**Akamai's Response to BEREC's Consultation on the
Draft Report on IP-Interconnection Practices in the Context of Net Neutrality**

Introduction

Akamai Technologies, Inc. (Akamai) welcomes this opportunity to offer input to BEREC's latest review of the IP interconnection market in the *Draft Report on IP-Interconnection Practices in the Context of Net Neutrality* (2017 Draft Report), released on 1 June 2017.[1] An Internet pioneer whose industry-leading technology innovations have afforded Internet content and application service providers the needed system for their own innovation, Akamai believes that the IP interconnection market is competitive and well-functioning, a result that has been achieved without regulation.

Akamai offers content delivery network (CDN) services worldwide using its extensive distributed architecture. Currently, Akamai has deployed more than 230,000 servers in over 130 countries. The Internet content, applications, and services provided by Akamai's customers (websites, web application providers, and enterprises) are thus distributed across more than 1,600 networks worldwide, enabling consumer requests for particular content or applications to be processed in the most geographically efficient location. Akamai does this by applying specialized mathematical algorithms and using the Internet and the capacity of many providers, rather than having its own backbone. This enables Akamai to facilitate the delivery of content to end users faster, more reliably and more securely, while using fewer physical resources. The result is a better-performing and more cost-effective Internet for everyone, whether or not the content they are accessing utilizes Akamai services.

Akamai's services benefit consumers, content providers and Internet service providers (ISPs). First, Akamai is able to offer consumers better performance and a higher-quality end user experience by locating Internet content, applications and services close to end users. Second, content providers are able to have their content delivered to their customers more quickly, which may be especially important for smaller content providers seeing growing demand for their services.

Third, Akamai services benefit ISPs in several ways. For example, Akamai identifies the least-congested path for Internet traffic so as to reduce network congestion. Akamai also alleviates network

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[1] BEREC, Draft BEREC Report on IP-Interconnection practices in the Context of Net Neutrality, 1 June 2017, available at http://berec.europa.eu/eng/document_register/subject_matter/berec/public_consultations/7092-draft-berec-report-on-ip-interconnection-practices-in-the-context-of-net-neutrality.

capacity limits of the "middle mile" by caching content close to end users, so that content does not need to transit and re-transit the entire ISP network with each individual request. By using CDNs such as Akamai, ISPs can reduce the load on their networks as customer requests for particular content that is cached on Akamai's system will be processed in the most geographically efficient location to avoid points of congestion.

Akamai also improves network security. For example, Akamai mitigates cybersecurity attacks closer to the attacker at the edge of the Internet and further away from the content providers' origin servers, and provides protection across pathways to data centers.

Ultimately, Akamai's congestion-management and capacity-enhancement practices benefit not only Akamai's customers, but also other content providers and carriers, which gain from networks with reduced congestion and increased available capacity. Taken together, Akamai's services create efficiencies that ripple through the Internet ecosystem for the benefit of all.

BEREC's Key Findings and Conclusions

In the 2017 Draft Report, BEREC identifies a number of important developments in the IP interconnection market, many of which are a continuation of the trends originally noted in BEREC's first Report *on IP-Interconnection practices in the Context of Net Neutrality* (2012 Report) released in December 2012.[2] The developments cited by BEREC include:

- Internet traffic volumes continue to increase;
- prices for CDN services and transit continue to decline; and
- costs to deliver data packets on a per unit basis continue to decline.

BEREC details in the 2017 Draft Report that, even as traffic volumes have continued to soar since 2012, the prices for CDN services have fallen dramatically. BEREC expects CDN prices to continue to decline in the future, even as CDNs simultaneously meet increased traffic volume demands.[3] BEREC attributes falling CDN prices both to a highly competitive market and to technological progress. According

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[2] BEREC, Report on IP-Interconnection practices in the Context of Net Neutrality, 6 December 2012, available at http://berec.europa.eu/eng/document_register/subject_matter/berec/download/0/1130-an-assessment-of-ip-interconnection-in-t_0.pdf.

[3] BEREC, 2017 Draft Report, p. 43.

to BEREC, this demonstrates that the "Internet ecosystem's ability to cope with increasing traffic is still a given."[4]

The 2017 Draft Report concludes that CDNs play an important role in the Internet value chain by reducing the burdens of higher traffic volumes and that the "economic relevance of CDNs continues to grow as CDNs account for an increasing share of total traffic."[5] The 2017 Draft Report also notes that between 2015 and 2020, CDN traffic—as a share of total Internet traffic worldwide—has been predicted to grow at a compound annual growth rate (CAGR) of 34%. Thus, CDNs are expected to become even more crucial to a vibrant Internet ecosystem in the coming years.

BEREC also notes that, due to the range of CDN services available, the "need for interconnection capacity is reduced as content that is requested by a large number of customers needs to be sent only once through the interconnection link."[6]

BEREC concludes that the IP interconnection market involves "**complex relationships** as well as **economic/strategic considerations** of the providers."[7] According to BEREC, the complexity of the IP interconnection market has, on infrequent occasions, led to disputes. In the limited instances where interconnection disputes have arisen, BEREC notes, they have involved disagreements over peering arrangements in which two parties (either a content provider and an ISP or two ISPs) cannot agree over how to handle traffic asymmetries—that is, whether peering should be settlement-free or one party should pay the other for peering. The 2017 Draft report notes that the parties involved typically have resolved peering disputes privately, quickly, and without regulatory intervention.

On the whole, BEREC's findings reveal a robust and dynamic IP interconnection market with remarkably few disputes or concerns over anti-competitive conduct. This is why BEREC advises national regulatory authorities (NRAs) to "continue to apply a **careful approach** when considering whether regulatory intervention is actually warranted"[8] in the IP interconnection market.

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[4] BEREC, 2017 Draft Report, p. 5.

[5] BEREC, 2017 Draft Report, p. 8.

[6] BEREC, 2017 Draft Report, p. 9.

[7] BEREC, 2017 Draft Report, p. 5 and p. 24. Emphasis in the original.

[8] BEREC, 2017 Draft Report, p. 25. Emphasis in the original.

Akamai's Perspective

Akamai supports BEREC's policy recommendations. Akamai believes that NRAs should refrain from imposing *ex ante* regulation on the IP interconnection market because the market is competitive, generally functions well, and delivers a range of benefits to all in the Internet ecosystem. Indeed, the imposition of regulation where it is not needed could have significant unintended consequences, including the inhibition of innovation.

While governmental authorities may decide to intervene into specific interconnection disputes on occasion, Akamai does not believe that the possibility of such infrequent regulatory intervention necessitates or justifies the imposition of *ex ante* regulation of IP interconnection more generally.

Akamai greatly appreciates the opportunity to present its views on this important matter.