EPICENTER .WORKS for digital rights

27 September 2023

BEREC Submission

Workshop on the IP interconnection ecosystem

Introduction

We want to thank BEREC for investigating the inter-connection (IP-IC) situation in Europe and to invite us to this workshop. The following written submission provides background and sources to our oral testimony. In the hearing we have the mandate to represent our umbrella organisation European Digital Rights (EDRi), but due to time constraints this paper is in the name of Epicenter.works only.

In the following section we will answer the BEREC questionnaire for civil society stakeholders.

Question 1: Are you aware of incidents where IP-IC disputes lead to problems for end-users (e.g. lower latency)? If yes, could you please elaborate?

Yes, customers of incumbent, large ISP have been complaining about IP-IC for a long time. Since we have worked on net neutrality for over a decade, we received many such complaints in our role as digital rights organisation from both consumers and Content and Application Providers (CAPs). Also publicly many of those complaints can be found online with a simple web search[1]. Interestingly, those complaints concern problems that only occur with very large ISPs like Deutsche Telekom and only at night times when internet traffic is peaking and transit is most congested.

Such complaints often concern online games which are sensitive to latency and in many cases do not have the deep pockets to pay the exorbitant IP-IC fees of the large ISPs. These user complaints can be found on independent sites such as reddit, steam and discord, but also in the support forum of the ISPs themselves. Often the same problems of a particular ISP with a particular CAP are discussed in multiple forums by multiple users[2].

Also large video streaming providers do not seem to be immune to these problems[3]. CDNs experience similar problems and these extend to their DNS services[4]. There is a large amount of user complaints

1 Example of such DuckDuckGo/Startpage/Google searches are “$name_of_large_isp” + “$name_of_game” “problem/problems/latency/peering”.

2 Gaming Forum: https://forums.eveonline.com/t/20220819-verbindungsprobleme-deutschland-connection-issues-germany/374148/70 and https://forums.eveonline.com/t/our-servers-are-fine-everything-is-working-perfect/364523/21 Corresponding DT forum entry: https://telekomhilft.telekom.de/t5/Festnetz-Internet/BGP-Flaps-Long-lived-TCP-Connections/td-p/5814336 Reddit: https://www.reddit.com/r/Eve/comments/uzj3vv/our_servers_are_fine_everything_is_working_perfect/

3 https://telekomhilft.telekom.de/t5/Festnetz-Internet/Amazon-Prime-mit-500-MBit-Glasfaser-Anschluss-sehr-geringe/td-p/6280289/ and https://telekomhilft.telekom.de/t5/Festnetz-Internet/Amazon-Prime-Video-in-Abendstunden-gestoert-Peering-Probleme-PLZ/m-p/6307300#M2118846

4 https://telekomhilft.telekom.de/t5/Festnetz-Internet/Routing-zu-Cloudflare-abends-schlecht-hoher-Ping/m-p/6247572#M1790814, https://telekomhilft.telekom.de/t5/Festnetz-Internet/Routing-zu-Cloudflare-abends-schlecht-hoher-Ping/td-p/6247572 or https://telekomhilft.telekom.de/t5/Festnetz-Internet/3-Tage-Cloudflare-Probleme/td-p/6313070 Speedtest in that thread with huge packet loss: https://telekomhilft.telekom.de/t5/Festnetz-Internet/3-Tage-Cloudflare-Probleme/td-p/6313070?attachment-id=115578

on X (formerly Twitter) that concern the connection to Cloudflare and Github from the network of Deutsche Telekom[5]. Often these problems are not temporary, but persistent over years[6].

In online discussions many of these problems are investigated by the technical community and sometimes include the CAPs offering information about their service not being the origin of the problems. In many cases the problem can be identified as only being applicable to the customers of a particular ISP and traffic streams who's route can be traced to large transit providers like Level3[7].

In some cases the ISP even recognizes the problems of their customers, attributes them to the IC-IP situation with that particular CAP, but denies all responsibility to mitigate this problem[8]. In other cases template responses are provided by the ISP that do not alleviate the problem of the users[9]. These situations sometimes leave the customers no other choice than to terminate their contract with the particular ISP[10]. We assume the cases were customers terminate their contract to actually be in the minority, since in many cases customers will not be able to attribute the problems of a particular application or service to the IP-IC situation with their ISP and even in the few cases where that is the case, switching costs and lack of competition between ISPs make switching even less likely.

Question 2: How would you assess the recent developments in the IP-IC market from the perspective of civil rights?

The IP-IC situation has certainly deteriorated in recent years, in particular since the network fee / "fair share" debate has started. These problems have always been focused on large, incumbent ISPs and in particular their home market (e.g. Deutsche Telekom in Germany). It is a fact that deserves much more attention, that certain, very large ISPs are operating their networks in a way which always leads to congested transit connections and also avoid peering with almost any other player in the IP-IC market[11]. While these practices were an open secret for anyone involved in the IP-IC market, increasingly consumers have experienced these problems in their daily lives. Yet, the secrecy of the IP-IC market and the common NDAs of such agreements prevent any transparent debate in light of all the facts. Many CAPs also come to us with these problems because they are afraid of repercussions should they speak out publicly. This is a dynamic that is very worrying and contrary to the open ecosystem that underpins the European net neutrality framework.

5 https://twitter.com/wiedehopf977/status/1672127728471134208, https://twitter.com/wiedehopf977/status/1464526114240573442, https://twitter.com/FuzeMid/status/1369055984052809730, https://twitter.com/Telekom_hilft/status/1638828822245277696, https://twitter.com/th3_s4int/status/1672153674724810752, https://twitter.com/_m_b_j_/status/850086483214073857 and https://twitter.com/gr1nd4/status/1508576293490774022,

6 https://community.cloudflare.com/t/dtag-cf-bad-routing-via-tata/416432 , https://telekomhilft.telekom.de/t5/Festnetz-Internet/Packetloss-und-Hohe-Latezen-zu-Cloudflare/td-p/5874268 and https://telekomhilft.telekom.de/t5/Festnetz-Internet/Cloudflare-Peering/m-p/5629182

7 https://telekomhilft.telekom.de/t5/Festnetz-Internet/peering-Probleme-zu-div-Locations/m-p/6186340#M1553594 and https://telekomhilft.telekom.de/t5/Festnetz-Internet/Stoerungen-im-PLZ-Bereich-926xx/m-p/6230210

8 https://telekomhilft.telekom.de/t5/Festnetz-Internet/Widerruf-nicht-mehr-moeglich/m-p/6026135#commentslist

9 Deutsche Telekom explanatory post that is often referenced in other forum responses by Deutsche Telekom employees: https://telekomhilft.telekom.de/t5/Festnetz-Internet/Peeringprobleme-Probleme-bei-Datenuebertragung-hohe-PING-Zeiten/ta-p/4265259

10 https://telekomhilft.telekom.de/t5/Festnetz-Internet/Routing-zu-Cloudflare-abends-schlecht-hoher-Ping/m-p/6247572#M1790814

11 What they offer is paid transit, but not (settlement-free) peering. See https://www.bundesnetzagentur.de/EN/Areas/Telecommunications/Companies/Digitisation/Peering/download.pdf?__blob=publicationFile&v=1

In particular smaller CAPs are often faced with an undue burden if they want to provide a competitive service on equal terms with Big Tech players. As transit connections towards certain big ISPs are always congested, they need to enter into commercial agreements with large ISP, who's customers they want to reach.

The customers of those large, incumbent ISPs are often faced with an impossible situation. While not all might have the technical expertise to assess the underlying cause of their problems, those that can get to the bottom of this are often quite vocal with their criticism about their ISP. Customers are already paying the ISP to access the whole internet in a quality level according to their contract. Sadly, the real quality they can obtain depends on the particular IP-IC agreement between the CAPs and their ISP.

It is vital to stress that this is not a problem with the majority of ISPs and IP-ICs market participants. As is evident in the many critical statements in the network fee / "fair share" debate, only a hand full of very large ISPs is abusing their customers as a bargaining counter to extract IP-ICs fees that are far above market average. These practices are infringing on the rights of customers and CAPs.

Additionally, it is important to stress the geographical dimension of these problems. We mostly hear complaints from end-users and CAPs that belong to the majority population in an EU country and that are more likely to use online services of local CAPs or vey large CAPs that operate globally. Both of them are more likely to have come to agreements with the incumbent ISP. Many smaller and medium size CAPs from global south countries or even other EU countries will be less visible in the public debate we discussed above and they would very often be unaware or unable of the option to pay for a dedicated IP-IC connection to that ISP. Customers that want to use internet services from another world region or even another EU country likely suffer disproportionate from the congested transit connection and the IP-IC practices outlined above. It is important to stress, that the European net neutrality framework provides particular protections against the deterioration of end-user rights based on geographical dimensions[12].

Question 3: Do you consider that the developments in the IP-IC market have an impact on the net neutrality principle?

Yes, developments as outlined above have a strong impact on net neutrality. That impact not only concerns the principle of net neutrality, but is also violating the Open Internet Regulation (EU) 2015/2120 (in the following "OiR").

All stakeholders probably agree that the EU's net neutrality framework prohibits paid fast-lanes. If only those CAPs that provide additional monetary compensation to an ISP are available to customers at preferential terms, everybody would see this as a clear violation of the non-discrimination rule. Yet, the current situation with a hand full of large, incumbent ISPs amounts to exactly this outcome for all parties involved.

The rights of end-users according to Article 3(1) to use services of their choice irrespective of their location are infringed by the IP-IC commercial practices and agreements of ISPs, which is violating Article 3(2) of the OiR. We want to highlight with the complaints from consumers quoted above, that these violations concern end-users "via their internet connection". The BEREC Guidelines[13] state in Paragraph 6:

12 See Article 3(1) of Regulation 2015/2120.
13 BoR (22) 81

> *NRAs may take into account the interconnection policies and practices of ISPs in so far as they have the effect of limiting the exercise of end-user rights under Article 3(1). For example, this may be relevant in some cases, such as if the interconnection is implemented in a way which seeks to circumvent the Regulation.*

Hence, since 2016 BEREC was of the view that such IP-IC practices that limit end-user rights under Article 3(1) have to be assessed under the OiR. Interestingly, the second sentence that exemplifies this reading contains an intent on the part of the ISP "seeks to circumvent". We would argue that the monetary interest of ISPs in their IP-IC practices qualifies as such intentional circumvention.

Additionally, the practices outlined above should also be assessed under Article 3(3) of the OiR, in particular in light of the 2021 ECJ judgements on zero-rating[14]. As the court has found that pricing and commercial treatment of traffic falls under the same obligation of ISPs to "treat all traffic equally". One could now ask the question why the amount paid by CAPs can be made dependent on their market position or why the quality of service as experienced by the consumer can be made dependent on payments received by the ISP from any particular CAP.

We see a clear mandate and obligation of BEREC and NRAs to investigate this issue further under the paradigm of net neutrality. There are clearly problems in the market that negatively impact the right of end-users to provide and use applications and services, the freedom to innovate and the internet ecosystem overall. This investigation should be conducted independently from the ongoing discussion about network fees / "fair share". While we are not in favor of regulating the IP-IC market in general, we believe the OiR already provides regulators with the mandate and obligation to intervene in individual cases where large, incumbent ISPs abuse their market position.

Sincerely,

Epicenter.works – for digital rights

14 C-854/19, C-5/20 and C-34/20