

Comments to: pm@berec.europa.eu

Response to “An Assessment of IP-Interconnection in the context of Net Neutrality”

The opportunity to provide feedback on this consultation is welcomed, and thank you to BEREC for the effort in compiling this consultation document.

As noted by BEREC, IP interconnection is not directly related to network neutrality, as long as all traffic is treated equally, normally through the “best efforts” principle. The best efforts principle is implemented through peering and transit interconnection relationships between IP network operators.

From experience, it seems clear that the IP interconnection market is competitive, efficient, and low-overhead. By some measures, this market has resulted in IP transit rates that are five orders of magnitude smaller than voice interconnect rates. By this measure, the market is working, and widespread regulatory intervention is not required.

From this document, it is clear that BEREC has a good understanding of the IP interconnection market, the relevant players, their positions in the market, and their interactions. This response to the consultation will therefore focus on replying to only selected questions in the consultation document where additional context or information may be useful.

Q2: In (d) it is noted that CAPs do not currently make any direct payments to ISPs providing connectivity to CAUs. This may not be the case if the CAP has internalised network functions normally provisioned by others - in this case they may pay certain ISPs for “paid peering”. Also, if the CAP uses a CDN, that CDN may then pay an ISP for delivery of traffic to the ISP. There may also be other commercial relationships between a CAP and ISP that may involve payment in one direction or the other - for example an advertising or content partnership.

Q4: In the classification of ISPs, it should also be noted that there are eyeball ISPs who have “vertically integrated” and become (near) “Tier 1” backbone ISPs too.

Q6: Traffic ratios are one consideration in peering relationships. There can be an imbalance in the flow of traffic and both parties can still be better off than they would be without the peering relationship. As well as traffic ratios, routing policies (hot potato vs cold potato) and points of interconnection have to be considered too. Certain large eyeball ISPs use peering ratios as a reason to refuse peering where this would otherwise be beneficial to both parties, in order to try and force a better result for the eyeball ISP, by extracting a payment from the network with the unbalanced traffic flow.

Q7: Transit and peering markets are related and should not be considered separately. By definition, a peering relationship requires reaching an agreement with the peer network - there is no alternative. However, if a peering agreement cannot be reached, for whatever reason, the ability to reach that network with a reasonable degree of quality via alternative transit paths is critical. The ISP’s action in Q6 above is reasonable (although possibly misguided), providing there are realistic alternative transit paths

to reach the ISP's users. This is where vertically integrated ISPs with little or no transit connectivity have the potential to extract monopoly rents, due to the lack of reasonable alternative delivery paths.

Q8: An imbalance in traffic flows may not justify paid peering, and even if it does, the direction of payment could be in either direction. Each party in the peering arrangement has to evaluate the cost and value of the proposed peering relationship to determine any payment flow. A flow of traffic does not equate to a flow of value.

Furthermore, IP traffic carriage is based on a "request-response" mechanism – a small request from an ISP's user could lead to a large response from a CAP. In this case it is the ISP that is satisfying a request from their user – and in some cases they could be receiving a per Megabyte fee from the user, especially on mobile networks. Some operators' demands for a "sending party network pays" arrangement (as in the recent ETNO proposal to the ITU) presents a challenge in defining who is the "sending party" – if it is the ISP's users who are making the request, then the flow of funds should potentially be from ISPs to CAPs.

Q14: It is unlikely that traffic classification or QoS differentiation for Internet traffic will ever become widespread, due to the challenges identified by BEREC. In the interests of innovation, competition and entrepreneurship in content and application services, regulators should ensure that there is always a sufficient "best efforts" path to users, to prevent the largest and most profitable CAPs being able to entrench their position through application of differentiated QoS.

Q19: There are a number of reasons why some network operators call for compensation for carriage of traffic. Fundamentally, some large eyeball ISPs would like to intermediate between their subscribers and the content and services that their subscribers demand. Intermediation allows them to act as a "gateway" or "tollbooth" for CAPs to reach users, and in markets with insufficient access network competition, ISPs can then demand monopoly rents for access to their subscriber base.

Whether this intermediation is done by demanding payment for traffic carriage (paid peering), implementing differentiated quality of service, traffic management against individual CAPs, transparent transcoding and proxying, or even outright blocking of certain services, these are all ways of the ISP inserting themselves into the value chain between subscriber and CAP, contrary to Article 8 of the Framework Directive.

This is why access network competition is so important - in markets where there is sufficient competition, such issues do not arise, and ISPs compete on price, variety of services, and quality of experience to users.

Q20: CDNs do not violate the "best effort" principle, as long as that CDN does not exploit either (a) an exclusive arrangement with the ISP or carrier or (b) implement differentiated quality of service on content delivered via that CDN through the ISP. In many cases CDNs can help enhance the "best efforts" principle by freeing up backbone and long-haul capacity for other traffic, removing bottlenecks and improving performance for all services.

Q22: There are a very small number of eyeball ISPs who have become (near) “Tier 1” vertically integrated networks, and this number is almost static.

Q23: Vertically integrated “Tier 1” ISP have significant market power due to the lack of viable alternative transit paths to reach that ISP.