Internet Society

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Internet Society's submission to the consultation on the European Commission's White Paper on "How to master Europe's digital infrastructure needs?"

Introduction

The Internet Society welcomes the opportunity to provide feedback in response to the European Commission's White Paper on "How to master Europe's digital infrastructure needs?". With this submission, the Internet Society seeks to inform the Commission's understanding of current trends and their relevance to the future of digital infrastructure. We specifically address the suggested policy measures described under Pillar 2 and the proposal to expand the scope of existing regulations. Furthermore, we strongly oppose the proposal to introduce a new dispute resolution mechanism for interconnections, which mirrors the proposals from large telecom operators to establish a so-called "Fair Share" mechanism. Finally, we encourage the Commission to invite a broader and more inclusive set of perspectives that places a greater emphasis on competition and user demands. We hope this contribution proves valuable to the Commission as it considers the future of Europe's digital infrastructure needs.

Key Points:

- The White Paper's proposal to expand current regulations scope of application is based on a flawed premise of a "convergence" between connectivity and cloud services. What we see is actors taking advantage of new technologies and the flexibility, cost savings, and scalability of cloud computing infrastructure - not some fundamental change to existing markets that would motivate such proposal.
- The proposed dispute resolution mechanism for interconnections lacks justification and represents the implementation of a "Fair Share" mechanism. The introduction of such mechanism would risk harming the Internet and its users, and was forcefully rejected in the Commission's 2023 consultation.
- The White Paper is narrowly focused on the perspective of large telecom operators and neglects important issues of competition and user demands.

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About the Internet Society

The Internet Society is a global charity and non-profit organization founded in 1992 by some of the Internet's early pioneers. Our global community is made up of thousands of energetic, enthusiastic, and committed individuals, organizations, and volunteers. We believe the Internet is a force for good and we are working towards an open, globally connected, secure and trustworthy Internet that benefits everyone. With 110 active chapters across six continents, of which 30 are in Europe, and more than 121,000 individual users supporting our activities, the Internet Society is a significant stakeholder, and a reliable, technically informed civil society interlocutor for Internet governance issues.

The Internet Society works to make the Internet bigger and stronger for people everywhere to connect, communicate, and innovate, now and in the future. Founded at the beginnings of the explosive growth of the Internet, we have seen the Internet's incredible capacity to continuously evolve—both in terms of its infrastructure and the services it supports. Yet, even as the Internet evolves with new services and innovations, its model of voluntary networking has remained constant. The Internet is built by the voluntary interconnection of more than 75,000 independent networks. Each one of them makes use of publicly available standards to set up their connections and produce a shared platform that allows people all over the world to communicate.

The White Paper's Scenarios are informed by a flawed premise of "convergence" between telecoms and cloud services.

The White Paper starts by outlining current trends and challenges in the digital infrastructure sector, including an overview of technological developments (Section 2.2.). It describes a trend towards a greater degree of virtualization of electronic communications functions and of "cloudification" as an intrinsic part of the next generation of electronic communication networks (ECNs). The paper asserts that these developments should be understood as a form of "convergence" between ECNs and cloud services that raises questions about the need to develop equivalent rules in order to "level the playing field" (Section 2.3.4).

Notably, this analysis underpins the proposed measures in Scenario 4, and the suggestion that *"[i]n order to address the converged electronic communications connectivity and services sector and to ensure that its benefits reach all end-users everywhere, the Commission may consider broadening the scope and objectives of the current regulatory framework to ensure a regulatory level playing field and equivalent rights and obligations for all actors and end-users of digital networks where appropriate to meet the corresponding regulatory objectives".*

The Internet Society strongly opposes the proposal described in Scenario 4. We believe that the analysis underpinning this proposal, and the assertion that ECNs and cloud services are converging, are flawed and insufficient to propose new policy measures.

Specifically, the White Paper fails to clearly describe why the technological developments, such as the "virtualization" or "softwarization" of networks, would provoke a radical change of the existing regulatory frameworks. Notably, the Paper fails to recognize that these developments are fundamentally about trends in the value chain for provisioning electronic communication networks and services. As described in a recent report[1] commissioned by the Body of European Regulators of Electronic Communications (BEREC) these developments are reflective in almost all parts of ECNs value chain, and where the "cloudification" of ECNs is part of a trend towards the use of generic hardware with virtualised network functions (VNF). This cloudification, of hosting data and compute in data centres, is in turn visible in all parts of ECNs' value chain, from network operations to business support systems. Importantly, these trends of cloudification in the supply of ECNs are implemented because they bring benefits to all participants and are fundamentally no different from similar trends in almost all industries where businesses take advantage of the scalability, flexibility, and cost-efficiency provided by cloud services.

[1] "Study on the trends and cloudification, virtualization, and softwarization in telecommunications", BEREC (2023): https://www.berec.europa.eu/en/document-categories/berec/reports/external-study-on-the-trends-and-cloudification-virtualization-and-softwarization-in-telecommunications

While these trends of "softwarization" and "virtualization" do raise questions for regulators in the form of changes to upstream vendor and supply markets, such as potential vendor lock-in via APIs, it is unclear why this would constitute a fundamental change to the European Electronic Communications Code's (EECC) scope of application.

Scenario 4 is thus highly problematic since the Paper offers no clear rationale for why ECNs, as providers of connectivity, and cloud services, as providers of storage and compute, should fall under the same regulations.

The proposed dispute resolution mechanism is a covert effort to bring back proposals for a "Fair Share" mechanism, which was rejected in 2023

The White Paper's discussion on regulatory changes under Pillar 2, and specifically the scope of application (Section 3.2.2.), includes a proposal for a new dispute resolution mechanism for interconnection agreements between Content and Application Providers (CAPs) and Internet Service Providers (ISPs). This proposal is surprising since the same section acknowledges that the IP-interconnection market functions well and that there are very few known cases where intervention has been necessary. Notably, the proposed mechanism is analogous to the regulatory intervention demanded by large telecom operators for the purpose of direct payments from CAPs to finance network deployments, a.k.a. the "Fair Share" debate. Specifically, proponents of regulatory intervention to this end have clearly stated that such intervention could be operationalized through a dedicated arbitration mechanism for contractual disputes—analogous to the proposal in the White Paper.

The Internet Society strongly opposes the proposal for a new dispute resolution mechanism, which lacks any evidence to justify a regulatory intervention. Instead, and as stated in our previous contribution on this topic, such a payment mechanism risks the fundamental premise of the Internet's networking model and could cause global fragmentation.

As described in our contribution[2] to the European Commission's exploratory consultation on "The future of the electronic communications sector and its infrastructure," the proposals for such mechanisms are built on a flawed premise that lacks evidence of a market failure or other issue in need of regulatory intervention. Instead, a regulatory intervention to this end would conflict with the Internet's voluntary interconnection model, undermine network resilience, and risk a fragmentation of the global network. Moreover, mandating such a payment mechanism based on

[2] "Internet Society's Submission to the European Commission's Exploratory Consultation on "The future of the electronic communications sector and its infrastructure", Internet Society (2023): https://www.internetsociety.org/resources/doc/2023/submission-to-ec-future-of-the-electronic-communications-sector-and-its-infrastructure/

traffic volumes corresponds to a "sender pays" settlement regime, which has been rejected by organizations such as BEREC and the broader Internet community in the past.

In this light, we are deeply concerned that the Commission has ignored the results of its exploratory consultation, which saw the proposal for such a payment mechanism rejected by the vast majority of European stakeholders[3]. This included smaller ISPs that expressed concerns that such rules would distort competition in favor of large telecom operators. The fact that the White Paper seeks to re-introduce a regulatory proposal that has been rejected by almost all stakeholders reinforces our impression that the White Paper has only sought the viewpoint of one stakeholder group (large telecom operators) while ignoring the perspective of all others. Including smaller ISPs, CAPs, the technical community, civil society, and consumers.

The White Paper needs a broader perspective on the future of innovation and network demands

The White Paper aims to gather input from all stakeholders to shape the Commission's future proposals for digital infrastructures. While we appreciate this goal and the chance to provide feedback, we are concerned that the White Paper's view of the future is narrowly focused on the perspective of large telecom operators.

This narrow perspective is evident in the challenges it highlights, portraying a very negative outlook for Europe's digital infrastructure. For instance, the Paper expresses concern about the financial situation of the EU's electronic communication sector, citing comparisons of average revenue per user (ARPU) in the EU with other regions such as the US, Japan, and South Korea. While this is a valid metric in discussing the sector's financial situation, the Paper fails to acknowledge that it also reflects competition and comparatively lower consumer prices. In fact, the Paper only briefly discusses the affordability of broadband, which is unfortunate since Europe outperforms most parts of the world in most affordability metrics[4].

Instead, the Paper is driven by a particular problem framing of scale in the European telecom sector. Notably, this problem framing results in a number of Scenarios placing a greater emphasis on market consolidation than consumer or competition-centric policies. For instance, the Paper

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[3] "Network Usage Fees: The European Commission Plays Politics with the Global Internet", Internet Society (2023): https://www.internetsociety.org/blog/2023/10/network-usage-fees-the-european-commission-plays-politics-with-the-global-internet/

[4] See e.g. "Mobile and Fixed Broadband Prices in Europe 2022", European Commission (2024): https://digital-strategy.ec.europa.eu/en/library/mobile-and-fixed-broadband-prices-europe-2022 , "Policy brief - The affordability of ICT services 2023", International Telecommunication Union (2024): https://www.itu.int/en/ITU-D/Statistics/Pages/ICTprices/default.aspx

includes a proposal to deregulate the fiber market by abandoning ex-ante access regulations (Scenario 5.2), but without an analysis of how this would impact competition and smaller operators, and by extension, affordability and consumers.

Furthermore, the Paper presents a limited view of the future of innovation and network demands that is centered around specialized network services and tied to the narrative of "convergence." This is unfortunate since the Paper seemingly assumes, without evidence, that the widespread provisioning of such infrastructure is required to satisfy future demand. In fact, while the 5G and 6G architectures foresee the ability to provide edge computing services, thereby moving their providers along the value chain beyond commoditized connectivity, we have not seen a demand for such solutions beyond a limited set of highly specialized environments. Instead, it is more than reasonable to assume that the broader edge computing market will be highly competitive and that many use cases could be satisfied by what we call "provincial cloud services" built on top of the general-purpose Internet[5].

This decoupling between connectivity and the service offered over the network is, in fact, one of the critical properties that defines the Internet and has been an essential feature for the vast majority of networked innovations over the past decades. Thus, we believe it is important for the Paper to complement its current perspective with other network demands, such as Internet access and general-purpose connectivity. Including the importance of safeguarding principles like net neutrality.

The Internet Society encourages the Commission to include a broader set of perspectives on the future of networks and to expand its analysis to issues of competition and user demand.

Conclusion

In this submission, we have sought to inform the Commission's understanding of current trends and their relevance to the future of digital infrastructure. First, we believe the White Paper is informed by a flawed premise of "convergence" between telecom and cloud services that severely undermines the Paper's analysis of current trends and the proposals put forward. Notably, the Internet Society strongly opposes Scenario 4 since there is no clear rationale for why ECNs, as providers of connectivity, and cloud services, as providers of storage and compute, should fall under the same regulations. Secondly, we also strongly oppose the proposal for a new dispute resolution mechanism for interconnection agreements between CAPs and ISPs, which lacks any evidence to justify a regulatory intervention. Such a mechanism is analogous to the regulatory intervention demanded by large telecom operators for the purpose of direct

[5] "Evolution of the edge, what about the internet?", Kolkman et al., ACM SIGCOMM (2022): https://dl.acm.org/doi/abs/10.1145/3527974.3546975

payments from CAPs to finance network deployments, a.k.a. the "Fair Share" debate, and has previously been rejected by the vast majority of stakeholders. Finally, we encourage the Commission to include a broader set of perspectives on the future of networks and innovation, and to expand its analysis to issues of competition and user demand.

To this end, we recommend that the European Commission:

- Reject Scenario 4 and the proposal to expand the scope of existing regulations
- Reject the proposal to introduce a dispute resolution mechanism for interconnection agreements between CAPs and ISPs.
- Ensure that the Commission's understanding of the future of digital infrastructure, and in consequence its regulatory agenda, is informed by all stakeholders and by a broader set of policy objectives—including competition and user demand.