Your response

Netflix welcomes the opportunity to respond to Ofcom's proposed revisions to the guidance for the UK's net neutrality rules. We appreciate the thoughtful and consultative approach Ofcom has taken with a wide breadth of stakeholders. The resulting proposals are borne out of a robust body of evidence on net neutrality rules in preserving an open internet.

The record and Ofcom's findings overwhelmingly demonstrate that the net neutrality framework is not only fit for purpose, but is working well. Under the current regime, consumers enjoy affordable, unconstrained access to a plethora of new and innovative internet services and content, while at the same time ISPs continue to be profitable and invest, including in next generation networks (fibre).

Netflix would like to reinforce two of Ofcom's most notable conclusions. First, there is no evidence to suggest that imposing a fee regime enabling Internet Service Providers (ISPs) to charge Content and Application Providers (CAPs) for carrying or prioritising general internet access traffic is justified; on the contrary experience suggests that it would be harmful. Second, that no change to the current legislation framework is necessary, as it already offers sufficient flexibility, nor can any change be justified in light of the many potential risks that may follow from relaxing the law.

On the matter of ISPs charging CAPs fees to access their network

Large ISPs have been campaigning over the past months in favour of imposing a charging regime to impose fees on CAPs to access ISP networks. In its assessment of the issue, Ofcom acknowledges "*the difficulties that designing an effective scheme raises, the risks and uncertainty such a change could create, and the unclear impact on consumers."* Ofcom further concludes that *"A charging regime would be a significant step and we have not yet seen sufficient evidence that such an approach would support our objectives at this time*.". Netflix agrees that the assumptions on which the fees are proposed are incorrect, and that the harms of such fees have been widely evidenced.

The first assumption behind a charging regime is the notion that CAPs 'cause' traffic on networks, and would be incentivised to be more efficient if charged a fee. This notion is wrong. End users cause traffic to flow when they use the internet connections they pay for to access content and services of their choice. In the case of entertainment, it is very clear. Netflix for example does not "generate" internet traffic, *end users* generate traffic when they want to enjoy their favourite movies or TV shows and press "play". Furthermore, Netflix's ongoing investment in streaming efficiency (local caching, encoding), as noted by Ofcom, already indicates that it is incentivised to be efficient. Indeed, efficiency improves member experience and satisfaction, for the benefit of Netflix, its members, and ISP partners. It is worth noting in this context that the Alliance for Open Media[1], which contributes to the development of advanced video encoding technology, includes a wide range of member companies (including chip makers like ARM, device manufacturers like Samsung and CAPs like Netflix), but no large ISPs or telecom companies.

Another assumption behind the proposals to introduce access fees to ISPs networks is that internet traffic growth is unsustainable, imposing costs on ISPs that they could not recover. This is an old argument, already dispelled by Ofcom in 2008[2], concluding that "*operators [...] are able to exploit significant economies of scale that help to limit the cost increases under most scenarios*". Indeed, over

[1] https://aomedia.org/membership/members/
[2] https://www.ofcom.org.uk/__data/assets/pdf_file/0012/40323/analysyshqvs.pdf

the past 15 years, internet traffic has continued to grow substantially without network costs growing at a proportional rate. In its most recent assessment, Ofcom confirms that only 5 to 11% of overall network costs are likely to depend on internet traffic levels at peak times, and indicates that "*the evidence does not appear to suggest there are significant concerns with future investment overall, at least for the next few years*". This is consistent with research from Analysys Mason[3] commissioned by Netflix that concludes "*growing demand from end users can be handled sustainably without increasing network costs over time*".

Finally the record demonstrates that seeking network payments can lead to harmful outcomes such as the degradation of alternative routes into an ISP's network (eg. transit) in order to force the payment of an access fee. These harms have been widely documented in the past, and occasionally still occur today, and Netflix recommends regulators to pay close attention to large ISPs interconnection practices. For example, by charging a high fee, Korean Tier 1 networks have pushed content outside of the country: the OECD reports[4] that internet latency, the time it takes to load web pages in Korea, is the slowest of all developed countries, because many pages are loaded from outside the country. Some streaming services in Korea have had to reduce the quality of video content[5] because of the high costs of bandwidth.

On the inadvisability of changing the legal framework

In its review, Ofcom proposes a number of clarifications to its guidance for how the net neutrality rules should apply, to further enable ISPs to innovate and to improve customer outcomes. Netflix supports these overarching objectives, and encourages Ofcom to conduct an assessment of the internet access provision market in light of these goals in the future before permitting any additional changes.

Ofcom also references a number of open issues that would require legislative intervention to enable changes to the framework itself. On these points Netflix is firmly opposed to changing the underlying framework, which would likely precipitate well-established risks in pursuit of highly theoretical benefits, until the current proposed changes to Ofcom's guidance have been implemented, and their impact thoroughly assessed.

Weakening the net neutrality framework to introduce the possibility for ISPs to discriminate certain internet content or services, whether to prioritise their delivery, tra, or to allow exclusive access (upon expiry of a data cap), would directly contradict net neutrality principles and introduce significant risks. It would limit and/or exclude access to certain content/applications, and materially reduce consumers' choice. In our original submission, Netflix showed how such discriminatory practices would in particular affect data-intensive applications such as video streaming. Ofcom also notes that prior to the framework being in place, such discriminations have mainly been used to restrict the use of terminal equipment (e.g. tethering) or to throttle certain popular applications (peer-to-peer file sharing, VoIP services such as Skype, or video streaming services such as BBC iPlayer), and we can expect such negative consumer outcomes to proliferate again should the framework be weakened. In the end, such practices will undermine an open internet, reduce competition and the number of services offered to consumers, in direct contradiction with Ofcom's goals.

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[3] https://www.analysysmason.com/consulting-redirect/reports/netflix-open-connect/

[4] https://www.oecd-ilibrary.org/science-and-technology/broadband-networks-of-the-future_755e2d0c-en

[5] https://www.sportskeeda.com/esports/news-twitch-testing-peer-to-peer-technology-korea-despite-potential-privacy-concerns, https://www.joongang.co.kr/article/23683023#home

Lastly, changing the framework to allow for discriminatory traffic management techniques in events of congestion or to manage performance, is unlikely to provide real benefits, considering that networks and applications already have flexibility and incentives to manage congestion and improve performance. ISPs and CAPs already cooperate to make network design fault tolerant and resilient: Netflix partners with ISPs in the UK to deliver content from more than 150 separate caching locations. This localisation of interconnects limits the impact and reduces congestion risk and transit costs while improving quality for end-users. Furthermore, internet transport protocols (TCP, QUIC) already include congestion control mechanisms, and so do many services at the application level: Netflix, for instance, adapts its streaming bitrate to network conditions in real time, to reduce the risk of buffering events while members enjoy our content.

Ultimately, the best way to solve congestion issues and to provide better service to end-users is to ensure the networks are built with sufficient capacity, which - as indicated above - does not result in higher costs over time. The best example that the current framework is fit for purpose to handle congestion is the ease with which UK networks were able to handle increased traffic on their networks during the Covid-induced lockdowns of 2020/21[6]. The current net neutrality framework enables abundance of internet connectivity for UK end-users, and changing it to a framework that encourages scarcity and scarcity management would be a dramatic step back.

In conclusion, we would again like to thank Ofcom for its evidence-based approach. We agree strongly with Ofcom's conclusions on the risks and inadvisability of ISPs charging CAPs for access to their networks. We finally restate our clear and reasoned opposition to changing the legislative framework governing net neutrality in the UK, in light of the proven risks and unlikely benefits.

[6] https://newsroom.bt.com/the-facts-about-our-network-and-coronavirus/