

Your response

We welcome Ofcom's consultation on the net neutrality review. Ofcom's ongoing careful consideration and open engagement on this important topic is crucial to ensuring that the framework continues to facilitate competition and innovation in the best interests of consumers. Net neutrality and connectivity impact every part of Amazon's business and across all of these business areas, Amazon's overarching position is that whatever is good for customers is good for us all. Amazon's approach is always to work back from customer needs. This means competitive markets for telecom services, and un-fettered high-quality access to Internet access services. We are therefore aligned with Ofcom's objectives:

- (1) to safeguard citizens' and consumers' access to an open internet, so that users are able to access and use online content, apps and services of their choice, and also distribute lawful information online;
- (2) to safeguard the open internet as an engine of innovation, so that providers of online content, apps and services have strong incentives to continuously innovate; and
- (3) to safeguard well-run, efficient and robust networks.

It is encouraging to see that Ofcom is considering not just how the net neutrality framework functions today but also what changes might be needed to ensure it is fit for purpose as technology and consumer needs evolve in the future. Reform of the net-neutrality framework is a highly complex policy area. There are real trade-offs for regulators between a) increased flexibility aimed at facilitating innovation and b) the competition risks of weakening the purity of net-neutrality. We note that well-meaning reforms in other jurisdictions have at times led to unintended consequences which have not been in the best interests of consumers. For example, reforms in South Korea have led to increased costs and increased challenges with network planning and resilience without any evidence of improved prices or services for consumers.

Overall, we appreciate what Ofcom is trying to achieve by increasing flexibility and efficiency and also acknowledge that increased flexibility will come with added complexity that could be challenging to manage. This task will become more difficult as the net neutrality framework becomes more flexible – for example it may not be easy to tell whether there had been discriminatory behaviour by an ISP or whether there are certain unavoidable technical/architectural reasons why traffic has been disrupted/impacted in some circumstances. Therefore, we support Ofcom's current approach of carefully planned step changes with continued monitoring and evaluation of evidence, with a constant eye to how each change could result in unintended consequences.

Amazon's investment in networks and network management in the UK

In addition to Ofcom's significant role, we believe it is the responsibility of all network providers and users of those networks to ensure that networks are managed efficiently and that the net neutrality framework continues to work in the best interests of consumers. Amazon prides itself on proactively working with ISPs on network planning and related issues. Amazon and ISPs are aligned in the desire to ensure that customers in the UK can experience the highest quality, reliable delivery of streaming content, regardless of the source, without interruption, buffering, or other quality degradation. We maintain positive relationships with ISPs across our range of business activities in the UK.¹

Amazon takes its partnership with ISPs seriously, and works closely with ISPs and other service providers to ensure that internet traffic for high demand events is properly managed, in a way that enables customers to select the content most interesting to them without regard for differences in quality and delivery. For example:

- Prime Video has a positive history of proactively engaging with ISPs, for example:
 - Following its acquisition of English Premier League rights, Prime Video established a practice of speaking with several of the largest UK ISPs directly each year in advance of any matches. After first securing these rights, Prime Video had a period of intense

¹ At points in our response we have speculated about how ISPs might react to different market and regulatory conditions. Our intent here is just to illustrate the commercial incentives that could be created by specific reforms to the net neutrality regime – this is not meant to indicate in anyway that we do not have positive relationships with ISPs or that we expect poor/anticompetitive behavior.

engagement with the ISPs, including at senior levels where director level executives met ISP executives in person.

- Amazon has also continued a process of annual review with the ISPs in respect of the delivery of English Premier League and Six Nations Series content, as well as in advance of other events with anticipated widespread interest, such as the 2021 US Open tennis final when British tennis player Emma Raducanu was set to play, and the launch of the new Lord of the Rings Series “Rings of Power” to launch on Prime Video in September 2022, to facilitate capacity planning.
- Prime Video has worked with ISPs on a range of operational issues, including spreading the load across multiple CDNs to avoid creating pressure points for ISPs, working with a UK mobile network operator to organise capacity and back-ups, and supporting two UK ISPs as they deployed caches ahead of English Premier League matches.
- Prime Video considers that the current approach of using multiple third party CDN providers, including AWS CDN services, for delivery of both VOD and live event traffic, and working closely with ISPs for live events, ensures high quality content for customers. Prime Video already uses adaptive bit rate technology and is also currently exploring other technology to support live events including multicast technology and lightweight deeper content caches. As part of our delivery of English Premier League and other live events in the UK, Amazon has invested in bringing state-of-the-art ultra high definition encoding and video transmission from UK stadiums to our production facilities to facilitate the delivery of a higher quality video streaming experience to customers. Amazon is a founding member of the Alliance for Open Media which has developed and released open, royalty free Codec AV1.
- We also minimise disruption/peaks to network demand in the specific way we run many of our services. For example:
 - Twitch primarily uses its own CDN for live video, relieving ISP networks of traffic, with a third party CDN for a low percentage of overflow traffic. Twitch already uses adaptive bit rate technology to ensure viewers are receiving the best possible quality video for Twitch’s most popular streams (those with 3+ concurrent viewers). Twitch is also working on new encoding technology to reduce bitrates while delivering similar video quality. Twitch’s content caching system for live video is 100% pull based and is driven entirely by viewer demand. There is no pre-caching and no regional specific caching strategy. The system assigns viewers to edge locations where they are likely to get the best quality of service based on network connectivity.
 - Prior to an Amazon game or update launch, Amazon Games generally enables “pre-downloads” a few days in advance of turning servers on or enabling in-game content. This allows customers to complete the download in advance, so that they are ready to play when the game servers go live.
 - Unlike some other subscription offerings, claimed free games offered with Prime Games can be downloaded even if the customer is no longer an active member of Prime and as a result, there’s less likely to be a rush to download a given game once claimed. Because of this dynamic, download traffic for Prime Gaming is limited.

Amazon is making a significant investment in launching its own ISP through its Project Kuiper, a low Earth orbit (LEO) satellite network that will provide fast, affordable broadband to unserved and underserved communities in the UK and worldwide. We also continue to invest in building new state of

the art UHD encoding and video transmission capabilities from UK stadiums to our production facilities; brining higher quality streaming to customers in UK.

Amazon Web Services

AWS operates a public cloud and Content Distribution Network (CDN) service that customers, including content providers, use to host and distribute their content for a variety of use cases. In the UK, organisations of all sizes and across all industries are using AWS – from startups, to small and medium-sized businesses, the largest enterprises, public sector organisations, educational institutions, and government agencies.

AWS does not control when content providers choose to deliver content, when end users choose to request content, or whether customers use technology solutions to reduce their traffic volumes. AWS, however, does invest in cloud, edge and CDN infrastructure that significantly shortens the distances over which customer data must travel and therefore significantly reduces the total amount of customer data send over third-party networks. For example, in the UK, AWS operates 29 CDN edge locations/points of presence (POPs)² that cache customer content close to end users, and AWS plans to grow the number of POPs in the UK in 2023, including by installing additional embedded POPs directly within last-mile ISP networks to further reduce data loads on ISP networks. AWS also offers Wavelength, which embeds AWS compute and storage services directly within operators’ 5G networks, providing mobile edge computing infrastructure for developing, deploying, and scaling ultra-low latency applications, and thus reducing network traffic by moving more processing to the network edge.

In March 2022, AWS announced that it plans to invest £1.8 billion over the next two years to help strengthen the UK’s digital infrastructure.³ AWS is also investing in technologies (including AWS-designed silicon) that can make digital infrastructure, including telecom networks, more energy-efficient. For example, AWS recently published a study showing that businesses in Europe can reduce their energy use by nearly 80% by running their applications on the AWS cloud instead of operating their own data centres.⁴

Amazon’s high-level policy views

Our policy priorities for net neutrality rules remain as follows:

- *Non-discrimination:* We support “bright line” rules on data discrimination: ISPs shall not block or throttle data, except where expressly permitted, and there should be a ban on paid prioritisation of traffic.
- *Interconnection:* Net neutrality protections should apply to upstream interconnection points as well as the last mile.
- *Mobile Parity:* Net Neutrality should apply to mobile broadband, not just fixed/wireline ISPs.
- *Transparency:* ISPs must be transparent with network management practices and disclose these practices to consumers.

Zero-rating

Question	Your response
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² 24 in London and 5 in Manchester.

³ <https://www.aboutamazon.co.uk/news/aws/aws-plans-1-8-billion-investment-over-the-next-two-years-to-help-strengthen-the-uks-digital-infrastructure>

⁴ <https://www.aboutamazon.eu/news/aws/eu-businesses-that-move-to-aws-cloud-can-improve-energy-efficiency-and-reduce-carbon-emissions>

<p>Question 1: Do you agree with our assessment of zero-rating offers and our proposed approach?</p>	<p>We support Ofcom’s proposal:</p> <ol style="list-style-type: none"> 1. to assess zero-rating offers on a case-by-case basis; and 2. to generally look favourably on (a) zero-rated access to information and services from public sector organisations that provide a public benefit and (b) zero-rating programs that are genuinely open to all content and application providers (CAPs) of a certain category or class of applications (“non-discriminatory class-based offers”) to join, <p>provided that ISPs are not <i>required</i> to provide any zero-rating offers.</p>
<p>Question 2: Do you agree with the criteria we use to define Type One, Type Two and Type Three zero-rating offers and our proposed approach to such offers?</p>	<p>We generally agree with Ofcom’s proposal to categorise zero-rating offers as follows:</p> <ul style="list-style-type: none"> • Type One: zero-rated access to information and services from public sector bodies that provide a public benefit and are not in competition with other suppliers; • Type Two: zero-rated offers that are genuinely open to all CAPs of a particular class; and • Type Three: all other zero-rated offers that do not qualify as either Type One or Type Two. <p>However, the guidance is a little unclear on whether ISPs could charge CAPs to participate in ‘Type Two’ zero-rated offers. Our interpretation is that if an ISP charges CAPs to participate in a zero-rated offer (even if such charges are non-discriminatory between CAPs), the zero-rated offer is automatically converted to a ‘Type Three’ offer. And we agree with that position. We appreciate that Ofcom might choose to revisit this at a future date when it is able to assess how the use of zero-rating offers is working in practice, but agree it is prudent to ensure additional scrutiny for all paid for zero-rating offers to start with.</p>
<p>Question 3: Do you agree with the approach in our guidance in Annex 5 in relation to zero-rating?⁵</p>	<p>We agree that Ofcom should regard ‘Type One’ and ‘Type Two’ offers as presumptively permitted while subjecting ‘Type Three’ offers to case-by-case analysis. However, we cannot predict whether ISPs would choose to provide ‘Type 2’ offers without charging and therefore it might be the case that all offers are either type 1 or type 3 in practice.</p>

⁵ Zero rating refers to where the data used by certain websites or apps is not counted towards a customer’s overall data allowance.

	<p>We don't believe 'Type Three' offers should be a cause for concern simply because a zero-rated offer is "likely to influence consumer behavior." We think consumer influence should be relevant only to the extent that a zero-rated offer negatively impacts competition/consumer choice. However, we do agree that Ofcom should be concerned and consider very carefully before approving any offers where:</p> <ul style="list-style-type: none"> • the CAP being zero-rated or ISP offering zero rating has market power; • CAPs are effectively excluded from the offer (including because of price); and/or • Zero rating is wide spread such that it impacts how the CAP market operates. <p>Also, Ofcom should clarify that any new flexibility with respect to zero-rating offers does not allow for any kind of paid prioritisation and that paid prioritisation, whether with respect to content or CAPs, is not allowed under any circumstances.</p> <p>We also consider transparency of all zero-ratings of offers to be key to the effective working of this policy. CAPs cannot know if they are being discriminated against if terms and conditions are not made public. Therefore, ISPs should be required to make all terms and conditions of their zero rating offers public (not just to participants in any offers/contracts). Additionally, monitoring of the zero rating offers and the other proposed changes in this consultation could place a heavy burden on Ofcom – Public transparency on the details of all zero rating offers (rather than direct reporting to Ofcom) alongside effective investigation and dispute mechanisms could make this more manageable, allowing teams to focus on potential problems rather than drowning in paperwork.</p>
<p>Question 4: What are your views on whether zero-rated content should be able to be accessed once a customer's data allowance has been used up?</p>	<p>We agree that once a customer's data cap is reached, an ISP should not be able to continue to provide normal access to zero-rated applications while blocking or slowing down non-zero-rated applications.</p> <p>We also agree that the proposed exceptions to this rule for access to an ISP's own website so that users can top-up their data allowance, access public sector resources that fit the 'type 1' definition, and access emergency services would be beneficial for consumers and are therefore supportive of Ofcom's proposal to generally allow these practices.</p>
<p>Please provide any further evidence you have to support your responses.</p>	

Traffic management

Question	Your response
<p>Question 5: Do you agree with our assessment of retail offers with different quality levels and our proposed approach?</p>	<p>As we understand it, Ofcom proposes to allow ISPs to offer the following differential quality of service (QoS) plans under the existing framework by changing its current guidance:</p> <ul style="list-style-type: none">• Category-Neutral, CAP-Neutral: Plans with different QoS guarantees beyond simply price, data volume, and speed (e.g., now including <u>latency</u>, <u>jitter</u>, <u>packet loss</u>) as long as ISPs treat all traffic equally<ul style="list-style-type: none">○ <u>Examples:</u> cheaper high-latency plans, more expensive low-jitter plans <p>We also understand that Ofcom is asking for feedback on the following differential QoS proposals (but legislative change would be required to take these options forward as they are not permitted under the current framework, and therefore not within Ofcom’s current powers):</p> <ul style="list-style-type: none">• Category-Specific, CAP-Neutral: Plans that provide different QoS guarantees to <u>different categories</u> of traffic as long as similar traffic from all CAPs is treated equally<ul style="list-style-type: none">○ <u>Example:</u> higher QoS guarantees for video vs. email• CAP-Specific: Plans that provide different QoS guarantees to <u>different CAPs’</u> traffic<ul style="list-style-type: none">○ <u>Example:</u> CAP-1 traffic gets higher QoS guarantees than CAP-2 traffic <p>Amazon is cautiously supportive of allowing ISPs to offer Category-Neutral, CAP-Neutral differential QoS plans but would like to emphasise the need for transparency, education and monitoring. There are risks for consumers, CAPs and other eco-system participants (e.g. cloud providers) if the implications of package choice are not sufficiently transparent/understood. Adding this flexibility could potentially lead to a gradual degrading of lower priced services. Some consumers’ lack of technical understanding could also put them at a disadvantage. It might be worth Ofcom considering enforcement of minimum standards to mitigate this risk.</p>

	<p>Users do not tend to be familiar with technical QoS dimensions like jitter and packet loss and could therefore simply opt for the cheapest plan without understanding the performance consequences of their choice. One possible consequence of this could be an increased burden on service providers, where customers may think the issue is with the service and not with their plan selection. For example, as a cloud service provider on which other CAPs build their applications, AWS is concerned that it may become difficult to troubleshoot application performance issues when customers contact AWS for support because of too much heterogeneity in different QoS packages and an inability to know which QoS plans different end users are on or how and when these mechanisms are impacting services. In order for customers to more easily understand and compare offers, significant effort will be needed for transparency and education (e.g. this must go far beyond just small print).</p> <p>Moreover, we note that to the extent ISPs offer their own content or applications, they should be regarded as CAPs, and any rules about CAPs (or treatment of CAPs) should apply equally to them.</p>
<p>Question 6: Do you agree with the approach in our guidance in Annex 5 in relation to differentiated retail offers, including transparency requirements, improved regulatory monitoring and reporting of retail offers with different quality levels as well as the general quality of the internet access services?</p>	<p>We agree that ISPs should not be able to offer differential QoS packages unless sufficient transparency is provided, including the transparency measures set out in Article 4 of the Regulation, such that all their customers, including customers on packages with a lower quality tier, can understand what is offered under different packages and how this might affect customer quality of experience. ISPs should provide information on elements such as latency, jitter or packet loss and information that allows customers to form meaningful expectations about standards of quality and what this means in terms of their expected experience.</p> <p>We agree that ISPs should be required to ensure that customers can identify and take effective action where there are significant, continuous or regularly occurring discrepancies between the actual performance and what has been agreed in the contract. We agree that under Article 4 of the Regulation, ISPs should be required to</p> <ul style="list-style-type: none"> a) provide a clear and comprehensible explanation of the remedies available to the consumer which can be used in the event of any continuous or regularly recurring discrepancy; and b) put in place transparent, simple and efficient procedures to address the complaints of end-users. <p>Users do not tend to be familiar with technical QoS dimensions like jitter and packet loss and could therefore simply opt for the cheapest plan without</p>

	<p>understanding the performance consequences of their choice. One possible consequence of this could be an increased burden on service providers, where customers may think the issue is with the service and not with their broadband plan.</p> <p>In order for customers to more easily understand and compare offers significant effort will be needed for transparency and education (e.g. this must go far beyond just small print).</p>
<p>Question 7: What are your views on a more permissive approach towards retail offers where different quality levels are content and service specific?</p>	<p>We appreciate Ofcom’s efforts to keep the framework under review to ensure it remains fit for purpose as consumer requirements for connectivity evolve. As we understand it, Ofcom proposes to allow ISPs to offer the following differential quality of service (QoS) plans under the existing framework by changing its current guidance:</p> <ul style="list-style-type: none"> • Category-Neutral, CAP-Neutral: Plans with different QoS guarantees beyond simply price, data volume, and speed (e.g., now including <u>latency</u>, <u>jitter</u>, <u>packet loss</u>) as long as ISPs treat all traffic equally <ul style="list-style-type: none"> ○ <u>Examples:</u> cheaper high-latency plans, more expensive low-jitter plans <p>We also understand that Ofcom is asking for feedback on the following differential QoS proposals (but legislative change would be required to take these options forward as they are not permitted under the current framework, and therefore not within Ofcom’s current powers)</p> <ul style="list-style-type: none"> • Category-Specific, CAP-Neutral: Plans that provide different QoS guarantees to <u>different categories</u> of traffic as long as similar traffic from all CAPs is treated equally <ul style="list-style-type: none"> ○ <u>Example:</u> higher QoS guarantees for video vs. email • CAP-Specific: Plans that provide different QoS guarantees to <u>different CAPs’</u> traffic <ul style="list-style-type: none"> ○ <u>Example:</u> CAP-1 traffic gets higher QoS guarantees than <u>CAP-2</u> traffic <p>We cautiously support allowing ISPs to offer Category-Neutral, CAP-Neutral differential QoS plans, provided there is sufficient transparency, education and monitoring.</p>

	<p>We also appreciate that there could be consumer benefits from allowing Category Specific, CAP Neutral plans but are not sure how this would work in practice.</p> <p>However, we do not support allowing ISPs to offer CAP-Specific plans.</p> <p><u>Category-Specific, CAP-Neutral:</u> Although we appreciate the potential benefits for consumers from the flexibility to offer content/service specific QoS, we would only support such a proposal once it is clear how it would work in practice. Ubiquitous encryption can make it difficult for ISPs to distinguish different types of traffic. As a result, ISPs might make assumptions to compensate for the lack of information (e.g., assuming that all traffic from a particular CAP or autonomous system number (ASN) should be treated as video, and therefore prioritised, and that all traffic from another CAP or ASN should be treated as web, and therefore de-prioritised). Or, ISPs might require CAPs to adopt (and could potentially charge CAPs for) certain packet annotation protocols to identify categories of traffic for prioritisation (e.g., de-prioritising all traffic that does not include the ISP's prescribed labels). If such legislative change is to be considered we believe a deep dive and comprehensive consultation into the technicalities and rules would be required to resolve these issues.</p> <p><u>CAP Specific:</u> We believe that such an approach would present significant risks to competition by benefiting certain firms over others, and therefore it would not currently be in the interests of consumers. Moreover, if ISPs were permitted to charge CAPs for differential QoS treatment, such arrangements would be functionally equivalent to paid prioritisation, and CAPs with deeper pockets would have a distinct advantage over other CAPs to participate in CAP-Specific QoS plans.</p> <p>Moreover, we note that to the extent ISPs offer their own content or applications, they should be regarded as CAPs, and any rules about CAPs (or treatment of CAPs) should apply equally to them.</p>
<p>Question 8: Do you agree with our assessment of how traffic management can be used to address congestion and our proposed approach?</p>	<p>We understand that Ofcom is proposing to clarify that ISPs are permitted to apply non-discriminatory traffic management to prevent impending congestion, and/or mitigate the effects of congestion. This includes permission to throttle all traffic to the same extent, to prioritise all the traffic for a set of ISP retail customers, in order to ensure the contracted levels of quality of internet access service are met and apply traffic management which ensures that equivalent categories are treated</p>

	<p>equally. If possible, such traffic management should be targeted at the affected parts of their network - differential treatment of traffic in the affected parts of the network and the rest of the network would not be considered a discriminatory traffic management practice.</p> <p>We are generally supportive of proportionate traffic management as long as there is sufficient transparency and monitoring to ensure this is not used to intentionally discriminate/self-preference.⁶</p>
<p>Question 9: Do you agree with the approach in our guidance in Annex 5 in relation to the use of traffic management to address congestion, including transparency requirements, improved regulatory monitoring and reporting of general network performance metrics, the use of traffic management and the impact on service quality?</p>	<p>The enforcement of guidelines will be crucial to ensuring that ISPs don't give undue preference their own services, or otherwise restrict the development of services offered over the open internet or the competitiveness with which they are offered.</p> <p>Monitoring and enforcement will be complex and potentially subjective at times. Public transparency of the management/decision making process could be more helpful than simply reporting to Ofcom here.</p>
<p>Question 10: What are your views on a more focused approach to traffic management to address congestion?</p>	<p>We understand that Ofcom is asking for views on allowing greater flexibility to apply traffic management to specific content (i.e. to permit ISPs to target their traffic management measures on less time- or quality- sensitive traffic or traffic which might be less valuable to consumers) to address congestion. (Although such changes would require legislative change and are therefore currently outside of Ofcom's remit).</p> <p>In principle we agree that it could be beneficial to permit ISPs to target their traffic management measures on less time- or quality- sensitive traffic. However, we have two primary concerns with such an approach.</p> <p>First, because of ubiquitous encryption, ISPs might not be able to reliably distinguish between different categories of traffic in order to determine which traffic is time- or quality-sensitive or which traffic might be less valuable to consumers. As a result, ISPs might make assumptions to compensate for the lack of information (e.g., assuming that all traffic from a particular CAP or autonomous system number (ASN) should be treated as video, and therefore prioritised, and that all traffic from another CAP or ASN should be treated as web, and therefore de-prioritised). Or, ISPs might require CAPs to adopt (and</p>

⁶ In practice this will be very difficult to monitor. The natural behaviour of Transmission Control Protocol (TCP) means that throughput is related to latency and loss. So, content that is physically closer to ISP customers stands a better chance of seeing higher throughput – additionally, it's plausible to imagine that a smaller network path may also have less opportunity for loss. So, with lower latency and less loss, TCP will give higher throughput.

	<p>could potentially charge CAPs for) certain packet annotation protocols to identify categories of traffic for prioritisation (e.g., de-prioritising all traffic that does not include the ISP's prescribed labels). If such legislative change is to be considered we believe a deep dive and comprehensive consultation into the technicalities and rules would be required to resolve these issues</p> <p>Secondly, we are concerned that some business models might rely on traffic management in place of infrastructure investment to meet known traffic loads. We are also concerned about permitting ISPs to make decisions about which traffic is valuable to consumers.</p> <p>In addition to the technical challenges, very detailed guidance, protocols and market monitoring would be required to ensure such flexibility could work in a way that did not distort competition. As with the question of retail offers with content/service specific QoS (Q7), as part of any process to consider legislative change of this nature, we would recommend that the detail of operationalisation is investigated and consulted upon to reduce to risk of unintended consequences.</p>
<p>Please provide any further evidence you have to support your responses.</p>	

Specialised services

Question	Your response
<p>Question 11: Do you agree with our assessment of specialised services and our proposed approach?</p>	<p>As we understand it, Ofcom is proposing guidance that relaxes its requirements to offer a specialised service in two ways: (1) it is not a requirement that the ISP's general internet service cannot meet the QoS requirements to access the same content, applications, or services, only that the ISP's general internet service cannot <i>consistently</i> meet those QoS requirements; and (2) Offering a specialised service can result in some degradation of an ISP's general internet service as long as the general internet service doesn't fall below the contractual quality standards or degrade significantly, as measured by standard QoS dimensions (where there are no contractual QoS standards).</p> <p>We are generally supportive of the proposed increased flexibility in the provision of specialised services where optimisation is required for specific content, applications or services. However, we are concerned the increased flexibility could be used to lower QoS levels on standard services to levels that, at least for certain applications, effectively require</p>

	<p>consumers to purchase specialised services, which are not subject to the same net neutrality protections, at potentially higher prices.</p> <p>We also emphasise the need for regulatory oversight and a clear escalation mechanism regarding the application of the specialised services exception, including the terms and conditions under which it is operationalised (and how the definition of ‘specialised services’ is agreed and evolves over time).</p> <p>The application of the net neutrality framework to the network slicing feature of 5G networks is not fully clear to us. Building on the example in the network slicing case study at page 109 of this consultation, a public network could be configured in a way that some of the shared resources are allocated to a “slice” providing a service that is not publicly available, while other resources are allocated to providing a service that is publicly available. In this scenario, while the case study at page 109 clarifies that the non-publicly available slice falls outside the scope of the net neutrality rules, configurations or policies related to the non-publicly available slice (e.g. related to traffic management) might nevertheless affect traffic delivered using resources allocated to publicly available service.</p>
<p>Question 12: Do you agree with the approach in our guidance in Annex 5 in relation to specialised services, including transparency requirements, improved regulatory monitoring and reporting of the need for optimisation of a service, the general performance of internet access services and the impact of specialised services on the quality internet access?</p>	<p>Transparency and effective dispute mechanisms will be key to operationalising the proposed use of specialised services while avoiding discrimination. Transparency of terms and conditions of agreements should be made public (not just to participants in any offer/contract) in order to facilitate effective monitoring and competition.</p> <p>Monitoring of the application of specialised services and the other proposed changes in this consultation could place a heavy burden on Ofcom – Public transparency on the details of definitions and application processes (rather than direct reporting to Ofcom) alongside effective investigation and dispute mechanisms could make this more manageable, allowing teams to focus on potential problems rather than drowning in paperwork.</p>
<p>Please provide any further evidence you have to support your responses.</p>	

Scope of the net neutrality rules, terminal equipment and public interest exceptions

Question	Your response
<p>Question 13: Do you agree with our assessment of the terminal equipment rules and our proposed approach?</p>	<p>We understand that Ofcom is proposing to maintain that consumers should be able to use technically-compatible, consumer terminal equipment of their choice (subject to any legal restrictions) to access the internet and that ISPs should not treat traffic differently due to the end user device used. Tethering restrictions are likely to be regarded as a restriction on the use of customer terminal equipment. (This would not extend to equipment used to access specialised service.)</p> <p>All devices should be permitted to access the network and ISPs management of traffic should be independent of the device used to access that network/traffic to the extent technically feasible (ISPs should be required to support all devices based on prevailing industry standards and not discriminate based on manufacturer preferences). In addition, all ISPs should provide transparent information about what devices they do and do not support.</p>
<p>Question 14: Do you agree with our assessment of internet access services provided on aeroplanes, trains, buses and coaches and our proposed approach?</p>	<p>Although internet services provided on transport are in scope of the rule, we understand that Ofcom is proposing, given constraints on the available capacity, that it is unlikely to prioritise enforcement of the traffic management rules in these cases.</p> <p>We agree that in certain limited circumstances (such as where there is limited capacity on public transport for example) traffic management of high bandwidth use to facilitate access for more users should not be a priority for enforcement. However, this policy should not hamper innovation. I.e. not be used as a blocker to make things better such that all users can have increased access to content. And ISPs should not rely on this deprioritised enforcement as a substitute for improving service to aeroplanes, trains, buses and coaches so that ISPs do not need to apply traffic management measures in these circumstances.</p>
<p>Question 15: Do you agree with our proposed approach to emergency 999 communications services and that we should consider amending the GCs to achieve this?</p>	<p>We consider that it would be helpful to amend the general conditions to clarify that contact with emergency services should be prioritised where technically feasible, and zero rated (including when customers have no data or access is blocked or restricted).</p>
<p>Question 16: Do you agree that ISPs should be allowed to block scams and fraudulent content</p>	<p>We understand that Ofcom is unlikely to prioritise taking enforcement action against ISPs under the net neutrality rules where they block access to</p>

and provide in-network parental controls and content filters?

scams or fraudulent content and is also unlikely to prioritise taking enforcement action against the use of parental controls where these are appropriately and sensibly used.

We also agree that blocking access to scams or fraudulent content, subject to reasonable belief/evidence and reporting requirements, and allowing in-network parental controls could be beneficial for consumers and should not be a priority for enforcement.

However, CAPs need to be able to contest content being classified/blocked as fraudulent or illegal should something be interpreted as such by an ISP in error. A mechanism for regulatory intervention/dispute resolution should also be available in the event of a disagreement.

Please provide any further evidence you have to support your responses.