

POLICY BRIEF

AT A GLANCE

The European Commission has launched a consultation on the question whether data traffic-intensive over-the-top (OTT) providers should contribute to the network expansion costs of telecommunications companies. Currently, the Monopolies Commission does not consider a regulatory intervention to be justified that forces OTT providers to pay telecommunications companies:

- According to the current assessment of the Monopolies Commission, new conditions in peering and transit markets do not legitimize a contribution for network expansion costs, because it is not apparent that OTT providers exploit their increased bargaining power.
- There are no indications that a redistribution mechanism between OTT providers and telecommunications companies would improve the market situation. However, such intervention may cause distortions of competition.
- The financial resources for fixed and mobile network expansion are sufficient.

A contribution from data traffic-intensive over-the-top (OTT) providers to the costs of telecommunications network expansion should be rejected!

According to European telecommunications network operators, the exponential growth of Internet

data traffic caused an insufficient return on their network investment. For this reason, they are

calling for an "infrastructure fee" from large OTT providers. However, there is a risk that such a fee will significantly distort competition in various markets of the Internet ecosystem.*

The European Declaration on Digital Rights and Principles for the Digital Decade states the goal of "*creating appropriate framework conditions such that all market participants [...] contribute fairly and proportionately to the costs of public [...] infrastructures*".¹ This goes hand in hand with calls by major European telecommunications companies such as Deutsche Telekom, Orange, Telefónica and Vodafone for data traffic-intensive OTT providers such as Alphabet, Amazon, Apple, Meta, Microsoft and Netflix to contribute directly to the costs of a nationwide roll-out of gigabit-capable fixed and mobile networks.²

In this so-called "fair share" debate, the large telecommunications companies argue that five to six OTT providers generate a large part of the total data traffic, which places a heavy burden on their networks. At the same time, however, the network investments required by increasing data traffic are primarily borne by telecommunications companies, while OTT providers "free ride" by generating high revenues based on the infrastructure provided. However, this argument does not take into account that end users pay telecommunications companies for the Internet data traffic they generate. An additional fee to be paid by (individual) OTT providers to the telecommunications companies has already been discussed extensively in the past, as part of the net neutrality debate.³

Changing conditions in peering and transit markets do not justify a contribution to network expansion costs

The interconnection of networks of telecommunications and Internet companies, which jointly form the Internet, takes place either via transit links or directly between parties based on bilateral peering agreements.⁴



IP INTERCONNECTION⁵

- **Transit** is generally used by smaller Internet or telecommunications companies. For these companies, it is too expensive to interconnect directly with all major network operators on the Internet. Therefore, they buy a transit connection from a major network operator, which provides indirect access to the entire Internet. IP transit is subject to a fee and charged based on data traffic volume.
- **Peering** means that two or more Internet or telecommunications companies agree to directly connect their networks to mutually exchange traffic. Under **public peering**, several players are interconnected via Internet Exchange Points (IXPs), while under **private peering** two players connect bilaterally. Private peering can be distinguished according to whether one player pays the other for the interconnection. **Paid peering** refers to small telecommunications network operators with a lot of incoming but little outgoing data traffic that pay a fee for the difference in data flows. **Settlement-free peering** is the predominant form of IP interconnection.
- Usually, direct interconnection with all major network operators via peering ensures a higher quality than an indirect connection via transit.

With transit and paid peering, the exchange of data between the parties' networks is billed according to the data traffic capacity required. In particular, the increasing popularity of video streaming services has been driving Internet data traffic growth for years. Internet data traffic is mainly concentrated among a few players (i.e., Alphabet, Meta, Netflix, Apple, Amazon and Microsoft), whose content and services account for around half of total data traffic.⁶

When telecommunications companies and OTT providers do not adequately scale capacity in their networks or at interconnection points, end users may experience delays and interruptions.⁷ Large OTT providers are increasingly investing in their

own network infrastructure such as core networks and decentralized on-net content delivery networks (CDNs). On-net CDNs store content on globally distributed cache servers that are located at last-mile network operators' networks and forward this content from there directly to end users. This reduces the data traffic in those parts of the network infrastructure that are provided by the telecommunications companies, while at the same time the transmission quality is increased.⁸ The resulting network relief is associated with a loss of power for the telecommunications companies, which strengthens the relative bargaining power of OTT providers in interconnection negotiations. Accordingly, "settlement-free" peering agreements are increasingly concluded and the number of IP transit connections is decreasing, with the result that transit prices have been decreasing for years.⁹ The goal of telecommunications companies is to negotiate more paid peerings with OTT providers.

The loss of importance of the telecommunications companies compared to the large OTT providers is a sign that the Internet hierarchy has become flatter.¹⁰ However, relations between telecommunications companies and large OTT providers are primarily characterized by the common goal of ensuring a high-quality end-user experience. This is because the relationship is characterized by complementarities between the network and service layers. Thus, telecommunications companies and OTT providers are mutually dependent on each other as regards their business success. Internet access is the more attractive for end users the more services and content they can reach. The quality of the individual OTT services and content as perceived by end users is in turn largely dependent on powerful telecommunications networks that enable high transmission quality. Therefore, the quality of the end users' experience is influenced both by infrastructure as well as by services and content. Finally, it can be observed that the boundaries between telecommunications companies and OTT providers are becoming increasingly blurred. More and more telecommunications companies are offering content and services themselves, and more and more OTT providers are operating their own network infrastructure.

In this reciprocal relationship, the bargaining power has shifted in some cases from the telecommunications companies, who often have market power, to the OTT providers, some of whom also have market power. However, this is only problematic if OTT providers exploit their market power. At

present, this is not apparent to the Monopolies Commission. IP interconnection markets are characterized by free negotiation without interconnection obligations. According to the Body of European Regulators for Electronic Communications (BEREC), there has been no (noticeable) increase in disputes in IP interconnection markets that would indicate an abuse of market power.¹¹ If several OTT providers were to abuse their power, disputes and problems with end-user implications, especially with these OTT providers, would increase.

Thus, the Monopolies Commission is currently of the opinion that there is no need for regulatory intervention in peering and transit markets. The Monopolies Commission also observes no evidence of free-riding by large OTT providers on networks of telecommunications companies, since end users already pay a fee for the network infrastructure in order to be able to access services and content of OTT providers. If abusive behavior by OTT providers is identified in the future, sector-specific telecommunications law and general competition law already comprise instruments for countering abuse of market power. Whether an additional legal basis for intervention is required can only be answered once abusive behavior has been clearly identified.

Direct payments from OTT providers to telecommunications companies threaten to distort competition

Irrespective of the fact that there is currently no apparent need for regulatory intervention in peering and transit markets, the proposed mechanism of an obligation to negotiate direct payments with OTT providers is also particularly problematic because individual payment agreements can lead to distortions of competition. Therefore, the "Sending Party Network Pays (SPNP)" model shall be enforced. The telecommunications companies would thus achieve two payment flows via end users and via certain OTT providers.¹²

An additional payment from (individual) OTT providers to telecommunications companies entails the risk that services and content from these providers will become more expensive and end users will be charged twice. On the one hand, via the price of the Internet access service and, on the other, via the potentially increasing price of the OTT provider's service or content. Moreover, some of the OTT providers may be able to

pass on costs to end users due to their strong market position, while other OTT providers may not be able to do so because of their exposure to competition.

If this is the case, it contradicts the basic idea of the EU Net Neutrality Regulation (Regulation (EU) 2015/2120) that OTT providers with strong market power should not have any structural advantages in the use of telecommunications networks. The core purpose of this regulation is to prevent abuse of market power by the last-mile network operator.¹³ This is because telecommunications companies with market power, who can negotiate both price and transmission quality with each OTT provider individually, can induce considerable distortions of competition at the level of OTT providers. As a result, some OTT providers have to pay network fees and others do not.¹⁴

i **SENDING PARTY NETWORK PAYS (SPNP) MODEL IN SOUTH KOREA HAS DISASTROUS CONSEQUENCES¹⁵**

- In 2016, a regulation introduced the SPNP principle in South Korea, which obliges large domestic and foreign OTT providers to pay network fees to the local telecommunications companies. The associated obligation to negotiate so far led to Google and Netflix refusing to interconnect, while Amazon, Apple and Meta pay network fees.
- In South Korea, this has weakened competition between telecommunications companies, because retail prices have risen and some OTT providers can now only be reached via IP transit, which in turn reflects a deterioration in the quality of their services. The variety of services and content as well as network infrastructure investments are also declining.

In addition, distortions can arise between telecommunications companies if different network fees are agreed with the respective OTT provider depending on size or bargaining power of the telecommunications company. **The Monopolies Commission therefore rejects (individually negotiated) direct**

payments from OTT providers to telecommunications companies, as they may result in extensive distortions of competition.

Financial resources for fixed and mobile network expansion are sufficient

With its gigabit strategy, the German government is pursuing the goal of providing 50 percent of all households and companies with fiber access by 2025 and 100 percent by 2030.¹⁶ There is no evidence suggesting these goals are jeopardized by a lack of financial resources for network investments. According to numerous small and medium-sized telecommunications companies, sufficient capital is available from private investors for network expansion of telecommunications networks in Germany to achieve these objectives.¹⁷ Moreover, there are public subsidies with high funding levels. There is even concern that state funding could crowd out the companies' own investments and that the high level of funding available could drive up equipment prices rather than accelerate network expansion.¹⁸

According to estimates by the European Commission, the EU connectivity target of "Gigabit for everyone by 2030" will create an investment gap of EUR 174 billion, and there may be differences across Europe in terms of network investments and burden sharing required to achieve it.¹⁹ However, the political question of who should pay what share of these network infrastructure investments would be better resolved via taxation as an efficient redistribution mechanism.

Conclusion

From an overall perspective, the Monopolies Commission does currently not observe any evidence that OTT providers are imposing an excessive burden on capacities of telecommunications companies legitimizing an additional contribution to network expansion costs of telecommunications companies. Currently, there is no evidence of abuse of market power in IP interconnection markets, nor of structural underinvestment in telecommunications networks. Therefore, the Monopolies Commission rejects an "infrastructure fee" or an individually negotiated network fee. The Monopolies Commission recommends caution with regard to possible EU legislation for an "appropriate" balance between telecommunications companies and OTT providers.

* The Commission member Ms. Dagmar Kollmann, member of the Supervisory Board of Deutsche Telekom AG, was not involved in any way in the preparation or drafting of this Opinion.

1 European Commission, A European Declaration on Digital Rights and Principles for the Digital Decade, COM(2022) 27 final, 26.01.2022, <https://digital-strategy.ec.europa.eu/en/library/declaration-european-digital-rights-and-principles>; Exploratory Consultation on the future of the electronic communications sector and its infrastructure, <https://digital-strategy.ec.europa.eu/en/consultations/future-electronic-communications-sector-and-its-infrastructure>. The European Commission is asking for mechanisms such as 1) direct payments from OTT providers to telecommunications companies, 2) a fund solution, or 3) a solution within the universal service framework. However, the design of both the fund solution and the universal service solution is largely unclear.

2 ETNO, Joint CEO Statement: Europe needs to Translate its Digital Ambitions into concrete Actions, 29.1.2021. <https://etno.eu/news/all-news/717-ceo-statement-2021.html>; ECTA, Statement on suggested contribution to network investment ("fair contribution" debate), 13.09.2022.; Frontier Economics, Estimating OTT Traffic related Costs on European Telecommunications Networks, 31.03.2022. https://www.telefonica.com/es/wp-content/uploads/sites/4/2022/05/2022-03-30-Frontier_Fair-Share_FINAL-REPORT.pdf; Axon Partners Group, Europe's Internet Ecosystem: Socio-economic Benefits of a fairer Balance between Tech Giants and Telecom Operators, 2022, S. 1. <https://etno.eu/downloads/reports/europes%20internet%20ecosystem.%20socio-economic%20benefits%20of%20a%20fairer%20balance%20between%20tech%20giants%20and%20telecom%20operators%20by%20axon%20for%20etno.pdf>.

3 Hildebrandt, C. & L. Wiewiorra, The Past, Present and Future of (Net) Neutrality: A State of Knowledge Review and Research Agenda, Journal of Information Technology, 2023. <https://doi.org/10.1177/02683962231170891>. The net neutrality principle requires last-mile network operators to treat all data packets equally when they are transmitted through the open Internet, regardless of the sender and recipient, the content of the data packets, and the application. This is because a last-mile network operator may not prioritize data traffic (non-discrimination rule) and may not charge OTT providers for the transmission of data packets to end users (zero-price rule).

4 BEREC, Report on the Internet Ecosystem, BoR (22) 167, 2022. https://www.berec.europa.eu/system/files/2022-12/BoR%20%2822%29%20167%20%20BEREC%20Report%20on%20the%20Internet%20Ecosystem_0.pdf; AnalysysMason, IP Interconnection on the Internet: A White Paper, 2020. <https://www.analysysmason.com/contentassets/f0a00cc9ba3946bdb5e0be2f46396f04/analysysmason---ip-interconnection-white-paper-210520.pdf>.

5 WIK-Consult, Competitive conditions on transit and peering markets, Study for the Federal Network Agency, 12.04.2022, Bad Honnef. https://www.bundesnetzagentur.de/EN/Areas/Telecommunications/Companies/Digitisation/Peering/download.pdf?__blob=publicationFile&v=1.

6 Sandvine, Global Internet Phenomena Report, 2022. For example, services and content from Alphabet, Meta, Netflix, Apple, Amazon, and Microsoft accounted for nearly 57% of all Internet traffic in 2021. <https://www.sandvine.com/global-internet-phenomena-report-2022>.

7 In the core network (backbone), the network is dimensioned on the basis of peak-load traffic. Therefore, no additional (incremental) costs result from additional data traffic at non-peak times. If the capacities are not sufficient, the routers and switches must be upgraded, i.e., one-time investment from which economies of scale arise. For the most part, fixed networks are not data traffic sensitive and their costs are recovered through payments from end users over time. Mobile networks are data traffic sensitive to a certain extent, e.g., when new base stations have to be built to expand capacity. However, this situation is already taken into account by tariffs with limited data volumes.

8 A further reduction in data volume and thus relief for the networks can be achieved, for instance, with the use of compression technologies or an adjustment of the bit rate to the screen size.

9 WIK-Consult, Competitive conditions on transit and peering markets, Study for the Federal Network Agency, 12.04.2022, Bad Honnef. https://www.bundesnetzagentur.de/EN/Areas/Telecommunications/Companies/Digitisation/Peering/download.pdf?__blob=publicationFile&v=1. For example, Deutsche Telekom generally only offers OTT providers the transmission of Internet traffic via transit, only peers with large Tier-1 core network operators, and does not allow on-net CDNs on its network.

10 BEREC, Report on the Internet Ecosystem, BoR (22) 167, 2022. https://www.berec.europa.eu/system/files/2022-12/BoR%20%2822%29%20167%20%20BEREC%20Report%20on%20the%20Internet%20Ecosystem_0.pdf.

11 BEREC, Preliminary assessment of the underlying assumptions of payments from large CAPs to ISPs, BoR (22) 137, 2022. https://www.berec.europa.eu/system/files/2022-10/BEREC%20BoR%20%2822%29%20137%20BEREC_preliminary-assessment-payments-CAPs-to-ISPs_0.pdf.

12 ETNO, Joint CEO Statement: Europe needs to Translate its Digital Ambitions into concrete Actions, 29.1.2021. <https://etno.eu/news/all-news/717-ceo-statement-2021.html>; ECTA, Statement on suggested contribution to network investment ("fair contribution" debate), 13.09.2022. https://www.ectaportal.com/images/Press_Releases/ecta_statement_on_suggested_contribution_to_network_investment_13_September_2022.pdf; Frontier Economics, Estimating OTT Traffic related Costs on European Telecommunications Networks, 31.03.2022. https://www.telefonica.com/es/wp-content/uploads/sites/4/2022/05/2022-03-30-Frontier_Fair-Share_FINAL-REPORT.pdf.

13 Hildebrandt, C. & L. Wiewiorra, The Past, Present and Future of (Net) Neutrality: A State of Knowledge Review and Research Agenda, Journal of Information Technology, 2023. <https://doi.org/10.1177/02683962231170891>.

14 If only data traffic-intensive OTT providers are to pay for the transmission of their data traffic to (large) network operators - but not other OTT providers - this could also be a form of discrimination and thus possibly conflict with Net Neutrality Regulation. The European Court of Justice (CJEU) had recently interpreted this regulation strictly, such that the introduction of an "infrastructure fee" without a legal basis at Union level would be associated with considerable legal uncertainties, see CJEU, Judgement from 2.9.2021, C-34/20 – ECLI:EU:C:2021:677, CJEU, Judgement from 2.9.2021, C-854/19 – ECLI:EU:C:2021:675, CJEU, Judgement from 2.9.2021, C-5/20 –

ECLI:EU:C:2021:676, see also Monopolkommission, 12. Sektorgutachten Telekommunikation (2021): Wettbewerb im Umbruch, 2022, Nomos, Baden-Baden, Tz. 143 ff.

15 WIK-Consult, Competitive conditions on transit and peering markets, Study for the Federal Network Agency, 12.04.2022, Bad Honnef.
https://www.bundesnetzagentur.de/EN/Areas/Telecommunications/Companies/Digitisation/Peering/download.pdf?__blob=publicationFile&v=1.

16 Bundesregierung, Gigabitstrategie, 13.07.2022.
https://bmdv.bund.de/SharedDocs/DE/Anlage/K/gigabitstrategie.pdf?__blob=publicationFile.

17 BREKO, Response to the Public consultation on the draft BEREC Guidelines on the Implementation of the Open Internet Regulation, 14.04.2022.

https://www.berec.europa.eu/sites/default/files/files/document_register_store/2022/6/BoR_PC_05_%2822%29_06_BREKO.pdf; MVNO Europe, Position Paper on Network Investment Contributions, 30.08.2022.
<http://mvnoeurope.eu/wp-content/uploads/MVNO-Europe-Position-on-contributions-to-network-investment-3008.pdf>.

18 Monopolkommission, 11. Sektorgutachten Telekommunikation (2019): Staatliches Augenmaß beim Netzausbau, 2020, Nomos, Baden-Baden.

19 European Commission, Exploratory Consultation on the future of the electronic communications sector and its infrastructure, <https://digital-strategy.ec.europa.eu/en/consultations/future-electronic-communications-sector-and-its-infrastructure>; A European Declaration on Digital Rights and Principles for the Digital Decade, COM(2022) 27 final, 26.01.2022, <https://digital-strategy.ec.europa.eu/en/library/declaration-european-digital-rights-and-principles>.

The Monopolies Commission is a permanent, independent body of experts that advises the Federal Government and legislative bodies in the fields of competition policy, competition law and regulation. The Monopolies Commission consists of five members that are appointed by the Federal President on the recommendation of the Federal Government. Prof. Dr. Jürgen Kühling, LL.M., is the chairman of the Monopolies Commission.

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