Guaranteeing net neutrality

🛈 What you need to know:

The European Open Internet Regulation guarantees access to an open Internet to more than

450 million

European citizens, notably by granting them the right to access and distribute information and content online.

35,961

tests performed in France in 2022 using the Wehe application

263

net neutrality-related

user reports

filed in 2022 through the "J'alerte l'Arcep" platform

1. NET NEUTRALITY: A FOUNDING PRINCIPLE OF THE INTERNET ENSHRINED IN LAW

Net neutrality, aka network neutrality, is a term that was coined in 2003 par Tim Wu, Professor of Law at Columbia University in New York[1]. It creates the ability to guarantee equal treatment and handling of all information streams on the Internet. Net neutrality includes the guarantee of users' freedom to access and distribute information and content on line, to use and provide applications and services, as well as having the principle of non-discrimination apply to the streams relayed across the networks that make up the internet. It therefore excludes, in particular, any positive or negative discrimination – be it technical or commercial – based on the source, destination or content of the information transmitted over the network.

The Internet's founding principles, starting with its openness by design, make it a place of freedom of expression, of communication, of access to knowledge, of freedom to share and freedom to innovate. The impetus behind the concept of Net neutrality is to safeguard users' ability to exercise these fundamental internet freedoms.

The principle of Net neutrality precludes the creation of a two-lane (or multi-tiered) internet through management methods that favour certain data streams over others (discriminatory practices), or the creation of internet access that is limited to only certain content or platforms.

Ultimately, Net neutrality safeguards the internet's openness by design, providing vital positive externalities in terms of innovation and protecting end users' rights.

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1   Tim Wu, 2023, Network Neutrality, Broadband Discrimination, *Journal of Telecommunications and High Technology Law*, vol. 2. p. 141.

European lawmakers have been protecting Net neutrality since 2016, recognising the following points in particular in the Open Internet Regulation[2]:

- users' right *"to access and distribute information and content, use and provide applications and services, and use terminal equipment of their choice, irrespective of the end-user's or provider's location or the location, origin or destination of the information, content, application or service, via their Internet access service"*[3].

- and Internet service providers' duty to *"all traffic equally, when providing Internet access services, without discrimination, restriction or interference, and irrespective of the sender and receiver, the content accessed or distributed, the applications or services used or provided, or the terminal equipment used"*.[4]

In October 2016, the Digital Republic Act (*loi pour une République Numérique*) designated Arcep as the Authority responsible for implementing the Open Internet Regulation in France. As a result, Arcep is empowered to monitor internet service providers' (ISP) practices that could violate Net neutrality, conduct investigations and impose penalties that can reach as much as 3% of ISPs' revenue.

Net neutrality allows every end user to freely decide how they use the Internet. This ability to receive and communicate information freely contributes directly to promoting a number of end users' rights, including protecting the diversity and pluralism of media content, freedom of expression and freedom to access information. Safeguarding Net neutrality also means safeguarding end users' ability to exercise their fundamental rights.
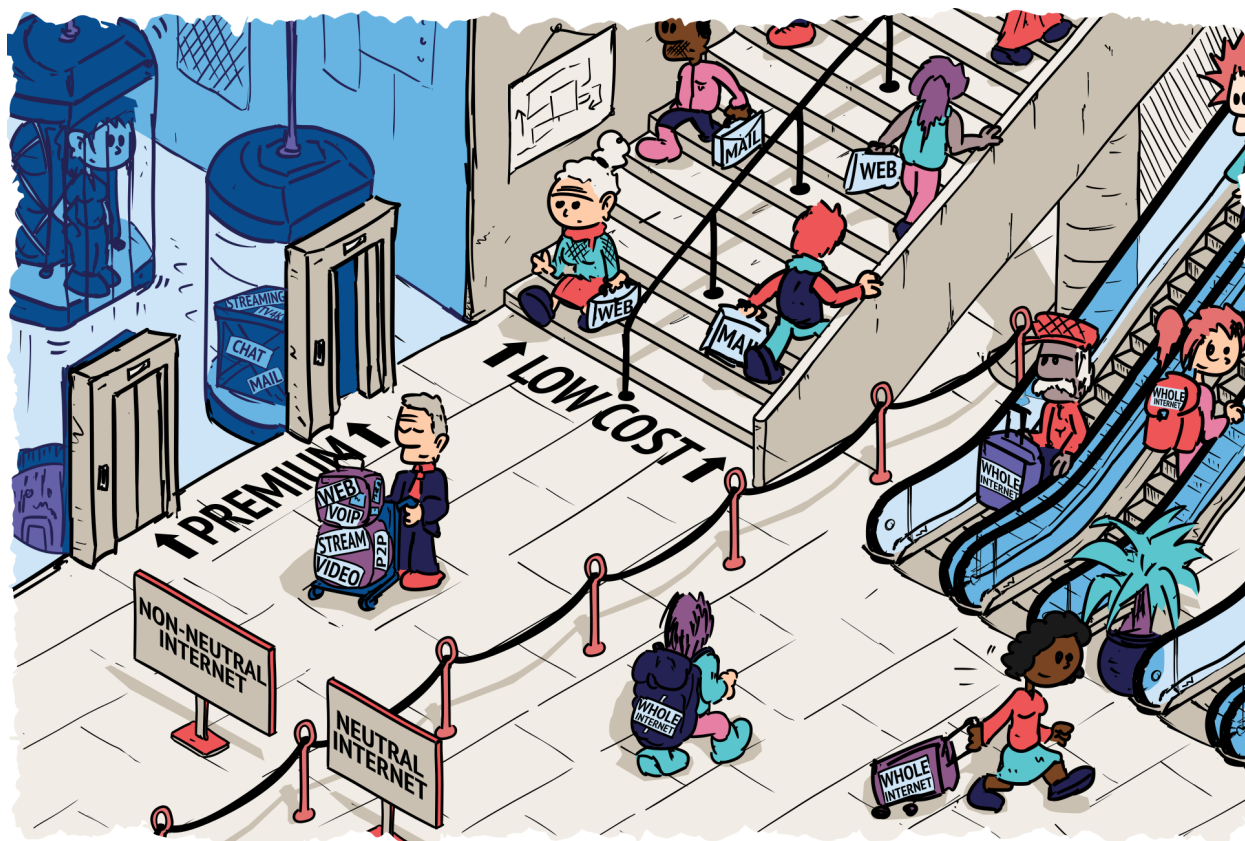
2   Regulation (EU) 2015/2120 of the European Parliament and Council of 25 November 2015 laying down measures concerning open Internet access.
3   Article 3(1) of Open Internet Regulation No. 2015/2120.
4   Article 3(3) of Open Internet Regulation No. 2015/2120.

2. ARCEP PARTICIPATION IN EUROPEAN WORK

In 2022, Arcep and its European counterparts updated the guidelines for implementing the Open Internet Regulation, as a follow-up to recent rulings handed down by the Court of Justice of the European Union (CJEU).

On 2 September 2021 the CJEU delivered rulings on three cases[5] pertaining to zero-rating practices[6] employed by two German operators: Vodafone and Telekom Deutschland. In these rulings, the Court of Justice delivered a reminder that a zero-rating option creates a distinction, based on business considerations, between internet traffic by not deducting traffic to partner applications from customers' basic data plan allowance. According to the CJEU, this type of business practice is contrary to the overarching obligation to treat all traffic equally, without discrimination or interference, as required by the Open Internet Regulation[7].

To draw all of the necessary conclusions from these rulings, the Body of European Regulators (BEREC) reviewed its Open Internet guidelines, and submitted its revisions to public consultation in March 2022[8]. The new guidelines, which were published in June 2022, maintain the structure of the previous guidelines, published in June 2020, which themselves align with the Open Internet Regulation's structure around four main themes: commercial practices, traffic management measures, specialised services and transparency obligations.

5   CJEU, 2 September 2021, Vodafone and Telekom Deutschland (cases C-854/19, C-5/20 and C-34/20).
6   Zero rating refers to practices whereby an ISP applies a zero-tariff or preferential pricing to all, or part of the data traffic generated by a specific category of application provided by one of the ISP's partners. This means that the traffic generated by the use of that service or application is not deducted from basic plan customers' data allowance. When offered as part of a plan with a set data allowance, this zero-rating option therefore allows ISPs' to bolster the appeal of their plans.
7   Court of Justice of the European Union Press release No. 145/21.
8   BEREC, 2020, Report on the outcome of the public consultation on draft BEREC Guidelines on the Implementation of the Open Internet Regulation (BoR (20) 111).

Open floor to

BARBARA VAN SCHEWICK

Professor of Law at Stanford Law School, Director of Stanford Law School's Center for Internet and Society

CONTRARY TO POPULAR PERCEPTION, NET NEUTRALITY IS NOT DEAD IN THE UNITED STATES

Most EU regulators know that the Federal Communications Commission (FCC) repealed Net neutrality in 2017 during the Trump administration. However, state laws and President Biden's election prevented ISPs from adopting many of the discriminatory practices that are no longer prohibited federally.

The US always had some form of Net neutrality. As soon as ISPs began using deep packet inspection to block and discriminate, the FCC stepped in, case-by-case, to clarify these practices were illegal.

In 2010, the FCC adopted generally applicable Net neutrality protections, including banning termination fees, the practice of requiring content providers to pay ISPs. In 2015, the FCC strengthened the protections and reclassified ISPs as common carriers.

After the 2017 repeal, many states adopted Net neutrality measures. Most notably, California comprehensively restored all the Net neutrality protections in place before the repeal. It did so by incorporating both the 2015 rules and the text of the 2015 order implementing the rules. This is similar to adopting an EU law by incorporating the Open Internet Regulation AND the BEREC guidelines that explain it.

This means California has the gold standard Net neutrality law in the US. Because of its large economy – roughly the size of Germany – California's actions resonate beyond its borders. ISPs challenged the law in court, but it survived. California is now free to enforce its law, and other states can copy it.

The Biden administration has committed to restoring Net neutrality at the federal level. But Biden's FCC nominee needs Senate approval to do so, and ISPs have prevented confirmation thus far.

What can the EU still learn from the US?

As the largest telecom companies again propose forcing online services to pay them, Europe can learn from the US experience.

Prohibiting ISPs from charging websites for delivering the traffic the ISPs' customers requested is a key Net neutrality protection. Europe's largest telecoms claim that termination fees won't violate Net neutrality, but that's not possible.

The idea first surfaced in 2005 when AT&T's CEO told the press he wasn't going to let Google and Yahoo use his pipes for free. This set off a media firestorm and a move in Congress to create the first Net neutrality law. And it's why the FCC's 2010 Net neutrality order explicitly outlawed such practices as a kind of blocking.

Termination fees re-emerged in 2012 when the five largest ISPs in the US found a loophole in the 2010 rules and began forcing online companies to pay them by refusing to alleviate congestion at interconnection points where data enters the ISPs' networks.

Any website that refused to pay was rendered nearly unusable. ISPs would simply stop upgrading the connections into their network. Tens of millions who were paying for fast internet could not

use the internet reliably during peak hours for years. Remote work was seriously disrupted. Videos wouldn't play. Online games stuttered.

The congestion only ended when companies paid the requested tolls, which were far beyond the cost of widening the connection. This didn't harm the biggest online platforms because they quickly paid, realizing it cemented their dominance. Small and medium-size companies that wouldn't pay or couldn't afford to were throttled at the door.

Termination fees also distorted competition among ISPs. Only the largest ISPs could force content providers to pay for termination, and the more customers they had, the larger the fee per customer they could demand. This gave larger ISPs an even stronger advantage over their smaller competitors.

The payment demands and congestion only stopped in 2015 when the FCC prohibited circumventing Net neutrality at the point of interconnection while continuing to ban termination fees. California adopted the same prohibitions to prevent the return of the disruptions.

The European Commission would be well served to understand what happened in the US before mandating termination fees.

REGULATORY FRAMEWORK GOVERNING NET NEUTRALITY

NOVEMBER 2015

Regulation (EU 2015/2120) of the European Parliament and Council, laying down measures concerning open Internet access

JUNE 2016

Adoption of BEREC guidelines on the implementation by national regulators of European Net Neutrality Rules BoR (16) 127

JUNE 2020

Adoption of revised BEREC guidelines on the implementation by national regulators of the Open Internet Regulation BoR (20) 112

SEPTEMBER 2020

CJEU ruling regarding Telenor (Joined cases C-807/18 and C-39/19)
First CJEU interpretation of European Net neutrality rules

SEPTEMBER 2021

Three rulings from the CJEU regarding Vodafone and Telekom Deutschland (case C-854/19, case C-5/20 and case C-34/20) – CJEU interpretation of zero-rating practices' compliance with the Open Internet Regulation

MARCH 2022

BEREC revised guidelines published for public consultation

JUNE 2022

Report on the public consultation on a new version of BEREC revised guidelines

JUNE 2022

Adoption of a new version of BEREC revised guidelines, for implementation of the Open Internet Regulation by national regulators, taking the Court of Justice of the European Union rulings into account

Source: Arcep

2022 was marked by the review of the application of the Open Internet Regulation (OIR), No. 2015/2120, and the implementation of the OIR guidelines published by BEREC to assist national regulatory authorities (NRA) in monitoring the regulation's application. BEREC drafted an opinion to the European Commission which was published in December 2022[9], delivering an assessment of the application of Net neutrality guidelines in Europe.

In its opinion, BEREC gives a positive assessment of the actions that have been taken, and concludes that the promotion and application of the Open Internet Regulation in Europe has made a significant contribution to safeguarding the internet ecosystem and to protecting end users' rights. Moreover, the rulings issued by the CJEU on its interpretation of the OIR provided greater clarity and additional legal certainty. BEREC also adds that the Open Internet Regulation allows sufficient room for the development of new technologies such as 5G. It concludes that the OIR works and continues to be adapted to its objective, and that it does not need to be revised in the coming years.

9   BEREC, Opinion for the evaluation of the application of Regulation (EU) 2015-2120 (BoR (22) 163).

Open floor to

THIAGO GARRETT

*Postdoctoral research fellow – **University of Oslo in Norway***

THE PRINCIPLE OF NET NEUTRALITY AROUND THE WORLD

The principle of Network Neutrality (NN) has been debated for over two decades. Over the years, NN has sparked interest in many different areas of society. For example, in Economy, there has been interest in how NN regulations may impact Internet economics and infrastructure expansion. In Computer Science, researchers and engineers have been interested in how to measure and detect traffic discrimination on the Internet. On top of all that, politicians make use of different opinions, analyses and evidence in order to better support their political biases and agendas.

One of the central themes of the debate revolves around whether NN should be enforced through regulations or not. Different regulatory frameworks may impact the telecommunications market differently. However, we still lack enough data to deeply understand the trade-offs inherent to this problem. Nonetheless, NN was regulated following several different approaches around the world.

Most regulations implemented worldwide are either strict and punitive, or permissive and reactive. Stricter regulations are usually implemented in the form of laws or rules enforced by regulatory agencies, and they usually establish punishments which are inflicted upon violations. Examples of stricter regulations include those from the European Union and several countries in South America. More permissive regulations are usually implemented as guidelines that should be followed by the industry. In case the guidelines are not followed, investigations may be reactively launched over the suspicious case. Examples of more permissive regulations include those from Japan and South Korea. The USA had strict rules, but they were repealed in 2017.
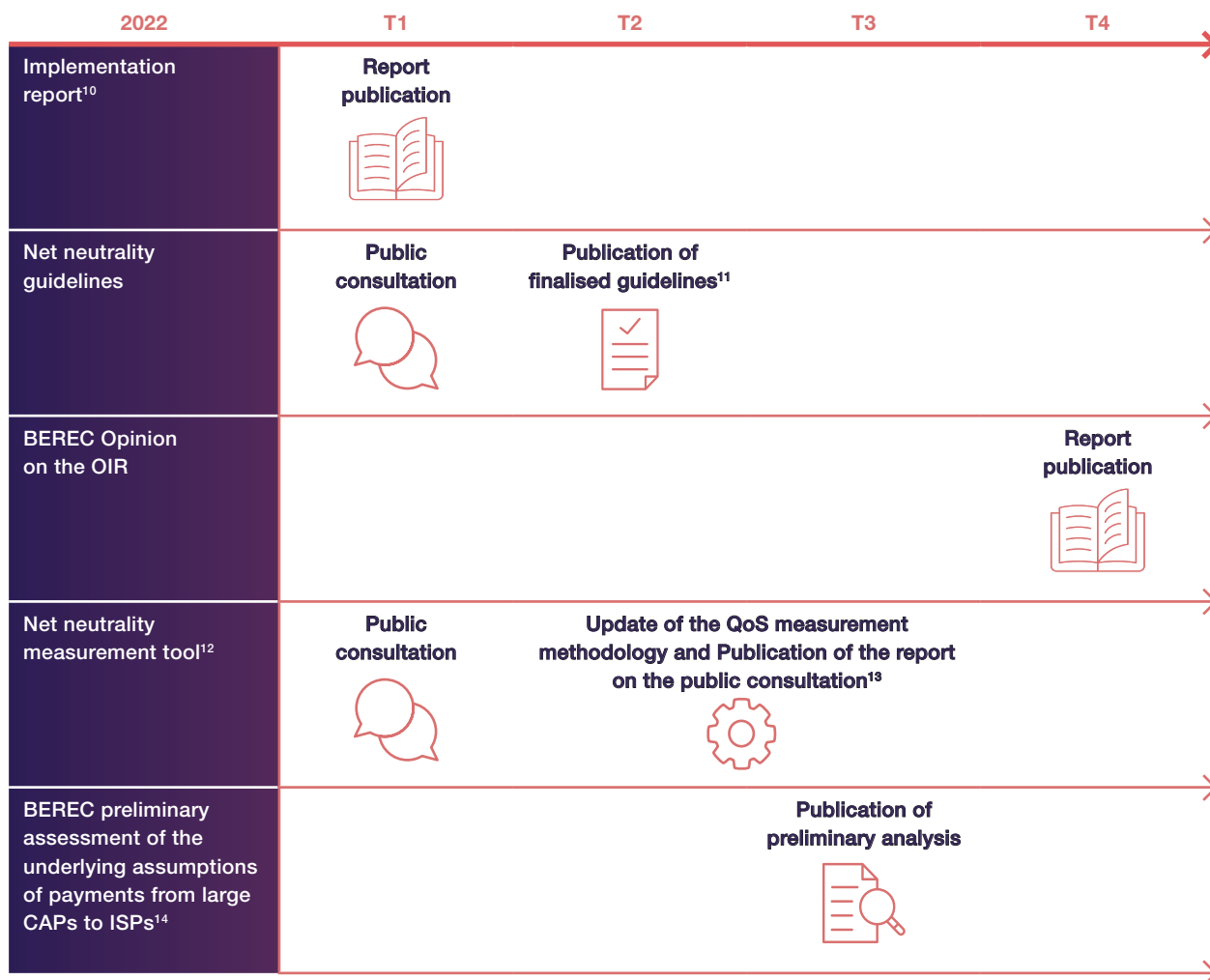
Regardless of the type of regulation, most of them touch three main topics: whether traffic discrimination is allowed or not, reasonable traffic management practices, and transparency demands for network operators. Except for the Japanese guidelines, all regulations explicitly forbid traffic discrimination. Most demand transparency on operators traffic management practices, while defining which practices are considered reasonable.

Although NN has been regulated in many places around the globe, the debate is far from over. New technologies, business models, and the expansion of telecommunication infrastructures will inevitably lead to current regulations being outdated. Emerging applications made feasible by the advent of 5G/6G and the Internet of Things will require Quality of Service guarantees that cannot be provided by the standard best-effort nature of the current Internet. The Internet Governance Forum published an extensive report in 2020 showing that the COVID-19 pandemic has demonstrated that free and non-discriminatory Internet access is essential. The European Union is currently seeking input on making technology companies help finance the expansion of telecommunication infrastructures, a practice already common in South Korea. One of the motivations is that tech companies are responsible for most of the traffic load (and thus costs) managed by network operators. However, charging tech companies extra to be able to deliver content to consumers may be in direct conflict with the current understanding of the NN principle.

As access to the Internet becomes a human right and the telecommunication market evolves, it is important to keep the main tenets of NN in mind: protecting innovation and fair competition on the Internet. The wide range of different regulations implemented worldwide gives us the opportunity to collect data and investigate how different regulatory frameworks are impacting the industry, allowing for more informed decisions to be taken when creating public policies for the Internet in the future.

CALENDAR OF BEREC'S WORK ON NET NEUTRALITY

2022	T1	T2	T3	T4
Implementation report[10]	**Report publication**			
Net neutrality guidelines	**Public consultation**	**Publication of finalised guidelines**[11]		
BEREC Opinion on the OIR				**Report publication**
Net neutrality measurement tool[12]	**Public consultation**	**Update of the QoS measurement methodology and Publication of the report on the public consultation**[13]		
BEREC preliminary assessment of the underlying assumptions of payments from large CAPs to ISPs[14]		**Publication of preliminary analysis**		

10 BEREC, 2022, _Report on the implementation of the Open Internet Regulation_ (BoR (22) 128).
11 BEREC, _Report on the outcome of the public consultation on draft BEREC Guidelines on the Implementation of the Open Internet Regulation_ (BoR (20) 111).
12 BEREC, _Net Neutrality Regulatory Assessment Methodology_ (BoR (22) 72).
13 BEREC, _Report on the outcome of the public consultation on the draft Net Neutrality Regulatory Assessment Methodology_ (BoR (22) 71).
14 BEREC, _Preliminary assessment of the underlying assumptions of payments from large CAPs to ISPs_ (BoR (22) 137).

Open floor to

FRANCESCA MUSIANI

*Centre for Internet and Society (UPR 2000 and GDR 2091),
French National Centre for Scientific Research (CNRS),
Habilitation to supervise research (HDR), Deputy Director of CIS*

"SENDING-PARTY-NETWORK-PAYS" PROJECT: A NEW BONE OF CONTENTION FOR NET NEUTRALITY IN EUROPE

Who should pay for digital networks? This has been a hotly debated topic for some time, particularly with respect to Net neutrality[1]. While, in Europe at least, the Open Internet Regulation of 2015 appears to have put a definitive end to some of these discussions, the "infrastructure tax" (or "Sending-Party-Network-Pays" model) announced by the European Commission in 2022 has once again reshuffled the deck. A number of practitioners[2] and researchers[3] have warned against Europe adopting such a measure, for several reasons.

This measure would violate the Net neutrality rules set forth in the Open Internet Regulation[4], which requires broadband service providers (ISPs) to handle data in a non-discriminatory manner. Making certain content providers, but not others, pay to access the network could undermine Europe's Digital Agenda instead of promoting its commitment to openness.

Moreover, proposals to bill content providers for access to broadband subscribers are not new (c.f. the controversy at the ITU conference in 2012[5]), and have always been rejected for being prejudicial.

The ideas behind these proposals constitute a misunderstanding of the internet's structure. They are based on the hypothesis that content providers are the cause of traffic on broadband networks. But it is broadband users who request this traffic, and they already pay their broadband ISP to relay that traffic to them. Added to which, the internet is not made up solely of the broadband networks that connect users to the rest of the internet. Universities, governments, multinationals and even the European Commission operate their own networks. The desired rule change would break the competitive transit and peering market.

Like broadband networks, content providers are also an important part of the inter-

net value chain; as their services stimulate Europeans' demand for broadband access. Broadband ISPs reap substantial benefits from the creation of content that appeals to broadband subscribers. Universities, public broadcasters and governments too are all content providers. All of these players invest heavily in internet infrastructures.

Lastly, as history and economic theory have shown, it is unlikely that billing access fees will solve the problem of broadband deployment. Not least because there are greater obstacles to deployment than a lack of financing, such as permits and the ability to build network infrastructure (cf. the Ukrainian example[6]).

Will Net neutrality in Europe be threatened once again, even though on other aspects of the digital society and economy Europe is enjoying a positive forward momentum on the regulatory front?

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1   The author contributed to a work on Net neutrality published in 2011, of which several issues are still current. It mentions the issues addressed in this video podcast for the information labs think tank, recorded in late 2022.
2   E.g. Internet Society, 2023. *In One Corner, Large Telecom Operators. In the Other, Everybody Else*, and, in France, this tweet of Association des Services Internet Communautaires (ASIC).
3   E.g. this release of Konstantinos Komaitis.
4   *Regulation (EU) 2015/2120 of the European Parliament and of the Council of 25 November 2015 laying down measures concerning open internet access*.
5   See, for instance , EDRI, 2012. *WCIT: what happened and what it means for the Internet*.
6   See Emile Aben's report for RIPE.

3. STATUS REPORT ON OBSERVED PRACTICES

In 2022, Arcep continued to examine whether all of the internet plans being marketed in the overseas territories complied with Net neutrality principles. As a reminder, in 2020 Arcep worked with all of the overseas operators to produce a Net neutrality scorecard. Several exchanges were held with operators, particularly regarding certain mobile internet plans' general terms and conditions of use. Ultimately, most of the points that were raised had not been technically implemented, according to the operators in question. These clauses were thus rectified following discussions with the Authority's departments. The monitoring work conducted by Arcep nevertheless made it possible to flag a mobile plan being sold by an overseas operator that raised some questions over its compliance with the Open Internet Regulation. Arcep's proactive dialogue meant that OIR provisions could be more fully taken into account in the operator's plan. The operator in question thus amended its plan accordingly.

In 2022, Arcep continued to examine Wi-Fi services onboard national railway company SNCF trains. This Internet access service which is offered to passengers is considered publicly accessible, and so subject to Open Internet Regulation provisions. Arcep departments' ongoing dialogue with SNCF helped these offers evolve. Arcep also engaged in a proactive dialogues with stakeholders on internet access offers in hospital settings, with respect to the Open Internet Regulation.

The Authority also continues to pay close attention to the reports it receives on possible Net neutrality violations, notably those received via the "J'alerte l'Arcep" platform.

4. AN EVER-EVOLVING TOOLKIT

To safeguard Net neutrality, Arcep has created a toolkit that helps the Authority obtain a complete overview of market practices with respect to the Open Internet Regulation's four cornerstones: commercial practices, traffic management, specialised services and transparency obligations.

As part of the Authority's monitoring duties, Arcep departments keep constant track of Internet service providers' (ISP) terms and conditions of use. As an adjunct to this monitoring work, Arcep has regulatory tools at its disposal that enable it to collect information from ISPs on their network management rules.

Since 2017, Arcep has also been providing end users with access to the "J'alerte l'Arcep" reporting platform. In 2022, 263 Net neutrality-related reports were logged on the platform. The reports filed by end users allow the Authority to identify possible Net neutrality infractions, and to achieve a swift resolution of the issues that were raised, which are detailed in the next section.

ARCEP'S NET NEUTRALITY TOOLKIT

Inter-authority cooperation
Cross-cutting issues
CNIL, CSA, etc.
CSA-Arcep joint division

International cooperation
BEREC working group
European NRAs
Bilateral case studies

Regulatory tools
Information gathering
Surveys and inquiries

IDENTIFIED **PRACTICES**

Monitoring
Assessment of sales terms & conditions
Press review
Social media

Reporting platform
J'alerte l'Arcep

Detection platform
Crowdsourcing
BEREC tools
New version of Wehe

Source: Arcep

Open floor to

STEVE PERRY
*Senior Policy Advisor – **Ofcom***

THE EVOLUTION OF THE NET NEUTRALITY FRAMEWORK IN THE UK

Following the UK's exit from the EU, the EU Open Internet Access Regulation containing the rules on Net neutrality became part of domestic UK law with only very minor changes, such as deleting references to EU laws and institutions or replacing them with their national equivalents. For instance, Ofcom, as the UK regulator, is no longer required to take utmost account of BEREC guidelines. Ofcom continues to be responsible for monitoring and enforcing compliance with these rules, while any changes to the rules would be a matter for the UK Government and Parliament.

In 2021, Ofcom commenced a review of Net neutrality because of the significant evolution of the internet ecosystem since the rules were introduced. These developments include increasing traffic volumes, with a large share of traffic being driven by a small number of content and application providers (CAPs), and the impact of technological evolutions, such as 5G. The review focuses on whether good outcomes have been delivered by the rules and what could be clarified to enhance outcomes through updated Ofcom guidance on how the current rules should apply.

To assess these questions, there was engagement with a wide range of interested parties, including the internet service providers (ISPs) that are subject to the rules and the CAPs and content delivery networks that rely on them to deliver traffic to consumers.

In October 2022, Ofcom published a consultation. In general, this proposed the existing rules have worked well and supported consumer choice as well as enabling CAPs to deliver their content and services to consumers.

But it also proposed that more clarity would be helpful in several areas. These included:

- providing guidance allowing ISPs to provide premium quality retail packages, and clarifying when ISPs could provide 'specialised services' to deliver specific content and applications that need to be optimised, which might include virtual reality and driverless vehicles;
- updating guidance on how ISPs could use traffic management; and
- proposing that zero-rated offers should generally be allowed, while setting out the circumstances where there might be concerns.

It also set out views in several areas for UK Government and others to consider. These were:

- whether there may be a case for updating the rules to give ISPs further flexibility in relation to zero-rating, traffic management and how they differentiate their retail offers; and
- whether there is a case for allowing ISPs to charge CAPs for carrying traffic, focusing on whether this might lead to more efficient use of networks. The potential benefits that might arise from a charging regime were noted but also that sufficient evidence that this is needed had not yet been presented.

In January this year, Ofcom hosted a conference on Net neutrality with panellists from around the world. Topics discussed were whether ISPs should be allowed to provide 'fast lanes', whether ISPs should have more flexibility in managing traffic on their network, and the wide-ranging debate around charging. These discussions highlighted the different views across the key stakeholders in providing internet services, particularly in terms of how to continue to evolve the internet to support the provision of new and innovative solutions to customers.

Ofcom is now working towards publishing a final statement and guidance by the end of 2023, with the aim of clarifying to ISPs the flexibility they have as they deploy full fibre and 5G networks while ensuring consumers and CAPs continue to enjoy access to the open internet.

Over the course of last year, Arcep continued to collaborate with other national regulatory authorities in France, notably the Regulatory Authority for Audiovisual and Digital Communications (Arcom) with which a joint division was created in late 2020. National inter-authority cooperation creates the ability to tap into each one's respective knowledge and competencies to advance regulatory analysis of common and cross-cutting issues.

The work on Net neutrality carried out by the different regulatory authorities within BEREC continued on through 2022. Arcep and its counterparts held multiple discussions within BEREC, including on the issue of zero-rating offers, on the heels of the CJEU rulings in September 2021, the review of BEREC guidelines in June 2022, and maintaining offers in their respective countries.

At the same time, Arcep increased cooperation with national regulators from other countries through bilateral discussions on case studies, which helped deepen its understanding of situations at home that are similar to those experienced by its counterparts abroad.

Arcep has made a detection tool called Wehe available to the general public since 2018. Wehe is available for free in French, on Android, iOS and more recently on the F-Droid store. Developed in partnership with the Northeastern University in Boston, Wehe is an Open-Source testing tool that analyses the traffic generated by an application to determine whether an operator might be throttling or prioritising some data traffic or ports. Arcep completed its work on updating Wehe, whose latest version was rolled out in late December 2020. Several improvements were made to the differentiation test: the list of services tested was updated to include the most popular services in France, new test categories were introduced to facilitate the selection of services tested by users and, finally, improvements were made to how the test results are displayed to users.

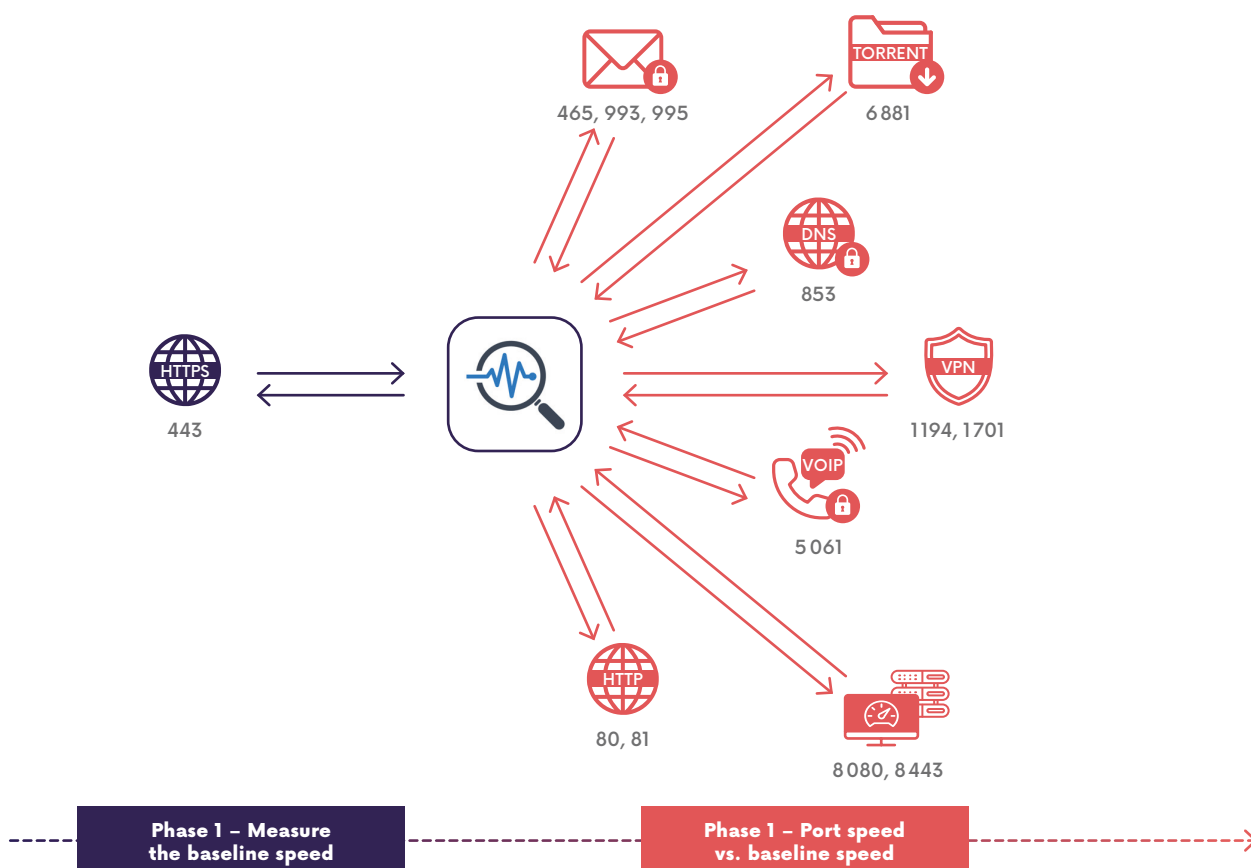## DIFFERENT REPLAYS TESTED BY THE WEHE APP

Source: Arcep

Arcep also wanted to provide users with a tool for detecting any potential blocking, throttling or priority queuing applied to a port, which could affect end users' ability to access online services. Some online services and applications are accessed through a specific port, so any blocking, throttling or prioritisation of that port could affect how end users' are able to access that service. From a technical standpoint, the port test compares https traffic for each of the ports selected by the user, and compares it to traffic on port 443, which has been defined as the baseline port.

HOW PORT TESTING WORKS

| 465, 993, 995 | 6 881 | 853 | 1194, 1701 | 5 061 | 80, 81 | 8 080, 8 443 |

Phase 1 – Measure the baseline speed

Phase 1 – Port speed vs. baseline speed

Source: Arcep

Should proven discrepancies be detected in the tests performed by Wehe, users are invited to report any issue directly via the "J'alerte l'Arcep" platform, so that Arcep can review potential incompatibilities with the Open Internet Regulation on a case-by-case basis.

Since launch, 600,000 tests have been conducted in France using the Wehe app. All of the statistics on the tests carried out in France are available online.

J'alerte l'Arcep

Launched in October 2017, the "J'alerte l'Arcep" platform allows any citizen, business or local authority to report any malfunctions encountered in their use of the mobile internet, fixed internet, a postal service or press distribution service. Arcep has drawn up the 2022 report on its action for the benefit of consumers and its "J'alerte l'Arcep" reporting platform. Users submitted more than 45,000 reports to Arcep in 2022. Of these, 40% concerned a fixed or mobile QoS or service availability issue.

These reports constitute an important part of Arcep's diagnostic capabilities. They enable the Authority to track the problems being encountered by users in real time, to

identify recurrent malfunctions, and detect spikes in user alerts – with the ultimate aim of taking more targeted and thus more effective regulatory action.

The "J'alerte l'Arcep" platform is continually evolving, and being more seamlessly integrated with other data-driven regulation tools developed by Arcep (Mon réseau mobile, Carte fibre, Ma connexion Internet and Wehe).

NETWORK SLICING: DELIVERING INNOVATIONS ENABLED BY 5G, WHILE PROTECTING NET NEUTRALITY

Network slicing is a technology enabling the creation of subnetworks (or subnets) in the form of virtual networks, aka slices, overlayed on a physical network infrastructure. Flexible and dynamic slicing is expected to become possible once 5G core networks are deployed, and will give operators the ability to supply differentiated services by creating a virtual network to satisfy their customers' different needs.

Network slicing allows an operator to administrate its network to meet customers' expectations. Some of the sector's players are still wondering whether 5G technology is compatible with Net neutrality. But is it or is it not? The Open Internet Regulation is technology neutral[1], which means ISPs can use any technology they want. The principle of technological neutrality, mentioned in the Open Internet Regulation, states that: *"The measures provided for in this Regulation respect the principle of technological neutrality, that is to say they neither impose nor discriminate in favour of the use of a particular type of technology"*. The use of network slicing is therefore not intrinsically incompatible with the Open Internet

Regulation. This was in fact the conclusion reached by the European Commission[2] and BEREC[3] which, after investigations conducted in 2019 and in 2022, respectively, concluded that there was no a priori incompatibility between the Open Internet Regulation and network slicing.

The concrete organisation of the slices defined by ISPs (slice numbers and scaling, services involved, QoS associated with each slice, etc.) and the potential impact on Internet availability and overall quality must be examined case by case, with respect to the Open Internet Regulation provisions and implementing guidelines.

To this end, Arcep published a memo in May 2022 on network slicing and Net neutrality, which can be accessed on its website.

Arcep will continue to closely monitor the development of 5G use cases, and will remain available to answer stakeholders' questions on these use cases' compatibility with the principle of Net neutrality.

5G NETWORK COMMON INFRASTRUCTURE

Gaming, virtual reality...

Transport, manufacturing...

Internet of Things

Connected cars, telemedicine...

Other needs

Source: Arcep

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1   Recital 2 of Open Internet Regulation 2015/2120.
2   *Report from the Commission to the European Parliament and the Council on the implementation of the open Internet access provisions of Regulation* (EU) 2015/2120, 30 April 2019.
3   BEREC, *Opinion for the evaluation of the application of Regulation (EU) 2015/2120 and the BEREC Net Neutrality Guidelines*, (BoR (18) 244).