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## **Ofcom's approach to assessing compliance with net neutrality rules**

Frameworks for assessing zero rating offers and traffic management measures for compliance with the Open Internet Regulation

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# 1. Overview

The 'open internet' is the principle of ensuring that users of the internet can control what they see and do online – not the internet service provider ('ISP') that connects them to the internet. The open internet principle, also referred to as 'net neutrality', protects the freedom of citizens and consumers to access all lawful internet content equally, without broadband providers discriminating against particular services or websites.

The Open Internet Access Regulation 2015<sup>1</sup> ('the Open Internet Regulation'), which came into effect on 30 April 2016, is aimed at protecting the principle of the open internet. Ofcom is required to monitor and ensure UK providers comply with these rules.

## The purpose of this document

### Ofcom Frameworks

- 1.1 This document sets out Ofcom's approach to assessing compliance with certain aspects of the Open Internet Regulation, based on our experience to-date. Specifically, this document focusses mainly on two areas:
  - a) The commercial practice of '**zero-rating**' data traffic, where data used for specific applications, or types of applications, is not counted toward a user's data allowance; and
  - b) **Traffic management practices**, where ISPs implement measures to optimise their network.
- 1.2 In addition, the document provides a brief overview of Ofcom's approach to the prohibition on restrictions on the use of terminal equipment (e.g. tethering) and compliance with the EU Roaming Regulation in the context of net neutrality.<sup>2</sup>

### Ofcom's Enforcement Programme

- 1.3 On 6 December 2017, Ofcom opened an enforcement programme, gathering information to assess whether any ISP traffic management practices raised specific concerns requiring further investigation. This document concludes Ofcom's formal enforcement programme, setting out a summary of the main work that Ofcom has undertaken.

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<sup>1</sup> Regulation (EU) 2015/2120 of the European Parliament and of the Council of 25 November 2015 laying down measures concerning open internet access and retail charges for regulated intra-EU communications and amending Directive 2002/22/EC and Regulation (EU) No 531/2012 - <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:02015R2120-20181220>

<sup>2</sup> Regulation (EU) No. 531/2012 on roaming on public mobile communication networks within the Union, as amended by Regulations (EU) 2015/2120 and (EU) 2017/920.

### Scope of this document

- 1.4 When assessing compliance with the Open Internet Regulation, Ofcom generally applies the Frameworks set out in this Statement. However, it is not possible to set out in this Statement our likely approach in every case, nor to set out definitively how we might approach cases in the future. It is important that Ofcom is able to assess each case on its own particular facts.
- 1.5 On that basis, this Statement is intended to help raise ISPs' awareness of the compliance issues that can arise under the Open Internet Regulation, based on Ofcom's experience to date, and to assist ISPs in planning their services and assessing their own compliance with the Open Internet Regulation.
- 1.6 ISPs should, of course, always seek their own independent advice on specific matters, taking into account their own facts in order to ensure compliance with their statutory obligations.

## 2. The net neutrality rules

### The Open Internet Regulation

- 2.1 The aim of the Open Internet Regulation is to establish *“common rules to safeguard equal and non-discriminatory treatment of traffic in the provision of internet access services and related end-users’ rights”* (Article 1). It further *“aims to protect end-users and simultaneously to guarantee the continued functioning of the internet ecosystem as an engine of innovation”* (Recital 1).
- 2.2 Under Articles 3(1) and 3(2) of the Open Internet Regulation, end-users have the right to *“access and distribute information and content, use and provide applications and services, and use terminal equipment of their choice, irrespective of the end-user’s or provider’s location or the location, origin or destination of the information, content, application or service, via their internet access service.”* This right is not to be limited by agreements entered into by the providers of internet access services and end-users, or by the commercial practices of those providers.<sup>3</sup>
- 2.3 Recital 7 of the Open Internet Regulation further endorses the rights of end-users under Articles 3(1) and 3(2). While end-users should be free to agree with ISPs the applicable tariff for specific data volumes and speeds of the internet access service, *“[s]uch agreements, as well as any commercial practices...should not limit the exercise of those rights and thus circumvent provisions of [the Open Internet Regulation] safeguarding open internet access.”* The Recital further states that *“[n]ational regulatory authorities...should be empowered to intervene against agreements or commercial practices which, by reason of their scale, lead to situations where end-users’ choice is materially reduced in practice.”*
- 2.4 Further, under Article 3(3), *“[p]roviders of internet access services shall treat all traffic equally, when providing internet access services, without discrimination, restriction or interference, and irrespective of the sender and receiver, the content accessed or distributed, the applications or services used or provided, or the terminal equipment used.”*<sup>4</sup>
- 2.5 However, Article 3(3) also makes provision for the providers of internet access services to implement ‘reasonable’ traffic management measures in certain circumstances.<sup>5</sup> Such measures must be transparent, non-discriminatory and proportionate. They must also not be based on commercial considerations, but on objectively different technical quality of service requirements of specific categories of traffic. Further, reasonable traffic management measures must not monitor the specific content, nor be maintained for longer than necessary.

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<sup>3</sup> Reinforced in Article 7 of the Open Internet Regulation.

<sup>4</sup> Article 3(3), first sub-paragraph of the Open Internet Regulation.

<sup>5</sup> Article 3(3), second sub-paragraph of the Open Internet Regulation.

- 2.6 Recital 9 of the Open Internet Regulation further clarifies the concept of 'reasonable traffic management', where the objective of such measures *"is to contribute to an efficient use of network resources and to an optimisation of overall transmission quality responding to the objectively different technical quality of service requirements of specific categories of traffic, and thus of the content, applications and services transmitted."* Examples of such quality of service requirements include *"latency, jitter, packet loss and bandwidth"*.<sup>6</sup>
- 2.7 Providers may only go beyond 'reasonable' traffic management measures in very limited (i.e. 'exceptional') cases. In particular, the traffic management measures must be necessary and applied only so long as necessary, in order to:
- a) comply with EU or UK law; or
  - b) preserve the integrity and security of the network, services, or terminal equipment of the end-users; or
  - c) prevent impending network congestion and mitigate the effects of exceptional or temporary network congestion, provided that equivalent categories of traffic are treated equally.<sup>7</sup>
- 2.8 Recital 11 of the Open Internet Regulation makes clear that the exceptions set out above *"should be subject to strict interpretation and to proportionality requirements."*
- 2.9 The Open Internet Regulation also recognises that ISPs may provide services other than internet access services, known as 'specialised services', alongside their general internet access services under certain circumstances. See Article 3(5) and Recitals 16-17.

## The Roaming Regulation

- 2.10 The Roaming Regulation<sup>8</sup> is also potentially relevant to end-users' rights under Article 3(1) of the Open Internet Regulation, insofar as end-users may use terminal equipment of their choice, irrespective of their, or their ISP's, location or the location, origin or destination of the relevant data traffic.
- 2.11 Article 6a of the Roaming Regulation provides that roaming providers shall not levy any additional charge in addition to the domestic retail price on customers roaming in any EU country for any regulated roaming services subject to such fair use policies as are permitted under Article 6b of the Roaming Regulation. Article 3(2) of the Commission Implementing Regulation (CIR)<sup>9</sup> on roaming surcharges includes requirements that roaming customers should be provided with services at their domestic price under the same conditions as if consumed domestically.

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<sup>6</sup> BEREC Guidelines, Recital 9 and paras 62-67

<sup>7</sup> Article 3(3), third sub-paragraph of the Open Internet Regulation.

<sup>8</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32012R0531&from=DE>

<sup>9</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32016R2286&from=EN>

## The Enforcement Regulations

- 2.12 In the UK, further effect is given to the Open Internet Regulation through the Open Internet Access (Open Internet Regulation) Regulations 2016 (the 'Enforcement Regulations').<sup>10</sup> These Regulations make clear that Ofcom is the national regulatory authority for the purposes of Articles 3 – 5 of the Open Internet Regulation.
- 2.13 The Enforcement Regulations further provide Ofcom with power to (amongst other things) require information from ISPs and to enforce the obligations incumbent on providers under Articles 3 – 5 of the Open Internet Regulation.

## The Consumer Protection Regulations

- 2.14 As part of the broader framework for considering end-users' rights under the Open Internet Regulation, Ofcom may also have regard to the requirements of general consumer law, including the Consumer Contracts Regulations<sup>11</sup> and the Consumer Protection from Unfair Trading Regulations 2008<sup>12</sup> (the 'Consumer Protection Regulations'). For instance, providers need to ensure that they are transparent about their services and what is included in their offers.

## The BEREC Guidelines

- 2.15 In applying the Open Internet Regulation and Enforcement Regulations, Ofcom must take utmost account of the Guidelines published by the Body of European Regulators for Electronic Communications (BEREC) on the Implementation by National Regulators of EU Net Neutrality Rules<sup>13</sup> (the "BEREC Guidelines").
- 2.16 We set out the Regulation and associated Guidelines applicable to our monitoring and enforcement work (in particular, with respect to zero-rating and traffic management practices) in more detail in Sections 3 and 4.
- 2.17 The BEREC Guidelines are currently under review. In 2018, BEREC published a consultation on the evaluation of the Guidelines,<sup>14</sup> a report on the outcome of that consultation and an Opinion on the application of the Regulation.<sup>15</sup> The Opinion identifies areas of the Guidelines

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<sup>10</sup> S.I. 2016/607. <http://www.legislation.gov.uk/ukSI/2016/607/contents/made>

<sup>11</sup> <http://www.legislation.gov.uk/ukSI/2013/3134/contents/made>

<sup>12</sup> <http://www.legislation.gov.uk/ukSI/2008/1277/contents/made>

<sup>13</sup> [https://berec.europa.eu/eng/document\\_register/subject\\_matter/berec/download/0/6160-berec-guidelines-on-the-implementation-b\\_0.pdf](https://berec.europa.eu/eng/document_register/subject_matter/berec/download/0/6160-berec-guidelines-on-the-implementation-b_0.pdf)

<sup>14</sup> [https://berec.europa.eu/eng/document\\_register/subject\\_matter/berec/public\\_consultations/8012-consultation-paper-on-the-evaluation-of-the-application-of-regulation-eu-20152120-and-the-berec-net-neutrality-guidel](https://berec.europa.eu/eng/document_register/subject_matter/berec/public_consultations/8012-consultation-paper-on-the-evaluation-of-the-application-of-regulation-eu-20152120-and-the-berec-net-neutrality-guidel);

<sup>15</sup> [https://berec.europa.eu/eng/document\\_register/subject\\_matter/berec/reports/8318-berec-report-on-the-outcome-of-the-consultation-on-the-evaluation-of-the-application-of-regulation-eu-20152120-and-the-berec-net-neutrality-guidelines](https://berec.europa.eu/eng/document_register/subject_matter/berec/reports/8318-berec-report-on-the-outcome-of-the-consultation-on-the-evaluation-of-the-application-of-regulation-eu-20152120-and-the-berec-net-neutrality-guidelines) and [https://berec.europa.eu/eng/document\\_register/subject\\_matter/berec/opinions/8317-berec-opinion-for-the-evaluation-of-the-application-of-regulation-eu-20152120-and-the-berec-net-neutrality-guidelines](https://berec.europa.eu/eng/document_register/subject_matter/berec/opinions/8317-berec-opinion-for-the-evaluation-of-the-application-of-regulation-eu-20152120-and-the-berec-net-neutrality-guidelines).

which could benefit from clarification. A consultation on changes to the BEREC Guidelines is expected in 2019/20.

## Ofcom's role

- 2.18 National regulatory authorities, including Ofcom in the UK, play an essential role in ensuring that consumers can effectively exercise their rights under the Open Internet Regulation and that ISPs comply with the rules. In particular, Ofcom has a duty to “*closely monitor and ensure compliance*” with the Open Internet Regulation.<sup>16</sup>
- 2.19 Ofcom must also publish reports on an annual basis regarding their monitoring and findings and provide those reports to the Commission and to BEREC.<sup>17</sup> These documents can be found on Ofcom's website [here](#).
- 2.20 Ofcom has carried out a range of monitoring and enforcement activity since the Open Internet Regulation came into effect. Summaries of work undertaken by Ofcom, which is relevant to the areas in focus for this paper, are set out in Sections 3 and 5.

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<sup>16</sup> Article 5(1), the Open Internet Regulation.

<sup>17</sup> Article 5(1), the Open Internet Regulation.

## 3. Zero-rating

### Background

- 3.1 Zero-rating is a commercial practice whereby an ISP applies a price of zero to the data traffic associated with a particular application or category of applications. This means that the customer is able to access certain data without that data counting toward the customer's general data allowance.
- 3.2 Where an offer zero-rates a whole category, or class, of applications ("class-based offers"), ISPs determine whether they operate an open or closed platform. Open class-based offers allow any content or application provider ("CAP") who meets set criteria to join the list of zero-rated applications. The list of applications for closed class-based offers are set by the ISP.

### Open Internet Regulation

Article 3(1) of the Regulation

*End-users shall have the right to access and distribute information and content, use and provide applications and services, and use terminal equipment of their choice, irrespective of the end-user's or provider's location or the location, origin or destination of the information, content, application or service, via their internet access service.*

Article 3(2) of the Regulation

*Agreements between providers of internet access services and end-users on commercial and technical conditions and the characteristics of internet access services such as price, data volumes or speed, and any commercial practices conducted by providers of internet access services, shall not limit the exercise of the rights of end-users laid down in paragraph 1.*

- 3.3 As set out in Section 2 of this Statement, commercial agreements and practices between ISPs and their end-users should not limit the exercise of those user's rights under Article 3(1) to use or distribute information and content openly. This means in practice that commercial practices such as zero-rating offers should not restrict end-user's ability to access the content they choose, in the way that they choose to do so.<sup>18</sup>
- 3.4 The Open Internet Regulation neither prohibits nor allows all zero-rating offers, but the BEREC Guidelines indicate that such offers should be assessed by National Regulatory Authorities ('NRAs') carefully, on a case-by-case basis, to ensure they do not undermine the goals of the Regulation. In particular, the BEREC Guidelines note that zero-rating can create an economic incentive to use a particular application instead of competing ones, where

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<sup>18</sup> The exercise of this right should be without prejudice to national law regarding the lawfulness of the content, applications or services.

there is a risk that “the effects of such a practice applied to a specific application, are more likely to “undermine the essence of the end-users’ rights” or lead to circumstances where “end-users’ choice is materially reduced in practice” (Recital 7) than when it is applied to an entire category of applications”.

- 3.5 The BEREC Guidelines further supplement the Open Internet Regulation by suggesting that NRAs should intervene where agreements lead to a situation where customer choice is materially reduced in practice or where they would result in the undermining of the essence of end-user’s rights.
- 3.6 The Guidelines provide NRAs with issues to consider when assessing whether zero-rating offers are compliant with the Regulation and whether to intervene if end-user rights are undermined. These considerations have been taken into account when creating the framework below.

## Zero-rating Framework applied by Ofcom

- 3.7 When conducting an initial review, Ofcom must first establish who is providing the zero-rating offer<sup>19</sup> and what type of offer it is (for example, an open or closed offer and whether the offer is part of an existing tariff or is available as a paid-for add-on). Ofcom will then use the framework below to determine whether there are reasonable grounds to suspect a contravention of the Open Internet Regulation may have occurred.
- 3.8 The framework below is a general guideline for the assessment of zero rating offers and has been applied by Ofcom in its work since 2016. However, depending on the specific circumstances of the case, other factors may also be relevant. Therefore, individual cases will always need to be analysed on a case-by-case basis. The framework is also intended to be a living document and may be revised by Ofcom from time to time based on further experience.
- 3.9 The net neutrality rules are interlinked and as such, in addition to applying the framework set out below, Ofcom will assess whether other aspects of the offer could constitute a breach of the Open Internet Regulation - for example, traffic management measures or restricting consumer’s use of terminal equipment. More detail about these considerations is set out in Sections 4 and 5.
- 3.10 As mentioned above, when reviewing offers, Ofcom also has a duty to consider other regulation aimed at protecting consumers, such as the Consumer Protection Regulations.<sup>20</sup> These Regulations may become relevant in the context of considering zero-rated offers.

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<sup>19</sup> The Open Internet Regulation applies directly to the relationship between the ISP and the end-user concerning the internet access service being offered.

<sup>20</sup> [See footnotes 13 and 14 above.](#)

## **Step 1: Does the offer have the potential to limit and/or exclude end-users' access to certain content/applications?**

- 3.11 Any limiting by ISPs of their customer's access to applications outside of the zero-rating offer has the potential to constitute a breach of Article 3(1). In addition, the BEREC Guidelines make clear that a zero-rating offer where all applications are blocked (or slowed down) once the data cap is reached except for the zero-rated application(s) would infringe Article 3(3).
- 3.12 If we find that an offer appears to limit or exclude end-user's access to content or applications, Ofcom would consider opening a formal investigation. If no such exclusions appear to be present, we would move to Step 2.

## **Step 2. Does the offer appear to have the ability to influence end-users' exercise of rights?**

- 3.13 Offers which treat applications, or categories of applications, differently have the ability to lead to situations where end-users' choice may be materially reduced. This is because zero-rating offers create an economic incentive to use one application or categories of applications.
- 3.14 Zero-rating offers which are not class-based (i.e. only one or two applications from a particular category are included) are more likely to *"undermine the essence of the end-users' rights"* or lead to circumstances where *"end-users' choice is materially reduced in practice"* than when the offer is applied to an entire category of applications.<sup>21</sup> Closed offers have the potential to increase this effect further.
- 3.15 If we find that an offer has the potential to limit end-user choice and therefore the potential to contravene the Open Internet Regulation, further assessment is carried out under Step 3.

## **Step 3. Does the offer or commercial practice potentially create a situation where end-users' choice may be materially reduced (or otherwise adversely affected) in practice?**

- 3.16 Using the BEREC Guidelines, Ofcom has devised the following list of questions. These will be used to determine the impact of the offer on end-user rights. The questions, and the context provided below, are not exhaustive and Ofcom may consider a wide range of factors when assessing whether end-users' choice may be materially affected. The answers to the questions below will be considered as a whole. If there is evidence that end-users' choice may be materially reduced, Ofcom will give consideration to opening a formal investigation.

### **Q1. What are the relative market positions of the ISPs and content application providers involved?**

- 3.17 Understanding the market position of the ISP is important to determine how many potential customers could be impacted by any reduction of end-user choice. The Open Internet Regulation includes CAPs as end-users and so it is important to consider how content

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<sup>21</sup> BEREC Guidelines, paragraph 42.

providers whose content is not zero-rated as part of the offer may be adversely affected. For example, competition concerns may arise if only dominant providers of content or applications are included in zero-rated offers at the expense of new entrants to the market.

## **Q2. To what extent may the end-user be incentivised to use specific applications or services?**

- 3.18 One area Ofcom may review under this question is the general-purpose data allowance of the tariffs on which the zero-rating offer is available. If the zero-rating offer includes applications which are considered 'data-heavy' (such as video streaming) then a lower general-purpose data allowance means the offer has a greater potential for influencing the end-users' choice of which application to use.
- 3.19 Ofcom may also review the length of the offer; on how many tariffs the offer is provided; whether there is a price difference between tariffs with and without zero-rating; and whether there are other factors such as free subscriptions to premium services being offered alongside the zero-rating. If such information is available, Ofcom may consider the volume of zero-rated data traffic compared to the data traffic generated within the data cap.

## **Q3. What is the potential scale of the practice and presence of alternatives?**

- 3.20 The potential scale of the practice is assessed by looking at the number of customers the offer is available to, as well as reviewing the popularity and usage of the applications included in the offer. Ofcom may request information from the ISP regarding the number of subscribers to the offer and, if available, any usage statistics. This is to help gauge the materiality of any potential impact on end-user choice.
- 3.21 Ofcom will review the alternative zero-rating offers available at the time. We will investigate whether the content or applications zero-rated in the offer are zero-rated elsewhere. Where the content is not available to customers of other ISPs, or is available on significantly worse terms, concerns about exploiting the control of content to distort competition between ISPs may arise.<sup>22</sup>

## **Q4. What is the likely effect of the offer on other specific applications or services?**

- 3.22 Ofcom considers the effect of the offer on the market for that particular service, including whether competitors to the CAPs included in the offer (particularly smaller providers and start-ups) may be discouraged from entering the market as a result. This will include an assessment of the conditions for entry into the market and the barriers involved in joining the offer.
- 3.23 Under this question, exclusive offers may come under more detailed examination as Ofcom assesses potential adverse effects on competition. This is particularly the case if an offer involves content owned or controlled by the ISP. Vertical integration combined with zero-rating of an integrated ISP/CAP's own content might lead to the potential for greater concerns. The stronger the market position of the vertically integrated ISP and the more

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<sup>22</sup> <http://ec.europa.eu/competition/publications/reports/kd0217687enn.pdf> page 130

attractive the product or content (as determined by question 2 above), the greater the likelihood of concerns arising.

#### **Q5. To what extent does the service seek to circumvent the goals of the Open Internet Regulation in relation to end-user choice?**

3.24 This question considers whether, in the round, the offer undermines the goals of the Regulation to “safeguard equal and non-discriminatory treatment of traffic” (Article 1) and to “guarantee the continued functioning of the internet ecosystem as an engine of innovation” (Recital 1). Ofcom also considers Recital 7, which directs intervention against agreements or commercial practices which, “by reason of their scale, lead to situations where end-users’ choice is materially reduced in practice”, or which would result in “the undermining of the essence of the end-users’ rights”.

### **Summary of assessments**

3.25 Ofcom has concluded reviews of six zero-rating offers which have been introduced to the market since 2016. Summaries of Ofcom’s initial reviews have been included in Ofcom’s ‘Monitoring compliance with the EU net neutrality regulation’ reports, which can be found [here](#).

3.26 All reviews used the three-step analytical framework above. Only two of the offers had the potential to restrict end-user access to content (Step 1) whereas they were all found to have the ability to influence end-user’s exercise of rights (Step 2). We did not consider it necessary to open formal investigations into the zero-rating elements of any of the offers referred to below.

#### **O2 Music Streaming**

3.27 Between September and December 2016, O2 offered purchasers of selected phones, who also contracted for a mobile internet access service with a data allowance of 30GB or more, an additional 40GB of data to be used for five music streaming services.<sup>23</sup> While not strictly zero-rating, the offer was advertised as “unlimited music streaming”.

3.28 Ofcom noted that the significant 30GB tariff would permit hundreds of hours of music consumption within the customer’s general-purpose data allowance. In addition, the offer only ran for a limited time and was available to a selected sub-set of customers. As a result, Ofcom considered it would have only limited effects on end-user rights.

#### **Virgin Mobile Messaging Services**

3.29 In November 2016, Virgin Mobile launched a 4G mobile product including zero-rated use of WhatsApp and Facebook Messenger.<sup>24</sup> In Ofcom’s review we noted the relatively low market share of the ISP; the low data consumption of the applications included in the offer; and

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<sup>23</sup> The five services were Spotify, SoundCloud, iTunes, Apple Music and Deezer.

<sup>24</sup> Ofcom notes that Virgin Media have since added Twitter to their offer. See <https://store.virginmedia.com/virgin-media-mobile/flexible-plans/free-whatsapp-facebook-messenger.html>

information from Virgin Mobile that they were seeking to add new messaging providers, thus creating an open platform. Ofcom concluded the offer would be unlikely to have a significant impact on end-user rights.

### Three GoBinge

3.30 In July 2017, Three launched GoBinge, which zero-rated certain music and video streaming services.<sup>25</sup> At the time, the offer was available to customers on SIM-only Advanced plans with a data allowance of 4GB or above and pay monthly mobile broadband plans with allowances of 5GB and above. Ofcom considered Three's relatively small market share, the fact GoBinge is an open platform, and the presence of similar alternative offers as factors when concluding that no further investigation was necessary.

### EE Apple Music

3.31 In July 2017, EE launched an offer for new and existing customers, providing a free six-month subscription to Apple Music. Customers could also take advantage of six-months' worth of zero-rated streaming and downloads from Apple Music. The two elements of the offer did not have to be taken at the same time.

3.32 The zero-rating element of the offer was only available to customers in the UK. Ofcom engaged with EE due to concerns that this did not meet the 'roam like at home' requirements of the Roaming Regulation. Ofcom decided not to formally investigate the offer, due to the limited duration and presence of alternative music streaming zero-rating offers in the market. As such, it did not appear that end-users' choice would be materially reduced.

### Vodafone Passes and VOXI

3.33 In September 2017, Vodafone launched a new mobile offering aimed at people aged 25 and under, which initially zero-rated only selected social media and messaging applications.<sup>26</sup> Later, Vodafone added optional 'Passes' which zero-rated selected music and video applications for an additional monthly cost.<sup>27</sup>

3.34 In November 2017, Vodafone launched Vodafone Passes, a series of five 'add-ons' which zero-rated data for selected applications in four different categories: Chat, Social, Music and Video. The fifth add-on was the Combo Pass which included all four categories.<sup>28</sup>

3.35 The Video Pass for both VOXI and Vodafone Passes restricted end-users' access to HD content by capping traffic to those applications at a bandwidth of 900kb/s. As a result, Ofcom opened a formal investigation into this traffic management measure, which is discussed in more detail at paragraph 5.8 below.

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<sup>25</sup> <http://www.three.co.uk/go-binge>

<sup>26</sup> The offer has since changed to include people aged 29 and under. See <https://www.voxi.co.uk/>

<sup>27</sup> <https://www.voxi.co.uk/passes>

<sup>28</sup> Passes are no longer available to new customers and existing customers cannot add new Passes. See: <https://www.vodafone.co.uk/mobile/pay-monthly/vodafone-passes>

- 3.36 Ofcom noted that within both Vodafone offers, some elements of the applications were not zero-rated, such as voice calls within WhatsApp, streaming Twitter Live and third-party advertisements (e.g. auto-play videos on Facebook feeds). In the formal investigation into the traffic management measures mentioned above, Ofcom raised concerns relating to transparency of these exceptions. This was because not highlighting these exceptions appropriately may have been considered as a misleading action or omission under the Consumer Protection Regulations. Vodafone agreed that it would maintain at all times accurate information about these exceptions and would send a text message with a link to this information to subscribers when they activated their Pass.<sup>29</sup>
- 3.37 Ofcom did not consider a formal investigation into any other aspect of the offers was necessary. This was due to the large number of applications covered for each category and the efforts Vodafone had made to ensure the platform was as open to new CAPs as possible.

## Self-assessment

- 3.38 Moving forward, Ofcom would encourage ISPs who are considering bringing a zero-rating offer to market to consider our analytical framework set out at paragraphs 3.11 – 3.24 to assess whether the offer could potentially limit end-user rights and contravene the Open Internet Regulation. We would also expect that due consideration is given to the initial reviews summarised above. If questions remain about the suitability of an offer, Ofcom welcomes early engagement from ISPs.

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<sup>29</sup> See: [https://www.ofcom.org.uk/about-ofcom/latest/bulletins/competition-bulletins/all-closed-cases/cw\\_01219](https://www.ofcom.org.uk/about-ofcom/latest/bulletins/competition-bulletins/all-closed-cases/cw_01219)

## 4. Traffic management

### Background

- 4.1 ISPs sometimes need to manage data traffic on their networks, for example to improve efficiency during busy periods. As set out in Section 2 of this Statement, end users' have rights under Article 3(1) of the Open Internet Regulation to access and distribute information and content and to use terminal equipment of their choice, irrespective of their, or their ISP's location, or the origin or destination of the information. Traffic management measures have the potential to infringe on end users' rights under Article 3(1).

### Open Internet Regulation

- 4.2 Article 3(3) of the Open Internet Regulation sets out specific obligations in relation to the traffic management measures:

*Providers of internet access services shall treat all traffic equally, when providing internet access services, without discrimination, restriction or interference, and irrespective of the sender and receiver, the content accessed or distributed, the applications or services used or provided, or the terminal equipment used.*

*The first subparagraph shall not prevent providers of internet access services from implementing reasonable traffic management measures. In order to be deemed to be reasonable, such measures shall be transparent, non-discriminatory and proportionate, and shall not be based on commercial considerations but on objectively different technical quality of service requirements of specific categories of traffic. Such measures shall not monitor the specific content and shall not be maintained for longer than necessary.*

*Providers of internet access services shall not engage in traffic management measures going beyond those set out in the second subparagraph, and in particular shall not block, slow down, alter, restrict, interfere with, degrade or discriminate between specific content, applications or services, or specific categories thereof, except as necessary, and only for as long as necessary, in order to:*

*a) comply with Union legislative acts, or national legislation that complies with Union law, to which the provider of internet access services is subject, or with measures that comply with Union law giving effect to such Union legislative acts or national legislation, including with orders by courts or public authorities vested with relevant powers;*

*b) preserve the integrity and security of the network, of services provided via that network, and of the terminal equipment of end-users;*

*c) prevent impending network congestion and mitigate the effects of exceptional or temporary network congestion, provided that equivalent categories of traffic are treated equally.*

- 4.3 The second sub-paragraph of Article 3(3) allows ISPs to implement reasonable traffic management measures and sets out a list of criteria those measures must meet for the practice to be considered reasonable. As per Diagram 1 below, the measures must meet all of the criteria listed in the second sub-paragraph to be considered reasonable. This means that the measures:
- a) must be transparent, non-discriminatory and proportionate;
  - b) must not be based on commercial considerations, but on objectively different technical quality of service requirements relating to the specific categories of traffic;
  - c) must not monitor the specific content; and
  - d) must not be maintained for longer than necessary.
- 4.4 If the measures implemented by an ISP do not meet all of the criteria to be considered 'reasonable', the measures may still be permitted if any of the three exceptional cases set out in the third sub-paragraph of Article 3(3) apply. Such measures must be necessary, and applied only so long as necessary, in order to:
- a) comply with EU or UK law; or
  - b) preserve the integrity and security of the network, services, or terminal equipment of the end-users; or
  - c) prevent impending network congestion and mitigate the effects of exceptional or temporary network congestion, provided that equivalent categories of traffic are treated equally.
- 4.5 The BEREC Guidelines provide additional assistance in interpreting the meaning of 'reasonable' traffic management under Article 3(3), making clear that "[t]he principle of equal treatment of traffic does not prevent ISPs from implementing reasonable traffic management", but that careful assessment is required of all the relevant criteria. In particular, when assessing whether a traffic management measure is based on objectively different technical quality of service requirements, "traffic categories should typically be defined based on [quality of service] requirements, whereby a traffic category will contain a flow of packets from applications with similar requirements. Therefore, if ISPs implement different technical [quality of service] requirements of specific categories of traffic, this should be done objectively by basing them on the sensitivity to [quality of service] requirements (e.g. latency, jitter, packet loss, and bandwidth)."<sup>30</sup>
- 4.6 In assessing whether a traffic management measure is 'proportionate', the BEREC Guidelines set out a number of factors for the NRA to consider, such as whether: the ISP has a legitimate aim for the measure (as set out in Recital 9); the measure is necessary, suitable and appropriate to achieve those aims; and there is not a less interfering and equally effective alternative way of managing traffic to achieve these aims.<sup>31</sup>

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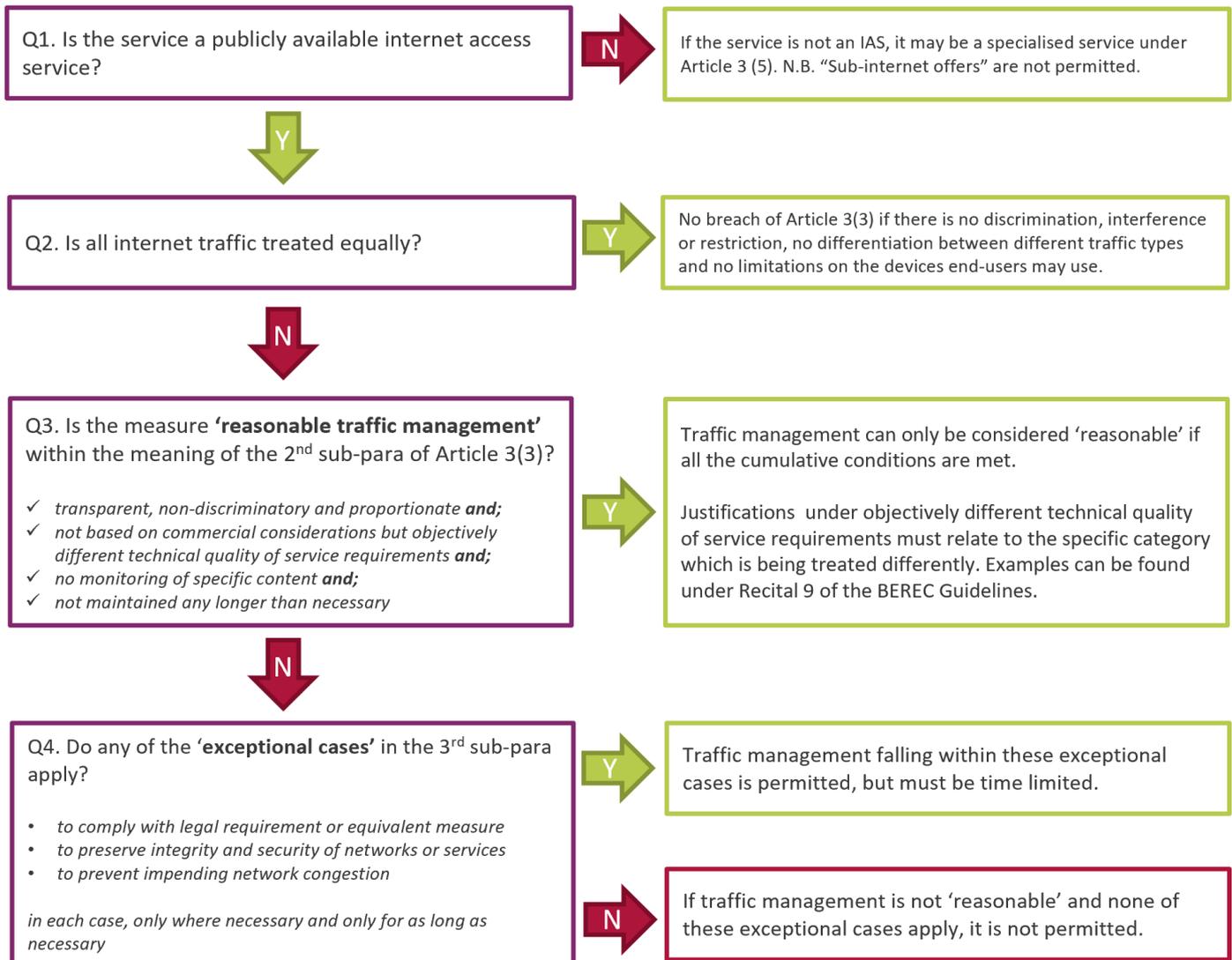
<sup>30</sup> BEREC Guidelines, paragraph 63.

<sup>31</sup> BEREC Guidelines, paragraph 61.

## Traffic Management Framework applied by Ofcom

4.7 Before Ofcom opens an investigation it assesses the relevant facts to determine whether there are reasonable grounds to suspect that a contravention of the Open Internet Regulation may have occurred. We do this by reference to the framework set out in Diagram 1 below.

Diagram 1 – Traffic Management Flowchart



## 5. Ofcom's enforcement programme

- 5.1 On 6 December 2017 Ofcom opened an enforcement programme into [ISPs' traffic management practices and other potential compliance concerns](#).<sup>32</sup> The aim was to gather information to assess whether any ISP traffic management measures raise specific concerns under the Open Internet Regulation.
- 5.2 In addition to Article 3(3) regarding traffic management, Ofcom was concerned about restrictions on 'tethering', which allows an end-user to share the internet connection of a phone or tablet with other devices such as laptops. Article 3(1) ensures end-users have the right to "use terminal equipment of their choice". The BEREC Guidelines make specific reference to 'tethering', stating that the practice of restricting tethering is likely to constitute a restriction on choice of terminal equipment, because ISPs "should not impose restrictions on the use of terminal equipment connecting to the network in addition to those imposed by manufacturers or distributors of terminal equipment in accordance with Union law".<sup>33</sup>
- 5.3 As a result of these and other concerns, the enforcement action Ofcom carried out covered elements of the Open Internet Regulation beyond just Article 3(3), as well as areas where the net neutrality rules overlapped with the Roaming Regulation and Consumer Protection Regulations (as set out in Section 2).
- 5.4 To support the programme a number of information requests were sent to ISPs in January 2018. Based on information received in response to these requests, as well as information gathered through other work such as the zero-rating reviews described above, Ofcom took action in relation to three operators; Three, Vodafone and O2. A summary of Ofcom's enforcement action is set out below.

### Summary of enforcement action

#### Three Investigation

- 5.5 As a result of information gathered during Ofcom's enforcement programme and during the initial review of Three's 'GoBinge' offer (see paragraph 3.30 above), Ofcom became aware of a number of traffic management and other practices which had the potential to breach the Open Internet Regulation as well as the Roaming Regulation. These practices included:
- a) Tethering restrictions: Some Three customers were unable to use their handset to connect another device to the internet (also known as using a handset as a 'hotspot').
  - b) Device restrictions: Three were imposing restrictions on which devices its SIMs could be used in (e.g. handset SIMs in mi-fi devices<sup>34</sup>).

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<sup>32</sup> [https://www.ofcom.org.uk/about-ofcom/latest/bulletins/competition-bulletins/all-closed-cases/cw\\_01210](https://www.ofcom.org.uk/about-ofcom/latest/bulletins/competition-bulletins/all-closed-cases/cw_01210)

<sup>33</sup> BEREC Guidelines, paragraph 27.

<sup>34</sup> MiFis or MiFi dongles are compact, wireless devices that enable multiple users to share a single mobile broadband connection while they are on the go.

- c) Traffic management whilst roaming: Three were 'throttling' or slowing down some categories of traffic (such as video traffic, Peer-to-Peer (P2P) and Virtual Private Network (VPN) traffic) when its customers were roaming.

5.6 Ofcom opened a formal investigation on 6 March 2018 and engaged with Three to clarify their obligations under the Regulation. On 31 July 2018, Ofcom received signed assurances from Three that it had, or would by December 2018, take the following action:

- a) withdraw restrictions which slowed down speeds of P2P and VPN traffic for customers when roaming within the EU;
- b) withdraw restrictions on the use of handset SIMs in dongles and mifis;
- c) cease to restrict video quality to Standard Definition when its customers are roaming in the EU;
- d) remove any specific tethering or hotspot allowance for new or upgrading customers, to allow for unrestricted tethering (within the UK or EU);
- e) remove any requirements for customers to purchase a Data Passport to tether when roaming in the EU;
- f) allow customers on all Advanced Plans to tether without restriction; and
- g) allow customers on Essential Plans to tether on their current plan, or to migrate to the nearest equivalent Advanced Plan available at that time.

5.7 As a result of securing these assurances from Three, Ofcom closed its investigation on 1 August 2018.

### Vodafone Investigation

5.8 As a result of information gathered during Ofcom's enforcement programme and during the initial review of Vodafone's Passes and VOXI offers (see paragraph 3.33 above), Ofcom became aware of traffic management practices which had the potential to breach the Open Internet Regulation as well as transparency concerns related to the Consumer Protection Regulation.

- a) Vodafone was restricting the bandwidth of video traffic to customers using its Video Pass.<sup>35</sup> The restriction to 900kb/s meant customers were only able to watch content in 720p (Standard Definition).
- b) Vodafone Passes provided zero-rated access to certain applications, though some features of those applications would still count toward the customer's general-purpose data allowance (see paragraph 3.36 above). Ofcom was concerned that these exceptions were not transparent.

5.9 Ofcom opened a formal investigation on 6 March 2018 and engaged with Vodafone about their obligations. In order to address the transparency concerns, Vodafone agreed that it

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<sup>35</sup> Customers using a Combo Pass were subject to the same restrictions for video.

would maintain at all times accurate information about the zero-rating exceptions and would send a text message with a link to this information to subscribers when they activated their Pass.

- 5.10 Ofcom's concerns about Vodafone's traffic management measures were primarily that they did not appear to be based on objectively different quality of service requirements and that they were in place permanently. As per the Traffic Management Flowchart on page 16, Ofcom did not consider that the measures could be considered 'reasonable' traffic management measures.
- 5.11 Vodafone subsequently provided Ofcom with written assurances that they had ceased restricting video to Standard Definition for their Passes customers. As a result, Ofcom closed its investigation on 1 August 2018.

## O2 Assessment

- 5.12 As a result of information gathered during the enforcement programme, Ofcom began an initial assessment of O2's traffic management practices. In particular we were concerned about:
- a) O2's use of 'rate control' for streamed video content which was compressed to 1 Mbps at all times;
  - b) O2's use of various compression techniques which were applied at all times to web content and images; and
  - c) O2's use of the 'Vasona' platform in the London area to prioritise video and social media traffic over 'background' (or non-time critical) traffic during times of temporary network congestion.
- 5.13 In relation to these traffic management measures, Ofcom was concerned that O2 had not explained sufficiently how it had satisfied the criteria for 'reasonable' traffic management under Article 3(3), second sub-paragraph. In particular, it was unclear how the measures were justified by reference to objectively different technical quality of service requirements of specific categories of traffic. Ofcom also noted that the first two traffic management practices appeared to be applied constantly. With respect to the use of the Vasona platform in London, it was not clear to Ofcom how frequently that technique was used or, when the system was triggered, the average duration for which it applied in each incidence.
- 5.14 On 28 January 2019, O2 provided Ofcom with written assurances that it had ceased the use of its Vasona platform in the London area. On 30 April 2019 O2 confirmed that it had ceased the use of 'rate control' and the various compression techniques. Ofcom were therefore satisfied no further action was required.<sup>36</sup>

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<sup>36</sup> Further information in relation to this investigation can be found here [https://www.ofcom.org.uk/about-ofcom/latest/bulletins/competition-bulletins/all-closed-cases/cw\\_01210](https://www.ofcom.org.uk/about-ofcom/latest/bulletins/competition-bulletins/all-closed-cases/cw_01210) and here [https://www.ofcom.org.uk/about-ofcom/latest/bulletins/competition-bulletins/all-closed-cases/cw\\_01236](https://www.ofcom.org.uk/about-ofcom/latest/bulletins/competition-bulletins/all-closed-cases/cw_01236).

## Closure of Ofcom's enforcement programme

- 5.15 Ofcom has decided that it is now appropriate to close its formal enforcement programme into the traffic management practices of ISPs, having gained an understanding of traffic management measures applied by ISPs and taken enforcement action where necessary. We will, however, continue to monitor compliance by providers with the Open Internet and Enforcement Regulations and, where necessary, investigate any concerns that arise.
- 5.16 In the meantime, Ofcom encourages ISPs and CAPs to self-assess proactively their compliance with the net neutrality rules and discuss any queries they may have with Ofcom. We believe that the enforcement action summarised above, along with the Traffic Management Framework (see Diagram 1 above), should assist ISPs in self-assessing any current or future traffic management measures that they may be considering.