

ITI Response to the BEREC Draft Report on the entry of large content and application providers into the markets for electronic communications networks and services

On behalf of the global information technology sector, the Information Technology Industry Council ("ITI"), thanks the Body of European Regulators for Electronic Communications (BEREC) for the opportunity to provide our comments and inputs on the draft report on the entry of large content and application providers into the markets for electronic communications networks and services.

The Information Technology Industry Council (ITI) is the premier global advocate and thought leader for the information and communications technology industry. ITI's membership comprises leading technology and innovation companies from all corners of the tech sector, including software, digital services, and internet companies. They are headquartered across Asia, the United States, and Europe, and many are significant investors and employers in the European Union.

ITI membership welcomes the collaboration with BEREC and aims for a continued evidence-based work, for this reason ITI acknowledges the intention of BEREC to accept comments to the report on entry of large content and application providers into the markets for electronic communications networks and services and wants to provide the views of the tech sector addressing some elements that arise from the mentioned report, especially related to Chapters 3 and 4.

Acknowledgement of Interdependence between CAPs and ECNs/ECSs

We appreciate BEREC's recognition of the interdependent relationship between certain Content and Application Providers (CAPs) and Electronic Communications Networks and Services (ECNs/Ss) that involves both healthy collaboration and competition that deliver services more efficiently and cost effectively. As emphasized in Chapter 3 (page 16), the connectivity and consumption of online content and applications are inherently linked. In these cases, the acknowledgment underscores the need for close collaboration between regulators and the European Commission to ensure these points are effectively addressed in an evidence-based manner.

Contrary to the assumption in page 17 regarding cloud-network convergence, we assert that the relationship between cloud and network services is more accurately described as symbiotic rather than convergent. While they share a mutually beneficial relationship, their roles within the value chain remain distinct. We have addressed this concern in detail in our response to the BEREC Draft Report on Cloud and Edge Computing.

We emphasize that online services falling under the 'large CAP' umbrella, operating in the application layer, are in addition to, and not in derogation or substitution of, traditional telecommunications (or broadcasting) services. Application layer services or CAPs include but are not limited to: Cloud, CDN, OTT communication services and video services, machine-to-machine communication, AI services, and AR/VR communication and applications.

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While adoption of online communication services by users is considerable, that does not imply product market substitution, and certainly not complete substitution for traditional telephony, or for mobile networks. Users of these products also typically subscribe to traditional fixed and mobile services and use each of them as the circumstances and call types vary, depending on the use case (e.g., at home, on the road, personal use, professional use, intended call duration, combination with text, video and file transfer, unified communications, conference calls, business solutions, etc.). Usage is therefore more complementary and accretive than substitutive.

Therefore, the 'same service, same rules' narrative is misleading as these services may appear similar, but their infrastructure and delivery methods are fundamentally different. To safeguard the future of data innovation, telecoms and applications must be addressed from their respective starting points. Telecom law should regulate the hard infrastructure or 'carriage' layer, and not the layers above, such as software and applications. We would stress that this applies to all the application layer services encompassed by the CAP nomenclature.

"Large CAPs" and "Major CAP" terminology

The draft report introduces new terminology including the term "large CAPs" which is both vague and undefined. It is used throughout mainly to refer to Amazon, Apple, Google, Meta, Microsoft, and Netflix. The report introduces another new term, "major CAPs" (pages 5, 11, 21, 24, and 61). This new terminology is unclear because some companies are listed as both "large" and "major" CAPs. Also, these companies offer a large and very diverse set of services, varying from B2B productivity instruments to B2C (social) media services or even marketplaces. It would not be appropriate to treat all those services identically. For example, on page 5 BEREC notes that the report is based off responses from "nine major CAPs (Akamai, Amazon, Apple, Cloudflare, Dazn, Google, Meta, Microsoft and Netflix)," but switches to the term "large CAPs" partway through the analysis. It is particularly confusing in section 4.2 on business models. We propose referring to "companies surveyed" and "subsets of companies surveyed" or "commercial CDNs" rather than using the "major" classification. We also recommend that, going forward, BEREC will be clear that its analysis is limited to CAPs which provide the services discussed in the report (namely CDNs, internet relay, subsea cables, public cloud infrastructure) and/or interconnect with network providers regulated by BEREC members. Further, our members note that the operation of private communications infrastructure by businesses for their own purposes is not new and common among businesses in all sectors for some time and request that BEREC clarify that further consideration of such private infrastructure is not required.

CAPs' investments have a positive impact, including on the resilience of global network

We appreciate that BEREC acknowledges that certain large CAPs have increasingly invested in connectivity infrastructure and in providing additional services related to ECN/S markets. This clearly underlines the crucial role that these CAPs, including cloud providers, with their digital infrastructure, that also includes networks of submarine cables, play in ensuring robustness, resiliency, security and effectiveness of today's internet. We appreciate BEREC's recognition that investments by such CAPs



in submarine cables have a positive impact on engineering innovations and push the boundaries for technical efficiency, contributing to lower latency and improved bandwidth and reliability.

However, contrary to the assumption on page 54 regarding CAPs investments' limited impact on the global network resilience, we assert that such investments have a significant positive impact. Multiple, diverse routes help ensure outages have minimal to no impact on the services that depend on the cable. Europe needs more connectivity, not less of it, and the benefits of diverse subsea cables routes are broadly shared, which include improving network reliability, ensuring resiliency and increasing global connectivity thus reducing the digital divide. When physical damage does occur, redundant network paths can reroute traffic to minimize service disruption for customers and users. Governments and regulators can help reinforce diversity and thus resilience, by making it easier to land and maintain subsea cables.

Inaccurate Assumptions of Concentration in the CDN Market

We express skepticism about the assertions made concerning market concentration within the commercial Content Delivery Network (CDN) services market. We find the draft report's conclusions that "the commercial CDN services market in Europe currently appears to be concentrated around few players" and that "such concentration is expected to grow significantly in the coming years" inaccurate. Aspects of the draft report that we find problematic include: an incomplete picture of CDN market players; the use of conflicting metrics to assess the market share of CDNs; and, the omission of the increased competition from the entry of "large" CAPs into the CDN market.

The market for CDN services is highly competitive and diverse. There are numerous commercial CDN providers such as Akamai, Cloudflare, Fastly, Edgio, Edgecast, CDNetwork, as well as "large" CAP CDN providers such as Amazon, Alibaba, Google, and Microsoft, many of which were not included or did not participate in the survey, leaving BEREC's draft report with an incomplete picture of the CDN market.

Additionally, assessing the market share of CDNs providers is not straightforward. For instance, the HTML requests or the overall number of customers of a certain provider does not imply market domination as these measures could be misleading figures related to the estimation of market share regarding the largest players do not necessarily reflect their revenues. The presence of longstanding CDN providers and the emergence of new entrants, including cloud providers venturing into CDN services, has generated an influx of competition that counters the notion of increased concentration and instead fosters a more diverse and competitive market landscape.

The entry of "large" CAPs into the CDN market is not new and has reshaped its composition, leading to increased competition and consumer choice. Indeed, the report acknowledges market trends on *page 24* but fails to recognize the positive impact of "large" CAP's entry. Additionally, the diverse array of CDN providers, offering geographical and purpose-based differentiation, further undermines claims of market concentration and associated risks, as it is already common practice for many businesses to adopt a multi-CDN strategy that uses multiple vendors to suit their content delivery needs.



In summary, we raise concerns regarding inconsistencies in the metrics and measures used to assess market share. Given the complexities involved in obtaining accurate market share values, as acknowledged by the report on *page 27*, we urge BEREC to delete the claim that "the commercial CDN services market in Europe currently appears to be concentrated around few players" and that "such concentration is expected to grow significantly in the coming s" from the draft report.

CDNs' impact on ISP's transit profits

Section 4.4 (*pages 29-30*) notes that "As CDNs moved closer to the consumer, smaller ISPs started to host CDNs, resulting in lower wholesale revenues for the Tier 1 ISPs." The primary basis of this argument stems from a 2012 BEREC report, which is outdated and fails to acknowledge that investments made by CDN providers have significantly benefited all ISPs by reducing the necessity for costly infrastructure to handle duplicate traffic. The savings in costs far outweigh the relatively minor decrease in transit revenues.

Thanks to technical improvements and cooperation between ECNs and CDNs which interconnect with them, the marginal cost of carrying more traffic is near zero and remains a fraction of the total network costs that are inherent to the ECNs' business model. Furthermore, this discussion conflicts with on-going consultative processes around the use of networks, where ISPs/TSPs bemoan the costs associated with growing data transit on the one hand (which some larger CAPs have alleviated with CDNs and other technologies), and on the other bemoan the loss of data transit as relates to revenues.

Conclusion

In conclusion, while we appreciate BEREC's recognition of the interdependence between certain CAPs and ECNs/ECSs, we request that BEREC's future work be more specific as to scope and avoid over-generalizations that could create uncertainty for our members. We also contest assumptions regarding market concentration within the CDN services market. By addressing these concerns and adopting a more nuanced understanding of market dynamics, regulators can better facilitate a competitive and innovative ecosystem in Europe.

