audited accounts.

23. The following shall be included as part of the regulatory separated accounts:

- accompanying documentation describing the methodology used to produce the separated accounts. Further details on the minimum level of supporting documentation that SMP operators must provide is given in Annex 2 of these instructions; and

- a confirmation signed by the Chief Executive Officer and Chief Financial Officer of the SMP operator, stating that the accounts represent an accurate reflection of the SMP operator’s electronic communications activities.

24. The regulatory separated accounts shall be externally audited, as well as reconciled with the statutory accounts (if relevant), at the SMP operator’s expense, at least once every 12 months. The external audit shall give confidence that the accounts:
i) provide a fair reflection of the SMP operator's financial performance;

ii) are free from material error; and

iii) have been prepared in accordance with the relevant instructions, guidance and General Determination on the SMP remedies issued by the RA.

25. The SMP operator shall be required to provide the Auditor’s report to the RA within four weeks of receiving the Auditor’s report.

26. In order to comply with the Accounting Separation obligation, the SMP operator is required to provide the following:

- a statement of mean capital employed;\(^4\)
- a consolidated profit and loss (P&L) statement;
- a statement of mean capital employed for each Product Group and Product Bundle Group;
- a P&L statement for each Product Group and Product Bundle Group;
- a breakdown of assets and liabilities by Product Group and Product Bundle Group;
- a breakdown of costs by Product Group and Product Bundle Group;
- a reconciliation statement between the regulatory separated accounts and the statutory accounts;
- additional information on Product Groups and Product Bundle Groups, such as volumes, average revenue per user (“ARPU”) and fully allocated cost for each unit sold (“unit FAC”); and
- an Auditor’s report confirming that the accounts have been prepared in accordance with these instructions and the General Determination on SMP remedies issues by the RA.

27. More information on what these statements should contain, along with templates, is provided in Annex 1 of these Instructions.

28. Following the receipt of the interim set of accounts, as described above, the RA will engage with the SMP operators to support them in the preparation of the first full set of audited accounts in a way that is fully compliant with these Instructions. The RA will issue its final approval of each operator’s methodology or, if necessary, issue a direction to the operator — in line with the requirements set out in the ‘basis of preparation’ document and other supporting documentation described in Annex 2 of these Final Instructions—sufficiently in advance of the date for that operator’s submission of the first set of audited accounts, which are due four months after the

\(^4\) Mean capital employed is a measure of total assets less current liabilities, excluding corporate taxes, dividends payable and long-term liabilities, with the mean computed from the start and end values for the financial year.
SMP operator’s financial year end. During this process and subsequently, as experience is gained with the information presented in the separated accounts, the RA may issue orders as and when necessary to clarify the application of the requirements set out in these Final Instructions.

4.2 What should be presented in the separated accounts

29. The regulatory separated accounts shall be provided for each Product Group and Product Bundle Group offered by the SMP operator in Bermuda; this covers both SMP and non-SMP markets. As such the SMP operator shall provide regulatory separated accounts for:

- **SMP Product Groups:** to cover the groups of products for which the SMP operator has been found to have SMP. The SMP Product Groups are broadband and mobile services for both OneComm and Digicel Group, and fixed voice and high speed leased lines (outside of Hamilton) for Digicel Group alone;

- **Non-SMP Product Groups:** to cover the groups of products that are not in SMP markets. Non-SMP Product Groups include subscription television, high speed leased lines (inside of Hamilton), low speed leased lines (inside and outside of Hamilton) and submarine capacity/off-island connectivity; and

- **Product Bundle Groups:** to cover any combination of services from two or more Product Groups that are sold as a bundle. Examples include broadband and PayTV bundles; and broadband and mobile bundles.

30. In this regard, the RA notes that whereas SMP remedies apply, by definition, to SMP products only, monitoring compliance with SMP remedies requires financial information to be collected on non-SMP products as well. This requirement applies in particular to Cost Orientation and the provision of wholesale access on FRAND terms, for two main reasons.

   i. SMP products may be sold in bundles with non-SMP products, and the Cost Orientation and FRAND obligations will also apply to such bundles. It is therefore necessary for the RA to know the relevant information for the Non-SMP Product Groups; and

   ii. some of the Non-SMP Product Groups (e.g. submarine capacity) are inputs into the SMP Product Groups (e.g. mobile and broadband), and some cost items are common across the SMP Product Groups and Non-SMP Product Groups. As such, information on the Non-SMP Product Groups is required in order to ensure consistency in the allocation of costs throughout the value chain and across different products and services.

31. The RA is not proposing to require the preparation of separate P&L accounts for wholesale products within each Product Group (e.g. wholesale fixed broadband, wholesale mobile access, wholesale leased lines). Nevertheless, as explained below,

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5 In all cases a Product Group covers the full end-to-end service, and thereby includes all elements of the value chain, including wholesale and retail.
the RA is requesting cost information to be provided at a sufficient level of detail to allow the RA and stakeholders to estimate different retail and wholesale costs.

32. In addition, the RA recognizes that it could also require SMP operators to provide more detailed information—for example, a breakdown of Product Groups into sub-groups (e.g. retail and wholesale products); services (e.g. rental and connection charges); and tariffs (e.g. 50Mbps broadband, 100Mbps broadband, or business vs residential tariffs). However, the RA is not minded to mandate this level of detail for the purposes of the separated accounts at this time.

33. Notwithstanding this, the RA notes that it may in future request more detailed data from the SMP operator than is currently required to be presented in the separated accounts—for example, data for specific Sub-Groups of Products, or Individual Products, and/or breaking down network costs between the Access Network and the Core Network. The RA therefore notes that the SMP operator shall ensure that such information is available, and can be provided quickly if requested by the RA, for example if and when the RA is minded to launch a formal investigation regarding compliance with other SMP obligations, such as Cost Orientation and FRAND.

34. The SMP operator shall distinguish and present separately in its regulatory separated accounts the following types of cost, at a minimum (a recommended format for presenting this information is illustrated in Annex 1 of these Instructions).

**Operating costs**

- Customer costs and sales
  - Customer acquisition and retention
  - Customer care
  - Marketing and advertising
  - Billing
  - Sales personnel salary/Sales commission
- Network costs
  - Network planning and development
  - Network management
  - Provision installation and maintenance costs
- Bad debt

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6 A Sub-group of Products refers to a group of Individual Products within a Product Group. Examples of Sub-groups of Products include all pre-pay mobile services; or all fibre broadband products above a certain speed.

7 The Access Network relates to the part of the network that connects directly to customers, from a local aggregation/distribution point. The Core Network refers to the backbone of a communications network, which carries different services such as voice or data.
• Payment to other operators
• Support costs
• Other operating costs (i.e. not captured above).

Capital employed and depreciation (depreciation for capital costs in the specific year)\textsuperscript{8}

• Customer premises equipment
  ▪ Broadband equipment (e.g. modem/router)
  ▪ Mobile devices (e.g. handsets)
  ▪ Fixed voice (e.g. phones)
  ▪ PayTV (e.g. set-top boxes)
  ▪ Other

• Physical infrastructure
  ▪ Ducts and poles
  ▪ Mobile masts and towers
  ▪ Other

• Active/electronic equipment
  ▪ Broadband (e.g. IP switching)
  ▪ Mobile (e.g. antennas, radio access network)
  ▪ Fixed voice (e.g. voice cards)
  ▪ PayTV (e.g. distribution)
  ▪ Other

• Cabling
  ▪ Fibre
  ▪ Copper

• Land and buildings
• International connectivity (including submarine cable costs)

\textsuperscript{8} Fully depreciated assets should still be presented in the statement of mean capital employed as relevant, given that all assets that are used for providing products or services should appear in the accounts.
• Mobile spectrum
• Media content (rights)
• Other depreciation costs (i.e. not captured above).

35. Each cost item identified in the regulatory separated accounts will need to be mapped to the various Product Groups and Product Bundle Groups. Further detail on how the SMP operator should approach cost allocations is discussed in section 4.3 (below).

4.3 How costs and revenues should be allocated across regulatory separated accounts

36. The SMP operator shall allocate costs to the different product groups in the regulatory separated accounts using an activity-based costing (“ABC”) approach. ABC views the services and products as a series of activities, each of which uses resources and therefore incurs costs. This approach, based on the cause of costs (i.e. the cost driver), traces and allocates costs through the activities performed, establishing a clear cause-and-effect relationship between activities, their associated costs and the resulting output from those activities.

37. When allocating costs to services and products, the SMP operator shall use the following approach:

- costs shall be directly allocated where possible and based upon an analysis of the cost driver; and
- common or shared costs that cannot be directly assigned shall be attributed to services and products based on an appropriate direct or indirect cost driver.

38. The revenues from providing the product or service shall be allocated directly to the product or service bought by the customer.

39. In the case of bundles, revenues and costs should be allocated to each Product Bundle Group in a similar way to standalone Product Groups. Given this approach, the RA would expect that the unit cost of any given product sold on a standalone basis or in a bundle should be the same. Therefore, the unit cost of a bundle should be equal to the sum of unit costs of each of its constituent products. The only exception is where small divergences are due to the different composition of standalone and bundled sales—for example, if broadband sold in bundles was predominantly faster than standalone broadband, and this drove a higher allocation of capacity costs.

4.4 How should assets in the regulatory separated accounts be treated

40. When determining how to treat assets in the separated accounts, two key considerations are: i) how the assets should be valued, and ii) how they should be depreciated. Below, the RA provides guidance on these issues.

4.4.1 Asset valuation

41. The RA recognizes that there are two main ways to value assets:
• **historical cost accounting** ("HCA"): the costs that the operator has actually incurred in the past are used in the accounting statements; and

• **current cost accounting** ("CCA"): the operator’s asset base is valued based on how much it would cost to replace the assets today.

42. HCA is in some ways more reliable than CCA in regard to computing the incurred costs of the operator. This is because HCA is essentially a record of fact, in that it sets out the actual costs incurred by the firm, i.e. the gross book value of the asset.\(^9\) However, CCA is more economically relevant than HCA since the CCA cost captures how much it would cost a firm to replace the assets (i.e. the gross replacement cost)\(^10\) and would therefore enable an understanding of the costs that an operator (of equivalent scale) entering the market today would incur.

43. Despite the benefits of HCA in terms of reliability, the RA is keen to promote competition and send appropriate market signals. In this regard, CCA valuation provides a better reflection of the costs that a new (and efficient) entrant would have to incur in rolling out a network equivalent to that being provided by the existing operators.\(^11\) As a result, CCA can provide more accurate market signals than HCA and is therefore the preferred approach to asset valuation by regulators of electronic communications across the world.\(^12\)

44. Notwithstanding the above, the RA is mindful of the effort required by the SMP operator to value assets on a CCA basis, especially if this were to be done on a modern equivalent asset ("MEA") basis. MEA valuation requires an estimate of the costs to replace an old asset with a technically up-to-date new one with the same service capability, allowing for differences in the quality of output and in operating costs. Therefore, the RA will discuss with the SMP operators the time horizon over which this could be achieved, as well as whether alternative approaches could be implemented.

45. For example, a Regulatory Asset Value ("RAV") indexation might be the most appropriate and practical way forward in this case. This approach starts with the book value of assets as they are currently recorded in the accounts and apply some form of indexation (based on construction costs or inflation) in order to estimate the gross replacement cost of the RAV over time. Prior to the publication of the first set of

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\(^9\) The gross book value is the original price paid for an asset, without depreciation deductions.

\(^10\) The gross replacement cost is simply the cost of replacing an asset, i.e. the price today for the asset (or an asset with comparable specifications).

\(^11\) The RA considers that CCA accounts should be based on the financial capital maintenance ("FCM") version of CCA accounting. Two of the objectives set out above were that the firm should have the opportunity to recover its costs, and that the process of competition is not distorted by (excessively low) prices set by the SMP operator. The FCM version of CCA is designed to ensure that prices set on this basis lead to costs being recovered. Thus, both objectives would be satisfied if prices were set on this basis. One problem with the FCM version of CCA is that costs reported on that basis can be quite volatile from year to year if there are changes in asset values that are not broadly similar from one year to another. Holding gains and losses can in those circumstances be quite unstable and lead to large swings in the costs assessed on this basis. For both of this reason and in order to maintain a degree of simplicity in the approach, the RA would expect to implement a version of CCA based primarily on indexation rather than a full asset revaluation in each year.

\(^12\) The prevalence of CCA was noted in a 2018 study by the Body of European Regulators for Electronic Communications ("BEREC") on regulatory accounting practices in the electronic communications markets across Europe. BEREC. (2018) Regulatory Accounting in Practice 2018, page 25.
separated accounts, the RA will engage in dialogue with industry to discuss the most appropriate approach to prepare accounts on the basis of CCA valuation.

46. When using the information presented in the separated accounts to measure compliance with other obligations, most notably, the Cost Orientation obligation, the RA will be mindful of the fact that the consistent application of a single approach to asset valuation (be it HCA or CCA), over the lifetime of an asset, will result in full cost recovery. This is particularly relevant in case the RA proceeds to a Phase 2 assessment of compliance with the Cost Orientation obligation, as set out in paragraph 54 of the Cost Orientation Guidance.

4.4.2 Depreciation

47. The approach to depreciation will determine how much of an asset’s costs should be recoverable in a given year. Approaches to depreciation could include:

- **straight-line depreciation**, in which the costs of an asset are reduced uniformly over the life of the asset; or

- **economic depreciation**, which matches the costs of equipment to the actual and forecast use of that equipment over the long term. Consequently, there is relatively little depreciation in years when utilization is low and relatively high depreciation in years of full, or almost full, equipment utilization.

48. The RA is mindful that there are advantages and disadvantages to each approach. The RA notes that, when compared to economic depreciation, straight-line depreciation has the particular drawback that the accounting value of an asset can diverge from the economic value of the asset. This divergence could arise for several reasons, including because the accounting lives are different from the actual asset lives, or because the volumes of services provided by the asset are unevenly split over the lifetime of that asset.

49. If asset lives are different from accounting lives, an asset will be depreciated too quickly or too slowly. In an extreme case, this could leave the SMP operator with an asset that is nearly fully depreciated but still has many years of useful life ahead of it.

ANNEX 1: PRO FORMA TEMPLATES

A1 Introduction

50. The RA set out in section 5 of these instructions that the SMP operator is required to provide the following information in order to comply with the Accounting Separation obligation:

- a statement of mean capital employed;\(^\text{13}\)

- a consolidated P&L statement;

\(^\text{13}\) Mean capital employed is a measure of total assets less current liabilities, excluding corporate taxes, dividends payable and long-term liabilities, with the mean computed from the start and end values for the financial year.
• a statement of mean capital employed for each Product Group and Product Bundle Group;
• a P&L statement for each Product Group and Product Bundle Group;
• a breakdown of assets and liabilities by Product Group and Product Bundle Group;
• a breakdown of costs by Product Group and Product Bundle Group;
• a reconciliation statement between the regulatory separated accounts and the statutory accounts; and
• additional information on Product Groups and Product Bundle Groups, such as volumes, average revenue per user ("ARPU")\(^{14}\) and unit fully allocated cost ("FAC").\(^{15}\)

51. Furthermore, the RA clarified in section 4 that separate accounts should be provided for each Product Group and Product Bundle Group offered by the SMP operator; this covers both SMP and non-SMP markets. As such, the SMP operator should provide regulatory separated accounts for:\(^{16}\)

**SMP Product Groups**: to cover groups of products for which the SMP operator has been found to have SMP. The SMP Product Groups are broadband and mobile services for both OneComm and Digicel Group, and fixed voice and high speed leased lines (outside of Hamilton) for Digicel Group alone;

**Non-SMP Product Groups**: to cover groups of products that are not in SMP markets. Non-SMP Product Groups include subscription television, high speed leased lines (inside of Hamilton), low speed leased lines (inside and outside of Hamilton) and submarine capacity/off-island connectivity; and

**Product Bundle Groups**: to cover any combination of services from two or more Product Groups that are sold as a bundle. Examples include broadband and PayTV bundles; and broadband and mobile bundles.

---

\(^{14}\) ARPU is a measurement used to indicate the average monthly revenue earned from a customer who subscribes to a service.

\(^{15}\) FAC is an accounting method for attributing all the costs of a company to defined activities such as products and services. Typically, this method will follow the principle of cost causality.

\(^{16}\) In all cases a Product Group covers the full end-to-end service and thereby includes all elements of the value chain, including wholesale and retail.
Finally, the RA clarified in section 4 that the SMP operator should, at a minimum, distinguish between and present the following cost items in its separated accounts:

Table A1.1 – Minimum level of disaggregated cost information to be presented in the separated accounts

<table>
<thead>
<tr>
<th>Cost Group</th>
<th>Cost Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating costs</td>
<td></td>
</tr>
<tr>
<td>Customer costs and sales</td>
<td>Customer acquisition and retention</td>
</tr>
<tr>
<td></td>
<td>Customer care</td>
</tr>
<tr>
<td></td>
<td>Marketing and advertising</td>
</tr>
<tr>
<td></td>
<td>Billing</td>
</tr>
<tr>
<td></td>
<td>Sales personnel salary/Sales commission</td>
</tr>
<tr>
<td>Network</td>
<td>Network planning and development</td>
</tr>
<tr>
<td></td>
<td>Network management</td>
</tr>
<tr>
<td></td>
<td>Provision installation and maintenance costs</td>
</tr>
<tr>
<td>Bad debt</td>
<td>Bad debt</td>
</tr>
<tr>
<td>Payment to other operators</td>
<td>Payment to other operators</td>
</tr>
<tr>
<td>Support costs</td>
<td>Support costs</td>
</tr>
<tr>
<td>Other operating costs</td>
<td>Other operating costs</td>
</tr>
<tr>
<td>Capital employed/depreciation</td>
<td></td>
</tr>
<tr>
<td>Customer premises equipment</td>
<td>Broadband equipment (e.g. modem/router)</td>
</tr>
<tr>
<td></td>
<td>Mobile devices (e.g. handsets)</td>
</tr>
<tr>
<td></td>
<td>Fixed voice (e.g. phones)</td>
</tr>
<tr>
<td></td>
<td>PayTV (e.g. set-top boxes)</td>
</tr>
<tr>
<td></td>
<td>Other</td>
</tr>
<tr>
<td>Physical infrastructure</td>
<td>Ducts and poles</td>
</tr>
<tr>
<td></td>
<td>Mobile masts and towers</td>
</tr>
<tr>
<td></td>
<td>Other</td>
</tr>
<tr>
<td>Active/electronic equipment</td>
<td>Broadband (e.g. IP switching)</td>
</tr>
<tr>
<td></td>
<td>Mobile (e.g. antennas, radio access network)</td>
</tr>
<tr>
<td></td>
<td>Fixed voice (e.g. voice cards)</td>
</tr>
<tr>
<td></td>
<td>PayTV (e.g. distribution)</td>
</tr>
<tr>
<td></td>
<td>Other</td>
</tr>
<tr>
<td>Cabling</td>
<td>Fibre</td>
</tr>
<tr>
<td>Land and buildings</td>
<td>Land and buildings</td>
</tr>
<tr>
<td>International connectivity</td>
<td>International connectivity (including submarine cable costs)</td>
</tr>
<tr>
<td>Mobile spectrum</td>
<td>Mobile spectrum</td>
</tr>
<tr>
<td>Media content (rights)</td>
<td>Media content (rights)</td>
</tr>
<tr>
<td>Other depreciation costs</td>
<td>Other depreciation costs</td>
</tr>
</tbody>
</table>

53. In the remainder of this Annex, the RA provides information on how the SMP operator could present this information.

A2 Consolidated statement of mean capital employed
54. The SMP operator is required to provide a consolidated mean capital employed statement for the SMP operator’s electronic communications activities, showing:

- current assets (such as cash, stock and receivables);
- non-current assets (based on the capital employed cost groups set out in Table A1.1);\textsuperscript{17} and
- current liabilities (such as accounts payable, short-term debt and provisions for liabilities).

55. The following table shows a structure that the SMP operator could use to present this information.

\textbf{Table A1.2 – Recommended format for the consolidated statement of mean capital employed}

<table>
<thead>
<tr>
<th>Consolidated statement of mean capital employed as at [date]</th>
<th>Year N</th>
<th>Year N-1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assets</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Current assets</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Stock</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Receivables</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Others</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td><strong>Total current assets</strong></td>
<td>[A]</td>
<td>[A]</td>
</tr>
<tr>
<td><strong>Non-current assets</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customer premises equipment</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Physical infrastructure</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Active/electronic equipment</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Cabling</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Land and buildings</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>International connectivity</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Mobile spectrum</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Media content</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Others</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td><strong>Total non-current assets</strong></td>
<td>[B]</td>
<td>[B]</td>
</tr>
<tr>
<td><strong>Total assets</strong></td>
<td>[C]=A+B</td>
<td>[C]=A+B</td>
</tr>
<tr>
<td><strong>Current liabilities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accounts payable</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Short-term debt</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Provisions for liabilities</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Others</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td><strong>Total current liabilities</strong></td>
<td>[D]</td>
<td>[D]</td>
</tr>
<tr>
<td><strong>Total liabilities to be considered</strong></td>
<td>[D]</td>
<td>[D]</td>
</tr>
<tr>
<td><strong>Capital employed</strong></td>
<td>[E]=C-D</td>
<td>[F]=C-D</td>
</tr>
<tr>
<td><strong>Mean capital employed</strong></td>
<td>(E+F)/2</td>
<td></td>
</tr>
</tbody>
</table>

\textsuperscript{17} For the purposes of the statement of mean capital employed, it is not necessary to provide a breakdown of each individual cost item. Instead, the SMP operator shall provide a summary of the major groups of costs.
A3 Consolidated profit and loss statement

56. The SMP operator is required to provide a consolidated P&L statement for the SMP operator’s electronic communications activities. The statement shall present the following information:

- revenues (broken down by internal and external);
- HCA costs;\(^{18}\)
- CCA adjustments;
- total CCA costs (based on applying the CCA adjustments to the HCA costs);
- the returns (revenues less total CCA costs);
- the mean capital employed; and
- the return on capital employed.

57. The following table shows a structure that the SMP operator could use for presenting this information.

\(^{18}\) It would not be necessary to provide a breakdown of each individual cost item. Instead the SMP operator should provide a summary of the major groups of costs.
Table A1.3 – Recommended format for the consolidated profit and loss statement

<table>
<thead>
<tr>
<th>Consolidated profit and loss statement for financial year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Revenues</strong></td>
<td></td>
</tr>
<tr>
<td>External revenues</td>
<td>$X</td>
</tr>
<tr>
<td>Internal revenues</td>
<td>$X</td>
</tr>
<tr>
<td><strong>Total revenues</strong></td>
<td>$X</td>
</tr>
<tr>
<td>[Insert a row for each cost type</td>
<td></td>
</tr>
<tr>
<td><strong>Operating costs</strong></td>
<td>$X</td>
</tr>
<tr>
<td>• Customer costs and sales</td>
<td>$X</td>
</tr>
<tr>
<td>• Networks costs</td>
<td>$X</td>
</tr>
<tr>
<td>• Bad debt</td>
<td>$X</td>
</tr>
<tr>
<td>• Payment to other operators</td>
<td>$X</td>
</tr>
<tr>
<td>• Support costs</td>
<td>$X</td>
</tr>
<tr>
<td>• Other operating costs (i.e. not captured above)</td>
<td>$X</td>
</tr>
<tr>
<td><strong>HCA Depreciation</strong></td>
<td>$X</td>
</tr>
<tr>
<td>• Customer premises equipment</td>
<td>$X</td>
</tr>
<tr>
<td>• Physical infrastructure</td>
<td>$X</td>
</tr>
<tr>
<td>• Active/electronic equipment</td>
<td>$X</td>
</tr>
<tr>
<td>• Cabling</td>
<td>$X</td>
</tr>
<tr>
<td>• Land and buildings</td>
<td>$X</td>
</tr>
<tr>
<td>• International connectivity (including submarine cable</td>
<td>$X</td>
</tr>
<tr>
<td>costs)</td>
<td>$X</td>
</tr>
<tr>
<td>• Mobile spectrum</td>
<td>$X</td>
</tr>
<tr>
<td>• Media content (rights)</td>
<td>$X</td>
</tr>
<tr>
<td>• Other depreciation costs (i.e. not captured above)</td>
<td>$X</td>
</tr>
<tr>
<td><strong>Total HCA operating costs</strong></td>
<td>$X</td>
</tr>
<tr>
<td>[CCA adjustments:</td>
<td></td>
</tr>
<tr>
<td>[Insert a row for each adjustment</td>
<td></td>
</tr>
<tr>
<td><strong>Total CAA operating costs</strong></td>
<td>$X</td>
</tr>
<tr>
<td><strong>Return (total revenues – total CCA operating costs)</strong></td>
<td>$X</td>
</tr>
<tr>
<td><strong>Mean capital employed</strong></td>
<td>$X</td>
</tr>
</tbody>
</table>
| **Return on capital employed**                           | %

A4 Statement of mean capital employed for each Product Group and Product Bundle Group

58. For each separate account (i.e. Product Group and Product Bundle Group), the SMP operator shall provide the mean capital employed. This should include data on:

- current assets (such as cash, stock and receivables);
- non-current assets (based on the Capital Employed cost groups set out in Table A1.1); and
- current liabilities (such as accounts payable, short-term debt and provisions for liabilities).
59. The following table shows a structure that the SMP operator could use for presenting this information:

**Table A1.4 – Recommended format for the statement of mean capital employed for each Product group**

<table>
<thead>
<tr>
<th>Consolidated statement of mean capital employed as at [date]</th>
<th>Product Group 1 (e.g. broadband)</th>
<th>Product Group 2 (e.g. mobile)</th>
<th>...</th>
<th>Product Bundle Group 1 (e.g. broadband and mobile)</th>
<th>...</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assets</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current assets</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stock</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Receivables</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total current assets</strong></td>
<td>[A]</td>
<td>[A]</td>
<td>[A]</td>
<td>[A]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-current assets</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customer premises equipment</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical infrastructure</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active/electronic equipment</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cabling</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Land and buildings</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>International connectivity</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobile spectrum</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Media content (rights)</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total non-current assets</strong></td>
<td>[B]</td>
<td>[B]</td>
<td>[B]</td>
<td>[B]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current liabilities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accounts payable</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Short-term debt</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provisions for liabilities</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total current liabilities</strong></td>
<td>[D]</td>
<td>[D]</td>
<td>[D]</td>
<td>[D]</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total liabilities to be considered</strong></td>
<td>[D]</td>
<td>[D]</td>
<td>[D]</td>
<td>[D]</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mean capital employed</strong></td>
<td>[C] - [D]</td>
<td>[C] - [D]</td>
<td>[C] - [D]</td>
<td>[C] - [D]</td>
<td>[C] - [D]</td>
<td></td>
</tr>
</tbody>
</table>

A5 Profit and loss statement for each Product Group and Product Bundle Group

60. For each separate account (i.e. Product Group and Product Bundle Group), the SMP operator shall provide a separate P&L. Each P&L shall include data on:

- revenues (broken down by internal and external),\(^\text{19}\)

---

\(^{19}\) External revenues relate to revenues from the sale of wholesale access services, i.e. revenues from access seekers who supply services to consumers that do not have a direct relationship with the wholesale access provider. Internal revenues relate to revenues from internal sales, self-supply and sales to final consumers who do have a direct relationship with the wholesale access provider.
- HCA costs\(^{20}\) (the costs as allocated across all Product Groups and Product Bundle Groups should sum up to the total costs presented in the consolidated P&L);
- CCA adjustments;
- total CCA costs (based on applying the CCA adjustments to the HCA costs);
- the returns (revenues less total CCA costs);
- the mean capital employed; and
- the return on capital employed.

61. The following table shows a structure that the SMP operator could use for the P&L information. The “Total revenues”, “Costs”, “Returns” and “Mean capital employed” should be consistent with the data shown in the consolidated P&L and mean capital employed statements.

\(^{20}\) It is not necessary to provide a breakdown of each individual cost item. Instead, the SMP operator shall provide a summary of the major groups of costs.
Table A1.5 – Recommended format for the profit and loss statement for each Product Group and Product Bundle Group

<table>
<thead>
<tr>
<th>Product Group 1 (e.g. broadband)</th>
<th>Product Group 2 (e.g. mobile)</th>
<th>Product Bundle Group 1 (e.g. broadband and mobile)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Revenues</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>External revenues</td>
<td></td>
<td></td>
<td>$X</td>
</tr>
<tr>
<td>Internal revenues</td>
<td></td>
<td></td>
<td>$X</td>
</tr>
<tr>
<td><strong>Total revenues</strong></td>
<td></td>
<td></td>
<td>$X</td>
</tr>
<tr>
<td><strong>Costs</strong></td>
<td></td>
<td></td>
<td>$X</td>
</tr>
<tr>
<td>Operating costs</td>
<td></td>
<td></td>
<td>$X</td>
</tr>
<tr>
<td>• Customer costs and sales</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Network costs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Bad debt</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Payments to other operators</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Support costs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Other operating costs (i.e. not captured above)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>HCA depreciation</strong></td>
<td></td>
<td></td>
<td>$X</td>
</tr>
<tr>
<td>• Customer premises equipment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Physical infrastructure</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Active/electronic equipment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Cabling</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Land and buildings</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• International connectivity (including submarine cable costs)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Mobile spectrum</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Media content (rights)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Other depreciation costs (i.e. not captured above)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Total HCA operating costs</td>
<td></td>
<td></td>
<td>$X</td>
</tr>
<tr>
<td><strong>CCA adjustments:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Insert a row for each adjustment]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total CAA operating costs</strong></td>
<td></td>
<td></td>
<td>$X</td>
</tr>
<tr>
<td>Return (Total revenues – total CCA operating costs)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean capital employed</td>
<td></td>
<td></td>
<td>$X</td>
</tr>
<tr>
<td>Return on capital employed</td>
<td></td>
<td></td>
<td>%</td>
</tr>
</tbody>
</table>
A6 Breakdown of assets and liabilities by Product Group and Product Bundle Group

The SMP operator will need to provide a breakdown of assets and liabilities for Product Groups and Product Bundle Groups. The following table shows a possible structure that the SMP operator could use.

### Table A1.6 – Recommended format for the breakdown of assets and liabilities by Product Group and Product Bundle Group

<table>
<thead>
<tr>
<th>Liabilities</th>
<th>Product Group 1 (e.g. broadband)</th>
<th>Product Group 2 (e.g. mobile)</th>
<th>Product Bundle Group 1 (e.g. broadband and mobile)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounts payable</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td>Short-term debt</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td>Provisions for liabilities</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td>Other</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td><strong>Current assets</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td>Stock</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td>Receivables</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td>Other</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td><strong>Customer premises equipment</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Broadband equipment (e.g. modem/router)</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td>Mobile devices (e.g. handsets)</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td>Fixed voice (e.g. phones)</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td>PayTV (e.g. set-top boxes)</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td>Other</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td><strong>Physical infrastructure</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ducts and poles</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td>Mobile masts and towers</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td>Other</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td><strong>Non-current assets</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Broadband (e.g. IP switching)</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td>Mobile (e.g. antennas, radio access network)</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td>Fixed voice (e.g. voice cards)</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td>PayTV (e.g. distribution)</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td>Other</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td>Cabling</td>
<td>Fiber</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td>Copper</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td>Land and buildings</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td>International connectivity</td>
<td>International connectivity including submarine cable costs</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td>Mobile spectrum</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td>Media content (rights)</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td>Other depreciation costs</td>
<td>Other depreciation costs</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
</tr>
<tr>
<td><strong>Mean capital employed</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A7 Breakdown of costs by Product Group and Product Bundle Group

The SMP operator will need to provide a breakdown of how costs map onto Product Group and Product Bundle Groups.
64. This information shall contain sufficiently disaggregated cost detail, and at a minimum include all individual cost items set out in Table A1.1.

65. The following table shows a possible structure that the SMP operator could use.

**Table A1.7 – Recommended format for the breakdown of costs by Product Group and Product Bundle Group**

<table>
<thead>
<tr>
<th>Product Group and Product Bundle Group</th>
<th>Cost Group</th>
<th>Cost Item</th>
<th>Product Group 1 (e.g. broadband)</th>
<th>Product Group 2 (e.g. mobile)</th>
<th>…</th>
<th>Product Bundle Group 1 (e.g. broadband and mobile)</th>
<th>…</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating costs</td>
<td>Customer costs and sales</td>
<td>Customer acquisition and retention</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Customer care</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Marketing and advertising</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Billing</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sales personnel salary/Sales commission</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Networks costs</td>
<td>Network planning and development</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Network management</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Provision installation and maintenance costs</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bad debt</td>
<td>Bad debt</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Payment to other operators</td>
<td>Payment to other operators</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support costs</td>
<td>Support costs</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other operating costs (i.e. not captured above)</td>
<td>Other operating costs</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HCA Depreciation</td>
<td>Customer premises equipment</td>
<td>Broadband equipment (e.g. modem/router)</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mobile devices (e.g. handsets)</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fixed voice (e.g. phones)</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PayTV (e.g. set-top boxes)</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical Infrastructure</td>
<td>Ducts and poles</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mobile masts and towers</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active/ electronic equipment</td>
<td>Broadband (e.g. IP switching)</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mobile (e.g. antennas, radio access network)</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fixed voice (e.g. voice cards)</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PayTV (e.g. distribution)</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cabling</td>
<td>Fiber</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Copper</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Land and buildings</td>
<td>Land and buildings</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td>$X</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A8 Reconciliation statement between statutory and separated accounts

66. The SMP operator shall reconcile the revenues, costs and returns presented in the regulatory separated accounts with those in the SMP operator’s statutory accounts. Where there is any divergence between these two sets of accounts, the SMP operator shall set out clearly all the adjustments that are required to explain the divergence.
Such adjustments could include, for example, interest, holding gains/losses, supplementary depreciation, and rounding.

67. The following tables shows a possible structure that the SMP operator could use for demonstrating reconciliation with both the P&L and the mean capital employed.

**Table A1.8 – Recommended format for the reconciliation statement between the statutory and separated accounts—P&L**

<table>
<thead>
<tr>
<th></th>
<th>Revenue</th>
<th>Operating costs</th>
<th>Return</th>
</tr>
</thead>
<tbody>
<tr>
<td>As in the statutory accounts</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Adjustments</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Insert a row for each adjustment]</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>As in the regulatory separated accounts (i.e. consolidated P&amp;L)</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

**Table A1.9 – Recommended format for the reconciliation statement between the statutory and separated accounts—mean capital employed**

<table>
<thead>
<tr>
<th></th>
<th>$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reported statutory capital employed</td>
<td>X</td>
</tr>
<tr>
<td>Adjustments</td>
<td></td>
</tr>
<tr>
<td>[Insert a row for each adjustment]</td>
<td>X</td>
</tr>
<tr>
<td>[e.g. Tax liabilities]</td>
<td>X</td>
</tr>
<tr>
<td>[e.g. Tax assets]</td>
<td>X</td>
</tr>
<tr>
<td>[e.g. Loans and borrowings]</td>
<td></td>
</tr>
<tr>
<td>Mean capital employed in SMP markets</td>
<td>X</td>
</tr>
<tr>
<td>Residual (i.e. non-SMP) activities</td>
<td>X</td>
</tr>
<tr>
<td>Total mean capital employed</td>
<td>X</td>
</tr>
</tbody>
</table>

**A9 Additional information on Product Groups and Product Bundle Groups**

68. For each Product Group and Product Bundle Group offered by the SMP operator, the SMP operator shall show:

- total revenues (internal plus external revenues from P&L statement) [A];
- total costs (total CAA operating costs from P&L statement) [B];
- volumes [C];
- average revenue \([D] = \frac{[A]}{[C]}\);
- FAC \[E\]; and
- FAC per unit [F = \[E\] / \[C\]].

69. The following table shows a possible structure that the SMP operator could use.

### Table A1.10 – Recommended format for the additional information on Product Groups and Product Bundle Groups

| Product Group 1 [e.g. broadband] | X | X | X | X | X | X |
| Product Group 2 [e.g. mobile] | X | X | X | X | X | X |
| Product Group 3 [e.g. PayTV] | X | X | X | X | X | X |
| [Add a row for each additional Product Group] | X | X | X | X | X | X |
| ... | X | X | X | X | X | X |
| Product Bundle Group 1 (e.g. broadband and mobile) | X | X | X | X | X | X |
| Product Bundle Group 2 (e.g. broadband and PayTV) | X | X | X | X | X | X |
| Product Bundle Group 3 (e.g. mobile and PayTV) | X | X | X | X | X | X |
| [Add a row for each additional Product Bundle Group] | X | X | X | X | X | X |
| ... | X | X | X | X | X | X |

---

21 The FAC is the total CAA operating costs in the P&L. It excludes a return on capital. When comparing FAC against revenues (for example, as part of a Phase 1 assessment of compliance with the Cost Orientation obligation), the RA will add an allowance for the return on capital (equal to capital employed multiplied by the company WACC, which is to be calculated separately).
ANNEX 2: SUPPORTING DOCUMENTATION

70. The SMP operator shall produce supporting documentation for the regulatory accounts that describe the approach that the SMP operator has used in producing its separated accounts. The requirement enables an independent audit of the accounts, to ensure the reliability of the accounts, and to provide transparency on how the accounts have been prepared, for the benefit of the RA and industry stakeholders.

71. The SMP operator’s supporting accounting documentation shall at a minimum cover the following.

- **A description of the SMP operator’s business:** This shall explain how the SMP operator’s electronic communications activities fit into the overall structure of its business. The explanation shall be complemented by a diagram showing the structure of the business, and the electronic communications business divisions within it.

- **Basis of preparation:** A description of how the SMP operator has prepared the accounts shall be provided, together with confirmation that the SMP operator has adhered to the principles set out in section 3 and the approach set out in section 4 of these Instructions. This is to ensure transparency and auditability.

- **An overview of which products and services are contained within each Product Group:** The SMP operator does not need to list every single product and service. However, the SMP operator shall provide information on the different types of product and service offered within each Product Group.

- **An overview of any significant changes in the approach compared to the previous year and the justification for changing the approach:** For example, if the SMP operator has changed one of the price indices used for asset valuation, or has changed one of the cost drivers used for cost allocation, the SMP operator shall explain what has changed and the justification for the change. This aim is to ensure that the RA is able to understand the consistency of the regulatory accounts from one period to another.

- **A description of the source of information for the SMP operator’s regulatory separated accounts and the underlying accounting system:** This shall include a description of whether the SMP operator uses different accounting systems for its wholesale and retail activities. If the SMP operator does use a different system for each of these areas of its activity, the SMP operator shall explain how these systems interrelate.

- **A description of internal safeguards that the SMP operator has used to ensure that its accounts are accurate and complete:** This shall include a description of any cross-checks performed by the SMP operator.

- **A description of the SMP operator’s approach to cost allocation:** This shall include a description of:
  - the main cost categories that can be directly allocated to network elements or services;
• the approach used to identify the appropriate cost drivers to allocate shared or common costs; and

• any sampling or other techniques used.

• **A description of the SMP operator's approach to asset valuation:** This shall include the description of how the assets have been valued.

• **A description of the SMP operator's approach to depreciation, including the asset lives used.**

• **An overview of new services added since the previous reporting year and their impact:** If the new services have replaced legacy services, the SMP operator shall explain this.

• **A reconciliation statement between the regulatory separated accounts and the statutory accounts.**
Schedule 2 – Provision of Information and Key Performance Indicators

Final Instructions

Date: 1 September 2020
About these Instructions

These Final Instructions on the Provision of Information and Key Performance Indicators have been adopted by the Regulatory Authority of Bermuda (the “RA”) as part of its General Determination on the Market Review of the Electronic Communications Sector, which imposes certain information reporting obligations on sectoral providers found to have significant market power (“SMP”) in the relevant markets. The purpose of these Final Instructions is to provide further detail on the requirements that make up the obligation to provide information and key performance indicators.
# TABLE OF CONTENTS

Definitions ........................................................................................................................................... 3

1. Introduction .................................................................................................................................. 9

2. Approach to Information Provision obligation ............................................................................. 11
   2.1 Network, tariff and customer information ............................................................................... 11
       2.1.1 Network information ........................................................................................................ 11
       2.1.2 Tariff information ............................................................................................................ 13
       2.1.3 Customer information ....................................................................................................... 16

3. Approach to obligation to provide key performance indicators ...................................................... 17
   3.1 Retail KPIs .............................................................................................................................. 17
   3.2 Wholesale KPIs ....................................................................................................................... 18
Definitions

**Access Network:** Relates to the part of the network that connects directly to customers, from a local aggregation/distribution point.

**Accounting Separation:** An obligation set forth in the Market Review of the Electronic Communications Sector General Determination to produce financial statements that report the performance of each Product Group of an SMP operator. Accounting Separation enables the RA to monitor whether an operator with SMP is compliant with certain price-based obligations, such as to ensure prices are cost oriented.

**Activity-based costing ("ABC"):** A cost allocation methodology where costs are assigned to the services based on allocation keys presenting a causal link with the costs incurred.

**Adjusted equally efficient operator ("adjusted EEO"):** One of three possible standards used to identify the retail costs to be recovered; in this case, the costs to be recovered are the retail costs of the SMP provider, adjusted to the scale of an entrant. See also “EEO” and “REO”.

**RA:** The Regulatory Authority of Bermuda, or sometimes referred to as “RA”.

**Average avoidable cost ("AAC"):** The average of the costs that could have been avoided if the operator had not produced a discrete amount of (extra) output.

**Average customer lifetime ("ACL"):** The average revenue-generation duration for which a customer stays with a particular service provider.

**Average revenue per user ("ARPU"):** A measurement used to indicate the average monthly revenue earned from a customer who subscribes to a service.

**Average variable cost ("AVC"):** The average variable cost for a given unit of output.

**Bandwidth:** The amount of data that can be transmitted within a fixed amount of time, expressed in bits per second (bps) or bytes per second.

**Broadband:** An Internet service or connection generally defined as being “always on”, providing a bandwidth greater than narrowband.

**Bundle:** Communications services sold together in a package, in contrast to each service being sold on a stand-alone basis.

**Capital expenditure ("CAPEX"):** Funds used by a company to acquire, upgrade, and maintain assets such as property, industrial buildings, or equipment.

**Common costs:** Costs that are shared between multiple services supplied by an entity.

**Consumer:** Someone who purchases an electronic communications service (i.e. a retail product such as broadband). Consumer can also refer to a wholesale consumer, i.e. a supplier in the value chain who buys a service or product and then supplies it to the final consumer (or end-user).
**Contract period**: The duration of a fixed-term contract, for example a post-pay mobile tariff may have a contract period of 18 months. See also “Fixed-term contract”.

**Core Network**: The backbone of a communications network, which carries different services such as voice or data.

**Cost causality**: The attribution of costs to components, services and business divisions strictly in accordance with the activities that cause those costs to be incurred.

**Cost Orientation**: An obligation set forth in [name the final GD] to ensure that prices charged for products or services are reflective of the underlying cost of provision.

**Current cost accounting (“CCA”)**: A form of depreciation in which an operator’s asset base is annualized based on the gross replacement cost of the assets.

**Customer**: Someone who purchases an electronic communications service. Customer and consumer are used interchangeably in this report, but customer usually refers to a customer of a specific service provider (i.e. a OneComm customer).

**Customer premises equipment (“CPE”)**: Electronic equipment that is located in a customer’s premises such as an Internet modem or PayTV set-top box.

**Ducts**: Existing trenches and pipes in which copper and fibre lines are, or could be, installed.

**Discounted cash flow (“DCF”)**: Approach used to calculate profitability, where revenues and costs are aggregated over time and discounted using an appropriate discount rate.

**ECA**: Electronic Communications Act 2011.

**Equivalence of inputs (“EOI”)**: Under the FRAND obligation, the SMP operator must treat all access seekers equally. Under EOI, the downstream access product retailed by the vertically integrated operator with SMP in the wholesale market uses exactly the same physical upstream inputs as the downstream product supplied by competitors. The product development process is therefore the exact equivalent in terms of functionality and price. See also “EEO”.

**Equally efficient operator (“EEO”)**: One of three possible standards used to identify the retail costs to be recovered; in this case, the costs to be recovered are the retail costs of the SMP operator. See also “adjusted EEO” and “REO”.

**Equivalence of outputs (“EOO”)**: Under the FRAND obligation, the SMP operator must treat all access seekers equally. Under EEO, the access products offered by the wholesale SMP operator to alternative operators are comparable to the products that the wholesale SMP operator provides to its retail division in terms of functionality and price, but the products may be provided by different systems and using different processes. See also “EOI”.

**Equi-Proportionate Mark-Up (“EPMU”)**: A means of recovering fixed and common costs through a mark-up in addition to the incremental costs. The costs to be recovered are allocated across a range of services so that each service is allocated the same mark-up as a percentage of its incremental costs.
**Ex ante remedy:** A regulatory obligation imposed by the RA on one or more SMP operators in order to prevent anticompetitive conduct and promote competition.

**Financial capital maintenance (“FCM”):** An approach under which the financial capital of the company is maintained in current-price terms. Capital is assumed to be maintained if shareholders’ funds at the end of the period are maintained in real terms at the same level as at the beginning of the period. This means that the depreciation charge to the profit and loss account includes holding gains or losses due to changes in asset prices.

**Fixed-term contract:** A contractual relationship between a provider of (electronic communication) services and a consumer that lasts for a specified period, also known as the “Contract period”.

**FRAND:** Fair, reasonable and non-discriminatory.

**Fully Allocated Costs (“FAC”):** An accounting method for attributing all the costs of a company to defined activities such as products and services. Typically, this method will follow the principle of cost causality.

**Generally accepted accounting principles (“GAAP”):** A collection of commonly followed accounting rules and standards for financial reporting.

**General Determination:** A statutory instrument made pursuant to section 62 of the Regulatory Authority Act 2011 (“RAA”). The General Determination is applicable to all operators, or to such sub-category of operators as falls within the scope of the statutory instrument.

**Gross book value:** The original price paid for an asset, without depreciation deductions.

**Historical cost accounting (“HCA”):** An approach to accounting whereby the costs that the operator actually incurs are used in the accounting statement.

**Holding gains and losses:** Annual changes in the value of an asset.

**Individual Products:** An individual service, product or tariff offered by an operator. Examples include a specific pre-pay mobile tariff, a 150 Mbps fibre broadband, or a specific PayTV package.

**Individual Product Bundles:** A specific bundled product made up of a two or more Individual Products. Examples include a bundle of 150 Mbps fibre broadband and a specific PayTV package; or a triple-play bundle of 150 Mbps fibre broadband, a specific PayTV package and a specific pre-pay mobile tariff.


**Integrated Communications Operating Licence (“ICOL”):** A licence granting the licensee the right to establish, construct and operate one or more electronic communications networks and to provide electronic communications services, on an integrated basis, within the territorial limits of Bermuda, and between Bermuda and other countries.
**Internal rate of return ("IRR")**: The rate of return for an investment project that sets the net present value ("NPV") of all cash flows (both positive and negative) from the investment equal to zero.

**Key performance indicator ("KPI")**: A measurable value that demonstrates how effectively a company is achieving its key business objectives.

**Leased line**: A transmission facility that is leased by a customer from a public carrier and which is dedicated to that customer’s traffic.

**Long-run incremental costs ("LRIC")**: The average of all the (variable and fixed) costs that an operator incurs to produce a particular product.

**Margin squeeze test**: An assessment of the margin that exists between the wholesale and retail prices set by an entity, in order to understand whether the prices are set such that an efficient entity purchasing the wholesale product would be unable to earn a reasonable return.

**Mean capital employed**: Total assets less current liabilities, excluding corporate taxes, dividends payable and long-term liabilities, with the mean computed from the start and end values for the financial year.

**Mobile virtual network operator ("MVNO")**: A provider of mobile telephony services, who does not have an allocation of spectrum or its own wireless network.

**Modern equivalent asset ("MEA")**: An approach to deriving asset values based on assessing the most efficient available technology that performs the function of the asset in question.

**National regulatory authority ("NRA")**: An organisation responsible for administering regulation in one or more of a nation’s sectors. The responsibilities of an NRA include assessing the need for *ex ante* regulation following the completion of a market review, and potentially imposing *ex ante* remedies in markets where significant market power is found.

**Net present value ("NPV")**: The value of all future cash flows (positive and negative) over the lifetime of an investment discounted to the present.

**Non-SMP Product Groups**: Products that are within a market that is not subject to *ex ante* regulation, i.e. the market is not covered by an SMP determination.

**Office of Communications ("Ofcom")**: UK regulator responsible for the regulation of the electronic communications sector.

**Office of Fair Trading ("OFT")**: (former) UK regulator responsible for ensuring fair trading, and now part of the UK competition authority.

**Operating expenditure ("OPEX")**: The costs of the day-to-day operation of a company, such as staff costs, repairs and maintenance expenditure, and overheads.

**PayTV**: Subscription-based television services.

**Pure long-run incremental cost ("Pure LRIC")**: A cost standard approach that assesses the variable cost to provide service for one additional customer.
**Product Bundle Groups:** Any combination of two or more Product Groups sold together in a package, i.e. as a bundle. Examples include broadband and PayTV bundles; and broadband and mobile bundles.

**Product Groups:** Major groups of products offered by an operator, and which include broadband, mobile, fixed voice, subscription television, business connectivity (i.e. leased lines) and off-island connectivity (i.e. submarine capacity). A further distinction is made between SMP Product Groups and non-SMP Product Groups.

**Profit and loss statement ("P&L"):** A financial statement showing a company’s financial performance in terms of revenues and expenses.

**RAA:** Regulatory Authority Act 2011.

**REO:** Reasonably efficient operator—one of three possible standards used to identify the retail costs to be recovered; in this case, the costs to be recovered are the retail costs of an entrant (with less scale than the SMP operator). See also “adjusted EEO” and “EEO”.

**Regulatory asset value ("RAV"):** The value ascribed by the RA to the capital employed in the SMP operator’s regulated business.

**Return on capital employed ("ROCE"):** A measure of how efficiently capital is being used. It is calculated as accounting profit divided by the capital employed.

**Second Consultation:** The document published by the RA in February 2019, named the “Market review of the electronic communications sector”. The document set out the RA’s provisional view, at that time, on relevant economic markets, significant market power and requisite remedies.

**Service level agreements, or guarantees ("SLAs", "SLGs"):** Commercial agreements under which the SMP operator is obliged to provide access to wholesale services with a specified level of quality.

**Significant market power ("SMP"):** A position of economic strength in the relevant market or markets that affords an entity, either individually or jointly with others, the power to behave to an appreciable extent independently of competitors and consumers, which may provide a basis for the imposition of ex ante remedies.

**SMP Product Groups:** Groups of products for which the operator has been found to have SMP.

**Sub-groups of Products:** A group of Individual Products within a Product Group. Examples of Sub-groups of Products include all pre-pay mobile services; or all fibre broadband products above a certain speed.

**Time preference of money:** In economics, the principle that people place a greater value on receiving a good or service earlier rather than later.

**Virtual unbundled local access ("VULA"):** A broadband access remedy that requires a network operator to provide access to its superfast broadband network. VULA provides a connection from the nearest "local" aggregation point to a customer’s premises.
Weighted Average Cost of Capital ("WACC"): The rate that a company is expected to pay on average to all its security holders to finance the company’s assets.
1 **INTRODUCTION**

1. The Regulatory RA Act 2011 (“RAA”), section 12, sets out the principal functions of the Regulatory RA of Bermuda (the “RA”). These include ensuring that the regulation of the electronic communications sector promotes and preserves competition, promotes the interests of residents and consumers in Bermuda, promotes the development of the Bermudian economy, Bermudian employment and Bermudian ownership and promotes technological innovation.

2. Separately, sections 20–25 of the Electronic Communications Act 2011 (“ECA”) requires the RA to complete a market review process in order to determine what, if any, *ex ante* regulatory remedies are required to address SMP in the supply of electronic communications services.

3. In the most recent market review (completed in 2020), the RA identified SMP in a number of markets in the electronic communications sector. As a result of this finding of SMP, the RA imposed remedies to address the competition concerns.

4. A number of SMP remedies span several markets and ultimately form the basis of the new regulatory regime for the electronic communications sector in Bermuda. Specifically, these remedies oblige SMP operators to:
   
   i. comply with Accounting Separation;
   
   ii. ensure Cost Orientation of prices;
   
   iii. provide wholesale access on fair, reasonable and non-discriminatory (FRAND) terms, including by not engaging in a margin squeeze; and
   
   iv. provide information (including key performance indicators and market data) on a regular basis.

5. The RA has decided to provide instructions and explicit guidance on these four key remedies, in order to:
   
   • provide more clarity and certainty on how the RA will expect the SMP operators to act in order to ensure that the firms are compliant with the operators’ regulatory obligations;
   
   • provide greater clarity and certainty to the SMP operators on how the RA will monitor compliance with these obligations; and
   
   • assist interested stakeholders contemplating making a complaint to the RA in relation to non-compliance with these obligations in understanding the evidential threshold that needs to be met and the information that the RA will require.

6. In order for the RA to regulate effectively and to monitor compliance with *ex ante* remedies, it is critical that the RA has access to accurate and up-to-date market information.

7. One key component of this relates to the cost and revenue information of SMP operators, and specifically the ability for the RA to see costs and revenues broken
down into Product Groups, such that profitability within each SMP market can be assessed. This provision is covered by the Accounting Separation obligation, which is discussed in detail in the Accounting Separation Instructions.

8. However, in order to regulate effectively, the RA will need more than just information on an SMP operator’s cost and revenues. Additional requisite information is broadly divided into two types,

   i. Network, tariff and customer information; and

   ii. Key Performance Indicators (KPIs).

9. These Instructions relate to the regulatory obligations put in place following an SMP designation pursuant to Part 4 of the ECA, and it is without prejudice to section 91 of the RAA, which empowers the RA to make orders to produce information, where such information is necessary for the RA to be able to perform its obligations under the RAA or under sectoral legislation.

10. In these Instructions, the RA provides information on what SMP operators will need to do to ensure compliance with the Information Provision obligation and the obligation to publish Key Performance Indicators. The Instructions are structured as follows:

   - section 2 sets out what information SMP operators will need to provide in order to comply with the Information Provision obligation; and

   - section 3 sets out what information SMP operators will need to provide in order to comply with the obligation to publish Key Performance Indicators.
2 APPROACH TO INFORMATION PROVISION OBLIGATION

11. This section sets out guidance on how the RA will assess compliance with the Information Provision obligation.

12. As set out above, the Information Provision obligation seeks to ensure that the RA has the information required to carry out its duties, both under the RAA and ECA. To achieve this, in addition to the information on costs and revenues that will be provided by SMP operators in accordance with the Accounting Separation obligation, the RA is mandating that the following information will also need to be provided.

Network, tariff and customer information

Which includes:

- network coverage, such as the number of premises covered or passed;
- the menu of tariffs offered to customers, such as prices, the services provided (e.g. broadband speed) and contract terms; and
- customer numbers associated with each tariff, and the average revenue per customer.

13. Each SMP operator is required to submit this information to the RA once every 6 months. The information provided in each filing should be as fully up-to-date as possible and must be submitted to the RA within 20 business days after the relevant 6-month period.

14. The first delivery of this information must cover the 6-month period from April to September 2020, with the subsequent filings being every 6 months thereafter.

15. The remainder of this section provides more detail in respect of each of these categories, to ensure clarity on how SMP operators will be able to ensure compliance with the Information Provision obligation.

16. These proposed reporting obligations involve the requirement to provide both retail and wholesale information. The RA notes that despite this being a retail remedy, it is not unreasonable to also request wholesale information, given that wholesale services are an essential input into the retail services. Furthermore, compliance with some remedies requires comparison of retail and wholesale information.

2.1 Network, tariff and customer information

17. In order to comply with the Information Provision obligation, SMP operators will be required to provide the following information in respect of their electronic communications network(s), tariff and customers.

2.1.1 Network information

18. SMP operators will need to provide the following information on the electronic communications markets over which this Information Provision obligation applies (mobile, fixed broadband markets for both Digicel Group and OneComm, and fixed voice, high speed business connectivity services outside of the City of Hamilton for Digicel Group).
• **Network coverage.** This information should be in the form of the geographical area and number of premises passed for fixed services, as well as the geographical area covered for mobile services.

• **Network connections.** This information should set out the number of actual connections. The information should be broken down for wholesale and retail customers.

19. **Specifically:**

20. **In respect of fixed broadband:**

   • **Network coverage:**
     
     o in the form of the total number of premises passed covered by each technology deployed (e.g. copper, fibre, cable);

     o supported by a network map showing which areas of Bermuda are covered by the SMP operator’s fixed broadband network.

   • **Network connections:**
     
     o in the form of the number of premises connected, by technology (e.g. copper, fibre, cable);

     o broken down for retail and wholesale customers (i.e. sub-divided according to the retail arm of the SMP provider and for each access seeker);

     o the number of wholesale broadband access lines sold, sub-divided by type of access, speed and access seeker.

21. **In respect of mobile:**

   • **Network coverage:**
     
     o Based on the population covered as well as the geographical area covered by each technology deployed (e.g. 3G, 4G, 5G);

     o supported by a network map showing which areas of Bermuda are covered by the SMP operator’s mobile network.

   • **Network connections:**
     
     o in the form of the number of subscribers;

     o broken down for retail and wholesale customers (i.e. sub-divided according to the number of subscribers on the retail arm of the SMP provider and the number of MVNO subscribers, sub-divided by access seeker).
22. In respect of **fixed voice:**

   - **Network coverage:**
     - in the form of the total number of premises passed by each technology deployed (e.g. ISDN, PSTN, VoIP);
     - supported by a network map showing which areas of Bermuda are covered by the SMP operators fixed voice network.

   - **Network connections:**
     - in the form of the number of premises connected, by technology (e.g. ISDN, PSTN, VoIP);

23. In respect of **business connectivity:**

   - **Network coverage:**
     - in the form of the total number of premises passed;
     - supported by a network map showing which areas of Bermuda are covered by the SMP operators leased lines network.

   - **Network connections:**
     - in the form of the number of premises connected;
     - broken down for retail and wholesale customers.

2.1.2 **Tariff information**

24. In each retail electronic communications market over which this *Information Provision* obligation applies, SMP operators will need to provide information setting out all retail tariffs available during the assessment period, as well as any legacy tariffs still being used by customers, along with information on their service characteristics (e.g. price and speed). This should clearly distinguish between business and residential (non-business) tariffs.

25. The information should be sufficiently detailed to allow the RA to understand all key dimensions of the tariff. For example, in respect of mobile tariffs, the information will need to clearly set out the various post-pay and pre-pay tariffs and make clear for each tariff:

   - **the tariff fees**;
   - **the key inclusions in the tariff**; and
   - **the length of the contract associated with the tariff**, for example where it is a 12-month contract.

26. Specifically:
27. **In respect of fixed broadband:**

- *Tariff fees*—for all retail tariffs available during the assessment period, as well as any legacy tariffs still being used by customers, clearly distinguishing between business and residential tariffs—including:
  
  - upfront fees such as connection fees and customer equipment/handset fees;
  
  - ongoing fees, such as monthly tariff fees, and additional surcharges, for example, for using additional services or going beyond the inclusive allowances.

- *Key inclusions in the tariff*—for all retail tariffs available during the assessment period, as well as any legacy tariffs still being used by customers, clearly distinguishing between business and residential tariffs—including, but not limited to:
  
  - advertised download speed;
  
  - advertised upload speed;
  
  - monthly data allowances.

- *the length of the contract associated with the tariff*—for all retail tariffs available during the assessment period, as well as any legacy tariffs still being used by customers, clearly distinguishing between business and residential tariffs.

28. **In respect of mobile:**

- *Tariff fees*—for all retail tariffs available during the assessment period, as well as any legacy tariffs still being used by customers, clearly distinguishing between business and non-business tariffs—including:
  
  - upfront fees such as connection fees and customer equipment/handset fees;
  
  - ongoing fees, such as monthly tariff fees, and additional surcharges, for example, for using additional services or going beyond the inclusive allowances.

- *Key inclusions in the tariff*—for all retail tariffs available during the assessment period, as well as any legacy tariffs still being used by customers, clearly distinguishing between business and non-business tariffs—including, but not limited to, monthly allowances for:
  
  - mobile data;
  
  - voice call minutes;
  
  - text messages.
• the length of the contract associated with the tariff—for all retail tariffs available during the assessment period, as well as any legacy tariffs still being used by customers, clearly distinguishing between business and non-business tariffs.

29. In respect of fixed voice:

• Tariff fees—for all retail tariffs available during the assessment period, as well as any legacy tariffs still being used by customers, clearly distinguishing between business and residential tariffs—including:
  
  o upfront fees such as connection fees and customer equipment/handset fees;
  
  o ongoing fees, such as monthly tariff fees, and additional surcharges, for example, for using additional services or going beyond the inclusive allowances.

• Key inclusions in the tariff—for all retail tariffs available during the assessment period, as well as any legacy tariffs still being used by customers, clearly distinguishing between business and residential tariffs—including, but not limited to, monthly allowances for voice call minutes:

• the length of the contract associated with the tariff—for all retail tariffs available during the assessment period, as well as any legacy tariffs still being used by customers, clearly distinguishing between business and residential tariffs.

30. In respect of business connectivity:

• Tariff fees—for all retail tariffs available during the assessment period, as well as any legacy tariffs still being used by customers—including:
  
  o upfront fees such as connection fees and customer equipment/handset fees;
  
  o ongoing fees, such as monthly tariff fees, and additional surcharges, for example, for using additional services or going beyond the inclusive allowances.

• Key inclusions in the tariff—for all retail tariffs available during the assessment period, as well as any legacy tariffs still being used by customers—including, but not limited to:
  
  o advertised download speed;
  
  o advertised upload speed;
  
  o monthly data allowances;
  
  o service level guarantees.

• the length of the contract associated with the tariff—for all retail tariffs available during the assessment period, as well as any legacy tariffs still being used by customers.
2.1.3 Customer information

31. SMP operators will need to provide the following information on all the electronic communications markets over which this Information Provision obligation applies.

- **The number of customers, broken down by tariff.** This should map the total customer base in that market to all the operator’s tariffs. For example, if an operator had 100 customers and 10 tariffs, then RA would wish to know how those 100 customers are distributed across those 10 tariffs. This should clearly distinguish between business and residential (non-business) tariffs, where relevant.

- **Total revenue from customers, broken down by tariff.** As above, the RA would wish to see how the total revenue in a market is broken down by tariff. This should clearly distinguish between business and residential (non-business) tariffs, where relevant.

- **Average revenue per customer.** This should be easily computed from the above two, i.e. dividing revenues by customers.

- **Customer churn,** broken down by tariffs, i.e. the number of new customers minus the number of customers who have cancelled or not renewed subscriptions. This should clearly distinguish between business and residential (non-business) tariffs, where relevant.

- **Average monthly usage, broken down by tariff.** This should set out the average customer usage for each tariff. For example, for each broadband tariff this would set out the average data used per month (in gigabytes, Gb). For mobile tariffs, this should set out the total mobile data usage per month, as well as the number of voice call minutes and text messages sent per month. This should clearly distinguish between business and residential (non-business) tariffs, where relevant, as well as distinguishing between on-net and off-net communications, where relevant.
3 APPROACH TO OBLIGATION TO PROVIDE KEY PERFORMANCE INDICATORS

32. This section sets out guidance on how the RA will assess compliance with the obligation to provide Key Performance Indicators.

33. As set out above, the obligation to provide Key Performance Indicators seeks to ensure that the RA has the information required to carry out its duties, both under the RAA and ECA. To achieve this, in addition to the information on costs and revenues that will be provided by SMP operators in accordance with the Accounting Separation obligation, the RA is mandating that the following information will also need to be provided.

Key Performance Indicators (“KPIs”)

34. This would enable the RA to track the service quality that SMP operators are offering, at both a retail and wholesale level. The information would also be used by the RA to monitor compliance with key ex ante remedies, such as the obligation to offer wholesale access on fair, reasonable and non-discriminatory (FRAND) terms and on an equivalence of outputs (EOO) basis.

35. This information will need to be presented to the RA on a bi-annual basis, with a six-month gap between each instance of providing the information. Specifically, the information should be provided at two points across the year, and at each time should be as fully up-to-date as possible. The first delivery of this information must be provided within 40 business days following the close of the period April – September 2020 (i.e. by 25 November 2020), with the subsequent filings being filed every 20 business days following the close of the 6-month period from the end of the previous period.

36. The RA will require SMP operators in certain markets to provide information on KPIs, at the retail and wholesale levels. Both are discussed below.

3.1 Retail KPIs

37. SMP operators will be required to publish a small number of retail KPIs, and these will need to be published on the operator’s website. The RA's objective in requiring the SMP operators to make such information public is to increase public awareness of the quality of service provided by the SMP operators, and to better inform consumers about what services are available.

38. This information should encourage further competition between operators, specifically with regard to the quality of their retail service. The RA views such information as a useful tool for measuring trends in consumer outcomes. If the number of consumer complaints was very high, and/or was increasing significantly over time, this might indicate some competition concern that may require regulatory intervention.

39. In retail markets in which the KPI obligation is imposed (broadband, mobile), SMP operators will be required to provide two pieces of information.

- The actual service quality achieved by customers, sub-divided by tariff. This would, for example, involve presenting the average speed of broadband customer for different tariffs, e.g. if a customer is on a broadband tariff with an advertised 'up-to' headline speed of 100Mbps, what speed do such customers actually achieve on average?
• The number of customer complaints, sub-divided by topic (i.e. reliability, speed, contractual terms, or over-billing).

40. In respect of the first item (realized service quality) this information will help to inform whether or not retail customers are actually receiving the service advertised. If the actual service falls below a certain level, then consumers would be able to exit any contract without incurring any fees.

41. In respect of the second item (number of customer complaints), this will help the RA to understand complaints made by retail customers, including the number of customers that are dissatisfied with the service received, as well as the nature of the types of complaints. This will enable the RA to identify the main sources of customer dissatisfaction to be able to focus the RA’s resources on the most common and impactful issues facing retail customers.

3.2 Wholesale KPIs

42. In order to track the service quality that SMP operators are offering to wholesale access seekers, SMP operators are required to provide directly to the RA and publish on their websites specific wholesale KPIs according to the service offered to access seekers, as well as the services that the operators provide to their own retail business divisions. Requiring wholesale KPIs to be published will provide transparency about the quality of the wholesale service offered, as well as data against which to assess whether the SMP operators are complying with FRAND and EOO obligations.

43. In wholesale markets in which the KPI obligation is imposed (broadband, mobile and business connectivity), SMP operators will be required to provide the following information for each and every wholesale service offered to access seekers as well as the services that the operators provide to their own retail business divisions.

44. In respect of broadband:

• The time taken to connect and/or migrate a retail customer, according to the retail business division of the SMP provider and for each access seeker.

• The time taken to address network faults, from when the fault was first identified, according to the retail business division of the SMP provider and access seekers. Faults are defined here as lost or impaired service due to issues in the wholesale network (i.e. faults that are the responsibility of the SMP operator).

• The number of faults that need to be fixed, according to the retail business division of the SMP provider and access seekers.

45. In respect of mobile:

• The number of days taken to port a mobile number, sub-divided by each MVNO, and for the SMP operator’s own retail arm.

• The number of days taken to restore service to a customer, sub-divided by each MVNO, and for the SMP operator’s own retail arm.
• The number of calls dropped/blockd, sub-divided by each MVNO, and for the SMP operator’s own retail arm.

46. **In respect of business connectivity:**

• The time taken to connect and/or migrate a retail customer, sub-divided according to the retail division of the SMP operator and for each access seeker.

• The time taken to address network faults (from first identification), sub-divided according to the retail division of the SMP operator and access seekers. Faults are defined here as lost or impaired service due to issues in the SMP operator’s network (i.e. those faults that are the responsibility of the SMP operator).

• The number of faults that require fixing, sub-divided according to the retail division of SMP operator and access seekers.