



Comments In Response to “CWG -Internet: Online Open Consultation. Public Policy considerations for OTTs”

Public Knowledge –IDEC

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About Public Knowledge

Public Knowledge (PK) is a nonprofit organization with global efforts, based in the United States, dedicated to preserving an open Internet and the public's access to knowledge, promoting creativity through balanced intellectual property rights, and upholding and protecting the rights of consumers to use innovative technology lawfully. As part of this mission, PK advocates on behalf of the public interest for a balanced intellectual property system, open Internet principles, and freedom of expression.

About IDEC

Idec (Brazilian Institute for Consumer Protection) is a non-profit consumer association, independent of companies, parties or governments. Founded in 1987 by a group of volunteers, our mission is to guide, raise awareness, defend ethics in the relationship of consumption and, above all, fight for the rights of consumers-citizens like you. We are a prestigious organization inside and outside Brazil. We have accumulated important struggles and achievements that were only possible due to the help of our associates and partners, which contribute to the autonomy of our work.

Introduction

Over the past years, several national telecommunications regulators and international telecommunications bodies such as the International Telecommunication Union (ITU) and the Inter-American Telecommunications Commission (CITEL), have been discussing new ways to (re)regulate Internet services and applications, sometimes called “Over-The-Top” (OTT) applications. The results of these discussions will have serious consequences for consumers and Internet users worldwide, since OTTs are for the vast majority of consumers and users the identifiable layer of the Internet – having become in practical terms “the” Internet for the average user. The governance of OTTs is a very close proxy to the governance of the Internet.

In OTT governance debates, there are three questions that dominate conversations: The “**level playing field**” question, the “**free rider**” question, and the “**same service same rules**” question. The first, whether there is a “**level playing field**” between OTTs and the legacy voice, SMS, and video services provided by network operators and broadcasters is the most often asked in the OTT governance debates. We believe that is a fundamentally misguided question: there cannot be, and there should not be, a “level playing field” between OTTs and network operators simply because OTTs and network operators are in two fundamentally separate markets that ought to be regulated in very different ways. The truism that like services should be regulated in like ways does not mean that all services are, in fact, alike. On the one hand, network operators are often a monopoly (natural or not) that owns the network, or are granted exclusive control of a scarce public resource (through spectrum licensing, access to public rights-of-way, and so on). Regulation should guarantee those network operators are not allowed to unfairly abuse their privileged position, for example, by restricting the ability of consumers to use the OTTs of their choice. On the other hand, OTTs operate in what can be a more competitive environment, and rely on the network access to expand the opportunities and offers for consumers. Consumers freely access their choice of OTTs through the access they purchase from network operators. Here is the “level playing field” fallacy: the legacy services that network operators provide have the advantage of policies and economic conditions that produce monopolies and promote monopoly dominance over all services that are accessed through their network – OTTs are successful not because of existing market conditions but despite them, thanks to the innovation allowed by the end-to-end principle that governs the Internet. OTT markets can become concentrated and may pose regulatory and competition challenges of their own, but these challenges cannot be answered through facile comparisons to last-mile network operators.

The second question, the “**free rider**” question, refers to the idea that edge providers –the OTTs- should be contributing to sustaining the infrastructure of the network –in essence, allowing network operators to charge OTTs to reach consumers, establishing a paid prioritization of internet traffic. This is also a misguided question. First, it omits the role of users, who pay network operators specifically to access OTT applications. It likewise ignores the positive externalities created by open networks--the “virtuous cycle” created by “new uses of the network—including new content, applications, services, and devices—lead to increased end-user demand for broadband, which drives network improvements, which in turn lead to further innovative network uses.”¹ This cycle depends on edge providers being able to easily enter the market, driving end-user demand and increasing innovation. Absent a ban on paid prioritization and other harmful behaviors from network operators, edge providers will not be able to freely enter the market in the same way - instead, they will have to use their scarce resources simply to have access to the “fast lanes” to remain competitive against incumbent businesses. The best way to guarantee that all stakeholders prosper and thrive is to dismiss the “free-riding” fallacy, ban paid-prioritization, and encourage an environment in which consumer choice and innovation drive up the demand for Internet services. In addition, as explained in the following pages, OTT providers such as Amazon, Microsoft, or Google among others are contributing to the physical internet infrastructure by financing the layout of submarine internet cables, inter alia. In matters of infrastructure investment, the last mile is important but not the only aspect of internet infrastructure.

Regarding the “**same service same rules**” proposition, we warn against false equivalences. Most OTTs remain complementary rather than substitutes of legacy services. For example, the most successful VoD OTT do not offer linear programming –and therefore should not subject to the same identical rules than cable or air TV channels. (In the US, the relationship legacy pay-TV services and broadcasters is highly regulated; bringing OTT video providers under the “same rules” would require, among other things, granting them compulsory video copyright licenses.) In addition, OTTs do not benefit from the structural advantages of vertical integration that the services provided by network operators enjoy. Take for example the Public Switched Telephone Network (PSTN). Right now, PSTN service is part of the mobile phone plan that most subscribers purchase, which is itself a distinct advantage. PSTN traffic, too, is treated differently than data traffic on mobile carriers’ networks. But even if one day the PSTN might transform into an application that runs over the

¹ 2010 *Open Internet Order* at 17910-11, para. 14.

Internet, that does not mean it would become “just another” application like Viber, FaceTime, or Skype. The PSTN has its own numbering system, phone numbers, that requires international cooperation between governments and many private entities. Emergency calling depends on the PSTN. Business can give out phone numbers without worrying whether their customers have some special app or particular level of expertise. The PSTN is useful, and it is useful because it is a decentralized, international, nonproprietary, universal means to establish voice calls between any two places on Earth. So, while instant messaging, email, video streaming, non-PSTN voice communication, and so on are all important applications, none of them are as clearly “affected with the public interest” as the PSTN, and this is true whether or not the PSTN corresponds to a separate physical network. Network operators have the structural advantage of offering services that users can usually not choose to have in the telecommunications packages they use. These services, in addition, are offered in a vertically integrated fashion. In contrast, OTTs are simply not universal, are not automatically integrated into the network, are not by default available in the devices that connect to the network, and are not encouraged, supported, and mandated by public policies and regulations. And some network operators are offering their own OTT services: in Mexico, Televisa launched its new over-the-top service Blim, focusing on streaming of original and archival video content to Mexico and the rest of Spanish-speaking Latin America. Claro (America Movil) provides both music streaming and video through Claro Música and Claro Video. Hence, there is no need to try to impose a false equivalence among services that are not equivalent.

The discussion over the regulation of OTTs is, therefore, fundamentally a discussion of how to regulate the Internet, with direct implications for Net Neutrality, freedom of expression, consumer rights and innovators. Furthermore, we believe that there are public interest reasons to consider obligations on OTT providers: for example, accessibility, help assure free expression, and help services to be more affordable to all. But we don’t think that OTTs should be regulated as network operators, as they are different actors in very different market. We support the Open Internet values that have allowed OTTs to thrive and consumer choice to be multiplied. We believe that policy makers should seek to guarantee an enabling framework that perpetuates that the Internet remains as an open-space for innovation and entrepreneurship, for which advancing the values of net-neutrality and permissionless innovation is fundamental.

The following pages explain why the current state of affairs and the dominance of OTTs is not an accident but an intended and foreseeable consequence of the development of the Internet. The

Internet as we know it is and has been purposely designed as a decentralized system where Internet subscribers can use their service to send and receive their choice of “[e]very single form of content ever conveyed over any electronic communications system--voice (telephony), audio (radio), video (television), documents (faxes), and so forth.”² OTTs are a clear intended consequence of the Internet architecture.

The paper structure follows the questions presented by CWG in the consultation: “1. What are the opportunities and implications associated with OTT?”; “2. What are the policy and regulatory matters associated with OTT?”; “3. How do the OTT players and other stakeholders offering app services contribute in aspects related to security, safety and privacy of the consumer?”; “4. What approaches might be considered regarding OTT to help the creation of environment in which all stakeholders are able to prosper and thrive?”; “5. How can OTT players and operators best cooperate at local and international level? Are there model partnership agreements that could be developed?”

^{2 2} Nuechterlein & Weiser, “Digital Crossroads: Telecommunications Law and Policy in the Internet Age” 187; *see also id.* at 164-65

1. What are the opportunities and implications associated with OTT?

OTTs are possible thanks to the open-to-innovation and decentralized character of the Internet. In other words, OTTs are an intended consequence of the Internet's original design and not an accident that needs fixing. As such, as long as the Internet remains as an open platform that respects the end-to-end principle, the opportunities linked to OTTs are endless. In an open-Internet environment where any entrepreneur or creator can connect a product or service to the network, OTTs can continue multiplying consumer choice through innovation. In our view, an open-Internet environment is fully compatible with strong consumer protection laws and regulations, that should be developed independently by nations, tailoring the preferences and demands of their citizens and in respect with human rights.

Internet services and applications, “OTTs” if one adopts the language of this consultation, are already a central part of the Internet. In fact, their success and prevalence reflect the technical workings of fixed and mobile broadband service and the Internet’s original design: “placing intelligence at the edges rather than control at the middle of the network.”³ In other words, Internet applications run on end systems, not in between. The other layers of the Internet are, fundamentally, “an infrastructure that provides services to applications.”⁴ As a result, Internet technologies--including broadband and mobile access networks--are modular. Internet subscribers can use their service to send and receive their choice of “[e]very single form of content ever conveyed over any electronic communications system--voice (telephony), audio (radio), video (television), documents (faxes), and so forth.”⁵

Internet services and applications continue their rapid evolution. In just a few years, the capabilities and prevalence of many applications have grown dramatically. Each demonstrates the modular transmission function that is central to broadband access service. Think about mobile apps and devices. The last decade’s explosive growth in mobile devices has come to define much of today’s Internet. Globally, IP traffic from mobile wireless devices grew 63% in 2016, and now accounts for nearly half (49%) of all IP traffic.⁶ As a result, the relative time that users spend on traditional

³ Letter from Vint Cerf to the Hon. Joe Barton, et al. (Nov. 8, 2005) (<https://googleblog.blogspot.com/2005/11/vint-cerf-speaks-out-on-net-neutrality.html>).

⁴ Kurose & Ross 5; see also *id.* at 9.

⁵ Nuechterlein & Weiser, “Digital Crossroads: Telecommunications Law and Policy in the Internet Age” 187; see also *id.* at 164-65

⁶ Cisco, The Zettabyte Era: Trends and Analysis (June 7, 2017), <http://www.cisco.com/c/en/us/solutions/collateral/service-provider/visual-networking-indexvni/vni-hyperconnectivity-wp.html>.

personal computers is plummeting, with Cisco forecasting that PCs will account for only 25% of IP traffic by 2021. Smartphones in particular have become the dominant “communications hub” for most types of applications, from social media to video chat to transportation services to entertainment and news.⁷

In many different ways, the mobile application ecosystem has developed independently from broadband provider networks (both fixed and wireless). It is not the ISPs but other companies who manufacture smartphones, design their operating systems, and/or provide the mobile app stores where the overwhelming majority of customers choose which apps to install on their devices. Nearly all popular apps, and the Internet services to which they connect, are operated by third parties. While there are some isolated exceptions—for example, carrier-installed (and typically unpopular) apps on some smartphones—the basic point here is beyond dispute: Consumers choose mobile applications and services independently from their choice of broadband providers, and expect that a given smartphone can send and receive the same information to and from those services regardless of the access network to which it is connected.

This is especially apparent from how smartphone users typically move across multiple different access networks in a single day—for example, from local wireless networks in homes and offices to cellular data networks elsewhere. Globally, Wi-Fi networks handle the majority of mobile device traffic.⁸ Smartphones often automatically and seamlessly switch from one access network to another while their owners are in the middle of using some application, without any difference in the information that the application is sending or receiving.

In addition to the growth of mobile, the last decade has also seen a broad transition to many cloud-based applications. This encompasses applications that were previously centralized and run on a single system or local network, but now operate in a distributed environment, with different components of the application communicating over the internet. For example, many enterprises now run much of their information technology in the cloud, including applications such as email servers, database storage, and worker interface software that was previously run on local devices.⁹ As a result,

⁷ Sandvine, *2016 Global Internet Phenomena: Inside the Connected Home*, <https://www.sandvine.com/resources/global-internet-phenomena/spotlight/the-connected-home.html>, at 7.

⁸ Cisco, *Cisco Visual Networking Index: Forecast and Methodology, 2016-2021* (June 6, 2017), <http://www.cisco.com/c/en/us/solutions/collateral/service-provider/visual-networking-index-vni/complete-white-paper-c11-481360.html> (reporting that WiFi networks handled 60% of mobile device traffic in 2016)

⁹ See David Mitchell Smith, *Cloud Computing Primer for 2017*, Gartner Research (Jan. 13, 2017).

the share of information technology spending on cloud-based applications rose from 23% in 2013 to 37% in 2016.¹⁰ As in other applications, end users expect their broadband service provider to provide a transmission conduit for their communications with cloud-based systems, and nothing more. Indeed, it is unlikely that cloud applications would have been widely adopted if this was not the case. For example, the utility of the cloud depends in large part on being able to access the same information from any geographic location and access network, and an enterprise would be understandably reluctant to decentralize some IT system if the connections between system components would vary the information being sent or received.

Streaming media services such as Hulu and Spotify provide important examples of cloud-based applications. In such applications, the media files are stored remotely on the provider's servers, and typically accessed by users on demand, with only temporary storage (e.g., buffering) of the data on a user's device. Video traffic in particular has become the dominant source of IP traffic by volume, accounting for 70% of all global IP traffic in 2016, with Cisco forecasting an increase to 82% by 2021.¹¹ From the end user perspective, broadband access offers the same modular transmission function for streaming video as with other cloud services. Streaming services are typically portable, and customers expect to access the same media on different devices in different places and over different access networks.

To summarize, OTTs are transforming how we communicate, interact, consume entertainment, work, play, and create. Often times, OTTs are bringing consumers costs down while also expanding their opportunities – and this is good. OTTs multiply consumer choice. The success of OTTs is an intended consequence of the Internet's original design. Policy and regulation should be designed to protect and encourage the internet as the competitive environment that favors consumer choice that it is right now, and not to stop it.

¹⁰ Mary Meeker, *Internet Trends 2017* (May 31, 2017) at 181, <http://kpcb.com/InternetTrends>; *see also id.* at 184 (describing various emerging cloud applications, such as new methods for software delivery and “elastic analytical databases”)

¹¹ Cisco, *Cisco Visual Networking Index: Forecast and Methodology, 2016-2021* (June 6, 2017), <http://www.cisco.com/c/en/us/solutions/collateral/service-provider/visual-networking-index-vni/complete-white-paper-c11-481360.html>; *see also* Sandvine, 2016 Global Internet Phenomena: Latin & North America, at 4.

2. What are the policy and regulatory matters associated with OTT?

As online services and applications become more important for consumers and businesses, there is a pressing need to preserve the environment of permissionless innovation that allowed these services to exist. On the one hand, it is important to remember that competition and consumer protection, intellectual property, freedom of expression, cybersecurity norms, privacy, among others, that apply to the entire economy, evidently also apply to OTTs. And these norms are within the regulatory power of the nation-state. On the other hand, it is fundamental to not lose sight of the transformative effect that the open internet environment has had in modern life and economics.

The pillar of the innovative environment that has multiplied consumer choice is network neutrality. In the US, where since the 2015 Open Internet Order has codified the net neutrality principles, and elsewhere, the benefits have been clear: cloud-based service providers and small startups have thrived in an open Internet with low barriers to entry, broadband providers have benefitted as consumer demand for service has increased, and most importantly, consumers have reaped the benefits of being able to access any and all content of their choosing without having to pay premium fees on top of their subscriptions.¹²

In order to guarantee innovation in the market place and protect consumers, national telecom regulators should enact net neutrality rules and regulations. Large broadband providers have an economic incentive to block competitors' content, which only amplifies the need to protect consumers' ability to access lawful content, applications, and services. As the broadband market becomes more consolidated, there is "an even greater need for explicit protections against the blocking of lawful content online."¹³

Blocking is not just a theoretical harm. Carriers have shown they are willing, when they can, to prevent customers from accessing competing services: In the US, for instance, Verizon once blocked many of its customers from using Google Wallet,¹⁴ which competed with its own payment solution. And when the iPhone was an AT&T exclusive, AT&T had Apple block VOIP apps from its app

¹² Internet Association, Principles to Preserve & Protect An Open Internet 6 (2007).

¹³ Comments of the Open Technology Institute at New America Foundation, GN Docket No. 14-28 (filed March 23, 2014), at 11.

¹⁴ David Goldman, *Verizon blocks Google Wallet*, CNN Money (Dec. 6, 2011), http://money.cnn.com/2011/12/06/technology/verizon_blocks_google_wallet/index.htm.

store.¹⁵ Another instance of blocking again involved AT&T and Apple--this time, when AT&T used its control over certain carrier-specific settings on iPhones to prevent FaceTime from working over a mobile connection.¹⁶ These instances show that although carriers may pledge not to block, e.g., access to union websites or news, that “blocking” can take many forms and that deciding what is blocking, and what isn’t, should not be left to the carriers themselves.

Chile was the first country to adopt enforceable net neutrality rules in response to ISPs blocking certain ports. Sparked by major ISPs acting contrary to the principle of net neutrality, Neutralidad Sí (a citizen-organized group) led a social media campaign using Facebook, Twitter, and other forums, to get the attention of those in power to change the rules. “This speaks to the potential of not only grassroots organization, but the strength of the public voice. It is considered a major feat for net neutrality advocates worldwide.”¹⁷ It is also worth noting that Chile has a “highly competitive telecommunications market” and compared to other nations around the world, “Chile has seen a significant amount of investment in the telecommunications sector.”¹⁸ With an open Internet comes incentive to invest further.

The Netherlands followed suit and was the second country to adopt strong net neutrality rules after the Netherlands’ primary service provider, KPN, crossed a line. KPN was engaged in similar behavior in 2011 regards to mobile data and charged consumers additional fees in order to access Skype and WhatsApp instead of KPN’s own messaging and voice services.¹⁹ To safeguard against KPN’s incentives to behave anti-competitively, strong rules were implemented in 2012.

Countries like Vietnam and Saudi Arabia have cracked down on access to mobile apps like Skype, WhatsApp and Viber as they pose a competitive threat to incumbent telecommunications firms in the area and proposed bans in the past to block their use.²⁰ Apps like these are the primary

¹⁵ Tony Bradley, *AT&T and Apple Admit Deal to Block VoIP on iPhone*, PCWorld (Aug. 24, 2009), http://www.pcworld.com/article/170661/apple_att_fight_voip_on_iphone.html.

¹⁶ John Bergmayer, *Holding AT&T to Account for Blocking FaceTime on iPhones and iPads*, Public Knowledge (Sept. 18, 2012), <https://www.publicknowledge.org/news-blog/blogs/holding-att-to-account-for-blocking-facetime-on-iphones-and-ipads>.

¹⁷ Open Media, *An Action Plan for a Connected Canada*, <https://castinganopennet.ca/plan/international-comparisons/chile>.

¹⁸ *Id*

¹⁹ Iljitsch van Beijnum, *Netherlands becomes world’s second “net neutrality” country*, Ars Technica (May 10, 2012), <https://arstechnica.com/tech-policy/2012/05/netherlands-becomes-worlds-second-net-neutrality-country/>.

²⁰ Vivian Salama, *Saudi Arabia: The Internet’s Enemy Cracks Down on Skype, Whatsapp, and Viber*, Daily Beast (March 29, 2013), <http://www.thedailybeast.com/saudi-arabia-the-internets-enemy-cracks-down-on-skype-whatsapp-and-viber>; Reuters, *Vietnam Examines Policy on Chat Apps, Ban Possible*, VOA (Aug. 20, 2013), <https://www.voanews.com/a/reu-vietnam-chat-apps-media-viber-whatsapp/1733710.html>.

way that consumers stay in touch with their friends and families both locally and abroad and such bans would have astronomically negative effects.

In addition, as consumers rely more heavily on the Internet as their source of news and information,²¹ and in some cases economic and financial source, the potential political and economic gains from blocking access to sources of information increase, and will continue to increase. In usually consolidated broadband marketplaces dominated by just a handful of ISPs, only a few points of control can restrict the information available to wide swathes of the population. Politicians, pressure groups, and even other companies may pressure ISPs to limiting consumer access to news sites or prevent them from using some online services. National telecom regulators should take account of this dynamic, and not rely too heavily on what broadband providers promise today. Incentives matter more than intentions. When broadband providers ask for a “level playing field” what they are really asking is for a permission to discriminate against OTTs and third party-content in benefit of their own products.

At the same time, as the internet economy develops, many OTT markets are subject to competition problems themselves. Vigorous antitrust enforcement is necessary to ensure that all markets remain competitive, and in the case of online platforms, competition problems are often exacerbated by network effects, first-mover advantages, and technological lock-in that prevents a healthy market from functioning. As they apply antitrust and competition law to online markets regulators must be aware of these factors.

3. How do the OTT players and other stakeholders offering app services contribute in aspects related to security, safety and privacy of the consumer?

OTT players are subject to the same general consumer protection laws and regulations that affect all actors of an economy. In addition, OTT players should encourage the creation or consolidation of regulatory environments that encourage practices that enhance consumer safety and privacy. The popularization of encryption is an example of the work of some OTT providers to enhance consumer safety, security, and privacy.

²¹ The Pew Research Center released a report in late 2013 showing key trends in the way consumers are accessing and interacting with the Internet and news outlets. Andrea Caumont, *12 trends shaping digital news*, Pew Research Center (Oct. 16, 2013), <http://www.pewresearch.org/fact-tank/2013/10/16/12-trends-shaping-digital-news/>.

OTTs have played a significant role in the development and rise of encryption in the modern internet. While encryption technologies have been available for decades, their adoption has jumped significantly in the last few years. Sandvine reported that, as of January 2016, 37.5% of fixed traffic and 64.5% of mobile traffic in North America was encrypted.²² This is consistent with other estimates—according to one report, HTTP Secure (“HTTPS”) accounted for 49% of web traffic in February 2016, as compared to 13% in April 2014. Sandvine predicts that, once Netflix finishes its implementation, 80% of North American traffic on fixed access networks will be encrypted.²³

Much of this traffic uses Secure Sockets Layer/Transport Layer Security (SSL/TLS) protocols, which build upon TCP. Using SSL/TLS, the sending end system encrypts data before passing it to TCP, which then performs its usual functions (like segmenting the data into packets). The data is decrypted on the receiving end system, after the packets have been received and reassembled at the transport layer.²⁴ As a result, the operators of intermediate networks or third parties who intercept the packets cannot understand the contents of their payloads without some other way to defeat the encryption. HTTPS is an implementation of SSL/TLS for Web traffic. Virtual private networks (VPNs, often times OTTs) are another important encryption method, used by many enterprises and other organizations to protect the confidentiality of communications over the internet between their secure home networks and remote users on other access networks. These various measures protect (if not entirely) consumer privacy and allow for beneficial online activity, such as online shopping and banking. Notably, their deployment and take-up is due to the actions of OTT service, not last-mile network providers.

National telecom regulators should recognize how different jurisdictions might promote different public interest aims in light of current technology and the complementary roles of OTTs and network operators. For instance, in the past different laws have required broadcasters to provide emergency alerts. On a global internet, requiring, for instance, OTT video providers to geo-target alerts to specific areas would be unmanageable and would reduce entry into a competitive market. But the same public safety goals can be realized through network-level alerts—there is no reason for each OTT service application to duplicate functionality already provided by the network. (A similar

²² Sandvine, *2016 Global Internet Phenomena: Spotlight: Encrypted Internet Traffic*, at 4, 6, <https://www.sandvine.com/resources/global-internet-phenomena/spotlight/internet-traffic-encryption.html>

²³ Sandvine, *The Encryption Tipping Point in North America* (April 25, 2017), <http://www.internetphenomena.com/2017/04/the-encryption-tipping-point-in-north-america/>.

²⁴ Kurose & Ross 94.

analysis applies to “text-to-911” style features, user location data, and so on.) By contrast, for some matters, such as accessibility, there may be no alternative to direct regulation of OTTs. In both cases however the controlling consideration should be how to most efficiently promote the public interest, not misplaced and incorrect views of fairness, or an interest by legacy operators to impose unnecessary and illogical costs on their new competitors, or to extract rents from complementary services.

4. What approaches might be considered regarding OTT to help the creation of environment in which all stakeholders are able to prosper and thrive?

Member States should create enabling environments in which all stakeholders are able to prosper and thrive by the adoption of Open Internet principles everywhere.

Expanding on the points presented in previous pages, we believe that national telecom regulators should specifically discourage initiatives proposed by network operators to solve an inexistent “free-rider” problem by OTTs. Internet users and OTT companies already pay for the internet connection to an ISP. Allowing network operators to charge OTTs to pay for “using their networks” amounts to allowing network operators to establish paid prioritization in accessing customers, and fragmenting the Internet. A ban on paid prioritization thus not only prevents ISPs from exercising their gatekeeper power to accept or demand fees for prioritization, it prevents large edge services from crowding out smaller competitors with fewer resources. It thus effectuates the “virtuous cycle” that allows all stakeholders to prosper and thrive.

The “virtuous cycle” is based on “new uses of the network—including new content, applications, services, and devices—lead to increased end-user demand for broadband, which drives network improvements, which in turn lead to further innovative network uses.”²⁵ This cycle depends on edge providers being able to easily enter the market, driving end-user demand and increasing innovation. Absent a ban on paid prioritization, edge providers will not be able to freely enter the market in the same way - instead, they will have to use their scarce resources simply to have access to the “fast lanes” to remain competitive against incumbent businesses. The best way to guarantee that all stakeholders to prosper and thrive is to dismiss the “free-riding” fallacy, ban paid-

²⁵ 2010 *Open Internet Order* at 17910-11, para. 14.

prioritization, and encourage an environment in which consumer choice and innovation drive up the demand for Internet services.

An ISP may want to collect fees from edge services for prioritization, or to prioritize its own vertically-integrated content or service. Not only do they have the incentive, but they also had the intent – in the US, Verizon has admitted under oath that, “but for these rules, we would be exploring those commercial arrangements.”²⁶ Indeed, in some ways the risk calculation around prioritization vs. throttling is different, because while it is hard to envision a service asking for itself to be throttled (and it may be legally risky for it to ask that its competitors be throttled), a large edge service may try to use its market power or financial resources to prioritize itself at the ISP level over its competitors.

In the US, the FCC banned paid prioritization in 2015, it did an enormous service to the digital economy. Prior to the FCC’s adoption of these rules, venture capitalists observed that because the possibility of paid prioritization, they planned to “‘stay away from’ startups working on video and media businesses”²⁷ and noted that a proposal to allow some forms of paid prioritization added “another impediment to the already challenging fund-raising environment for digital media startups.”²⁸

The trend in broadband access is toward faster and more capable networks. Indeed, at times network performance can outstrip the ability of applications to take advantage of it--creating a needed “buffer” which permits users to use multiple applications simultaneously and provides headroom for future applications. In short, the trend in broadband is towards abundance. Perversely, though, because paid prioritization is a form of monetizing scarcity, (along with other measures like data caps on fixed networks) it disincentivizes network investment and even creates an incentive to artificially limit network performance. Because paying for prioritization is only rational if it offers significant performance improvements, allowing ISPs to charge some edge providers for prioritized service ensures that slow lanes will remain slow.

²⁶ Verizon Oral Arg. Tr. at 31 (D.C. Cir. Case No. 11-1355), [https://www.cadc.uscourts.gov/recordings/recordings2014.nsf/DCC90B260B5A7E7D85257BE1005C8AFE/\\$file/11-1355.mp3](https://www.cadc.uscourts.gov/recordings/recordings2014.nsf/DCC90B260B5A7E7D85257BE1005C8AFE/$file/11-1355.mp3).

²⁷ David Talbot, *Talk of an Internet Fast Lane Is Already Hurting Some Startups*, MIT Tech. Rev. (May 7, 2014), <http://www.technologyreview.com/news/527006/talk-of-an-internet-fast-lane-is-already-hurting-some-startups/>.

²⁸ lex Wilhem, *Despite Furor, Proposed Net Neutrality Changes Appear Headed For A Vote*, TechCrunch (May 9, 2014), <http://techcrunch.com/2014/05/09/despite-furor-proposed-net-neutrality-changes-appear-headed-for-a-vote/>.

The rise of vertical integration between ISPs, content (video programming in particular) and online services enhances the risk of prioritization. In the US, Comcast now owns NBCUniversal, Verizon now owns AOL, Flickr, and Tumblr, and AT&T owns the popular online video service DirecTV Now and is attempting to purchase Time Warner. In Argentina, Clarin owns now Telecom and Cablevision. Each of these acquisitions has increased the incentive of each respective ISP to engage in unlawful prioritization.

Prohibiting paid prioritization helps to foster broadband network investment by setting clear boundaries of acceptable and unacceptable behavior and thus providing business certainty. An open Internet benefits the entire Internet ecosystem--edge providers and startup companies who continue to innovate and create knowing that their services will reach consumers, consumers who have access to such a wide range of services, and ultimately, broadband providers who benefit from increased demand of their services.

Paid Prioritization would disadvantage small businesses, independent creators, and startups. Without the ban on paid prioritization, it is likely that broadband providers would partner with one, or a limited few, edge services to provide services to their consumers that are preferred over others.²⁹ Whether in the form of direct payment for prioritization or another form of equity exchange, edge services in these deals with broadband providers will be in a position to charge higher prices for their services.³⁰ This sort of agreement would not be nearly as profitable for broadband providers to engage in with small edge services with smaller customer bases and smaller profit margins.

In a world with discriminatory broadband access, smaller and new competitors with less capital would be the least likely to be able to afford to pay for priority treatment online. (In fact, some of the most beneficial content online is non-commercial in nature and would likely never be able to afford to upgrade their quality of service to compete with large edge services.) This will put them at a significant disadvantage against their more well-funded competitors.

For a more detailed description of other dangers of paid prioritization, please see Annex I.

²⁹ Jon M. Peha, *The Benefits and Risks of Mandating Network Neutrality, and the Quest for a Balanced Policy*, 34th Telecommunications Policy Research Conference, at 655 (2006), <http://repository.cmu.edu/cgi/viewcontent.cgi?article=1021&context=epp>.

³⁰ *Id.* at 654-55.

5. How can OTT players and operators best cooperate at local and international level? Are there model partnership agreements that could be developed?

Network operators are in a very privileged position thanks to the Internet, even if they don't often recognize it. Cisco's Visual Networking Index (VNI) forecast, projects global IP traffic to nearly triple from 2016 to 2021. And the trends are truly amazing: "Globally, monthly IP traffic will reach 35 GB per capita by 2021, up from 13 GB per capita in 2016, and Internet traffic will reach 30 GB per capita by 2021, up from 10 GB per capita in 2016. Ten years ago, in 2007, per capita Internet traffic was well under 1 GB per month. In 2000, per capita Internet traffic was 10 Megabytes (MB) per month."³¹ Network operators are in the unique position of offering access to a service which demand will only go up in the coming years.

As Silverstreet, a messaging company affiliated to the GSMA reminds us in a presentation, "mobile operators are definitely benefitting from the popularity of OTT services thanks to increased data use and resulting income. And typically, once customers start using data plans – often thanks to the viral nature of OTT communication services – they begin using increasing amounts of data as they get familiar with the smartphone application environment."³² Some forward-looking operators are recognizing the advantages of this trends. Chorus, a New Zealand operator, is aware that "fibre demand has accelerated materially since early 2015 – [due to] the "Netflix effect"³³. Steve Chege, corporate affairs director of Kenya's Safaricom acknowledges that "The introduction of services such as WhatsApp has been good for telcos in Kenya, as it is driving increased use and uptake of data both socially and from a business perspective."³⁴

Some large OTT providing companies are also contributing directly to the layout of the physical infrastructure of the Internet. Microsoft is building a subsea cable across the Atlantic.³⁵

³¹ Cisco, The Zettabyte Era: Trends and Analysis. (June 7, 2017) https://www.cisco.com/c/en/us/solutions/collateral/service-provider/visual-networking-index-vni-hyperconnectivity-wp.html#_Toc484556816

³² Silverstreet, "The OTT opportunity for operators" (August, 2013) <https://www.gsma.com/membership/wp-content/uploads/2013/10/White-paper-Aug2013.pdf>

³³ Chorus. UFB2 – Taking Fibre Further (26 January, 2017) <https://company.chorus.co.nz/file/78283/252023.pdf>

³⁴ Hannah Kuchler, "WhatsApp: Let's chat". Financial Times (August 3, 2016) <https://www.ft.com/content/ea17605e-4846-11e6-8d68-72e9211e86ab?mhq5j=e1>

³⁵ Microsoft, "Microsoft and Facebook to build subsea cable across Atlantic" (May 26, 2016) <https://blogs.technet.microsoft.com/hybridcloud/2016/05/26/microsoft-and-facebook-to-build-subsea-cable-across-atlantic/>

Amazon web services is investing in the Hawaiki Submarine Cable– expected to be online in June 2018.³⁶ In partnership with Singapore’s Singtel and other companies, Google is building a subsea cable to provide more connectivity between Australia and South East Asia.³⁷ Facebook, Google, Pacific Light Data Communication, and TE SubCom are a 12,800 km transpacific submarine cable system that will provide the first direct undersea route between Hong Kong and Los Angeles.³⁸ Major OTTs also build their own content delivery networks (CDNs), bringing network traffic closer to last-mile networks, improving performance for users and reducing costs for both last-mile networks and OTTs. Arrangements like this, that measurably improve the functioning of the internet, should be encouraged. By contrast, proposals to simply monetize and ration existing bandwidth scarcity instead of overcoming it, or to charge OTTs simply for access to a network operator’s customer based, should be discouraged.

In general, OTT players and network operators are best when left to do what they are supposed to do. Network operators should focus in guaranteeing quality and affordable access to the network. As the demand for internet access keeps growing, they are consolidating their position as necessary actors in the modern economy. OTTs should continue focusing in providing better services using the network. The ITU should recognize these complementary roles and leave it to national policy makers to decide what is best for their markets, while taking into consideration the global nature of the Internet.

³⁶ DataCenterKnowledge, “Amazon’s Cloud Arm Makes Its First Big Submarine Cable Investment” (May 13, 2016) Amazon’s Cloud Arm Makes Its First Big Submarine Cable Investment

³⁷ Singtel “New subsea cable to provide more connectivity between Australia and South East Asia” (April 6, 2017) <https://www.singtel.com/about-us/news-releases/new-subsea-cable-to-provide-more-conectivity-betwen-australia-and-south-east->

³⁸ TE Connectivity “TE News” Press Release (October 12, 2016) <http://www.te.com/usa-en/about-te/news-center/subcom-facebook-google-pldc-co-build-plcn-101216.html>

Conclusion

We thank the ITU for the opportunity of participating in this consultation. We hope our comments help to inform better policy-making worldwide. We believe that telecom regulators should work to foster the competitive internet environment that has transformed how we work, communicate, consume, and create. For that, we believe they should focus in advancing open internet principles and reject the premises explicit or implicit in the “level playing field”, “free-rider”, and “same services same rules” questions.

We urge the ITU to re-focus on its core mission, to serve Member States and help “connecting all the world's people – wherever they live and whatever their means”.³⁹ The existing and original Internet ecosystem has transformed the world, our economies and societies. The ITU should not attempt to change the current environment. Imposing network operator regulations over OTT services, or equating the regulations of OTTs and network operators, is a wrong approach that might harm the Internet, consumer choice, and public interest.

³⁹ ITU “About” <http://www.itu.int/en/about/Pages/default.aspx>

Annex I

Paid Prioritization will Harm Consumers:

Fees incurred by edge providers will be passed onto consumers and/or subscribers. Without a ban on paid prioritization, broadband providers will freely charge edge providers higher fees and premiums to reach their consumers. To make up for this additional cost, edge providers will have to increase the prices they charge consumers. And to optimize these prioritized networks (“fast lanes”), broadband providers will have to also increase the prices they charge consumers. And with fewer and fewer players in the market, consumers will have no choice but to pay these higher fees in order to access the same content they were accessing for less before. Without a ban on paid prioritization, consumers will have to pay more to get on the Internet and then will have to pay more to view content once they’re online. Meanwhile, large broadband providers will continue to profit on their anti-competitive behavior at the cost of consumer choice.

Paid Prioritization Will Harm Free Expression

Most importantly, the Internet is a platform for political participation, social engagement, and cultural creation.⁴⁰ Particularly when it comes to the political landscape, the Internet allows people to engage in civic and political discourse via video sharing sites and blogs.⁴¹ Such political engagement not only benefits the consumers directly engaged, but also has spillover benefits for those that may not engage in a discussion but still read or watch it.⁴²

Broadband providers will be able to decide for consumers what information they can access on the Internet.

The term freedom of expression encompasses any act of seeking, receiving and imparting information or ideas, regardless of the medium used. “[I]f broadband providers can discriminate among content, they can effectively pick winners and losers, interfering with the public’s ability to freely educate itself about political, cultural, and social issues – education that is critical to our

democracy.”⁴³ It should be the consumers that choose what they read about, not broadband providers. And it should be the consumers that decide what the most important news is, not broadband providers.

Paid prioritization would especially harm low-income communities and underserved minorities who cannot afford to be heard on traditional media outlets.

An open Internet ensures that every voice has an opportunity to be heard and protects the free flow of information from diverse sources. The Internet has provided an alternative means of representation to underrepresented demographics, including rural, low-income and minority communities. These groups have historically had less access and disproportionately low and inaccurate representation in all forms of media.⁴⁴ An open and free Internet created an opportunity to change that for everyone, especially these particular communities. Without clear net neutrality rules, there is a great threat to many populations to whom an open and free Internet has been the most beneficial. It is critical to preserve the Internet as an open platform where individuals and communities can speak on their own behalf to wider communities without the same barriers to entry that traditional media outlets present.

There are unique and particular harms for non-commercial edge providers.

Without a ban on paid prioritization, it is not only consumer edge providers that will suffer from the anti-competitive practices of broadband providers. Non-commercial edge providers may have to either buy into the fast lanes, which will prove to be extremely difficult given their financial constraints, or they will be banished to the “slow lanes” of the Internet, dooming them to an eventual destruction if they aren’t willing to implement fees to access their content. The end result of either is harm to the consumer.

Absent a ban on Paid Prioritization, large broadband providers will have the opportunity to act in a way that could ultimately inhibit the speed and extent of future of broadband deployment. As the market currently stands, broadband providers generally have an incentive to deploy broadband

networks as far and as wide as they can to reach as many consumers as possible and increase their profit margin.

However, if paid prioritization is allowed, broadband providers will be able to increase their profit margins by simply charging consumers more money for access to “fast lanes” on the Internet. Additionally, broadband providers will actually have an incentive not to maintain a high-quality “standard lane” because if their only alternative is a barely usable connection, consumers will “choose” to pay more for prioritized networks.

Paid prioritization would allow broadband providers to charge edge providers additional fees to reach their subscribers, especially those in more remote geographic locations. But after weighing the potential profits with the cost to reach remote consumers, edge providers may simply elect not to pay to reach said consumers, leading to what is known as redlining. This is bad enough on its own but if the ITU encourages for paid prioritization is permitted, ISPs will also engage in conduct known as “virtual redlining” - conduct that leaves consumers in certain areas with access, but at significantly slower speeds.⁴⁵ Edge providers will pay more to ISPs to prioritize their content to *certain* customers but not to all of them. That means that rural communities and largely minority communities will be left behind in two ways - first, by ISPs that are reluctant to invest in broadband infrastructure deployment to those areas; and again, by edge providers that won't be willing to spend money to deliver their content to those same customers at prioritized speeds.⁴⁶

Paid prioritization creates a perverse incentive because “underinvestment in infrastructure is more appealing if the result is increased sales of a prioritized offering balancing out any loss in direct subscribers.”⁴⁷ This bifurcated network will reduce incentive for investment in network build-out and instead incentivize its deterioration.

Paid Prioritization will not lead to increased broadband deployment and investment.

While large broadband providers claim that their ability to charge edge providers for better access ultimately benefits the entire industry because it will fund future network build-out and investment in infrastructure, this is simply not reflected in broadband providers' behavior. Broadband providers are already extremely profitable but they have not proportionally reinvested in the network. What

makes us think that this will change in the future? Without concrete evidence that their claim is true, it is extremely dangerous to give broadband providers more room to harm consumers by taking away consumer choice.

Paid prioritization is not necessary for real-time or interactive services.

Paid prioritization is not needed to ensure that real-time or interactive services, like telehealth, are successful. In fact, the opposite is true. This new concept of tiered pricing based on the type of content being delivered would disrupt the Internet as we know it and would harm doctors, patients, and smaller startup Internet companies working diligently to upgrade our nation's digital healthcare infrastructure. To ensure America's healthcare technology infrastructure can continue to grow and flourish for the rich and poor alike, it is imperative that broadband providers are not allowed to create tiers of speeds in this manner.⁴⁸

Additionally, "[r]ural and underserved communities with fewer choices of ISPs will likely receive diminished care, at slower speeds and higher cost."⁴⁹ Without a ban on paid prioritization, broadband providers are likely to seek an increased source of income by charging healthcare providers premium fees.⁵⁰ These fees would be passed onto consumers with would simply add a barrier of access for patients who need this kind of service the most.⁵¹ It is due to strong net neutrality rules that services like telehealth and telemedicine continue to be so useful to consumers without unduly burdening consumers with heavy fees.

The existence of alternative traffic delivery arrangements is not equivalent to paid prioritization by broadband providers.

Alternative traffic delivery arrangements, like paid peering agreements, are different than paid prioritization and as such, the same rules should not apply to both. Arguments that analogize bans on paid prioritization to bans on CDNs or paid peering are simply fallacious.

Paid peering and CDN agreements allow content providers, especially streaming services, to pay content delivery networks to host their data on local networks and then deliver the data to broadband providers for better performance.⁵² This enhances existing infrastructure as the interconnection deals create additive gains to network capacity and efficiency, unlike the zero-sum game of paid prioritization.⁵³ While by charging arbitrarily high rates for paid peering or denying access to CDNs can be discriminatory, it is important to distinguish arrangements that improve the physical infrastructure of the network from paid prioritization, which is nothing more than monetizing scarcity.