COMMENTS OF VERIZON COMMUNICATIONS

On the European Commission Questionnaire for the Public Consultation on the Open Internet and Net Neutrality in Europe, Issued 30 June 2010

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Introduction

The following position paper encapsulates Verizon's comments in several U.S. and international proceedings to-date regarding the 'open Internet,' net neutrality and related consultations on network management practices. Although this text has been developed to relate experiences and views for purposes of consultations in Europe, where relevant, we also discuss developments particular to the U.S. debate.

In a few short years, the debate regarding network neutrality has grown from a discrete but ill-defined set of theoretical concerns voiced by some proponents of broadband regulation in the U.S. to a global set of discussions regarding network management practices and the applicability of, or need for, certain rules to ensure Internet openness. While the term "network neutrality" continues to be defined myriad ways, often dependent upon the speaker, several key national and regional proceedings have focused-in on emerging conclusions: 1) the lack of evidence that anti-competitive practices giving rise to net neutrality-related concerns are occurring in the marketplace, and 2) the notion that, in a competitive market, improved transparency that is meaningful to consumers is key to ensuring that hypothetical "concerns" do not become manifest. These conclusions have also been emphasized in previous consultations on national level, such as the recently conducted Ofcom consultation on the same topic.

In November 2009, revisions to the European Electronic Communications Regulatory Framework (the "Framework") were approved, including language to resolve network management-related issues which, although a small component of the EU texts, established key principles for implementation. Adding to the above conclusions, the Framework also:

- Recommended case-by-case scrutiny of alleged network management problems, to ensure that these do not restrict competition; and
- Established that regulators may impose minimum QoS rules, if necessary – when they determine that service degradation has occured warranting such rules.

Throughout development of these aspects in the revised Framework, it was emphasized that the power to set minimum QoS rules would be a reserve competence – for action by a national regulator in the event that service degradation was detected in the marketplace – which would then require the engagement of government with technical experts and the advice of the Commission to determine how such rules could be drawn. We discuss in detail below that no evidence of service degradation or anti-competitive conduct of the type envisioned by net neutrality proponents is apparent in markets in which we operate, a conclusion with which other regulators have agreed. Further, we also explain that these provisions and reserve competence have no relevance to the provision of business services, which should be exempted from their application – a critical conclusion to reach in the context of Framework implementation. It is our view that the continued light touch approach to net neutrality issues under European rules is justified by myriad considerations set forth in this filing, but particularly – the absence of demonstrated problems, the regulatory tools to encourage transparency and case-by-case review of alleged anti-competitive conduct, and continued adherence to consumer protection principles.

Where relevant, we have referenced specific questions from the European Commission's Questionnaire. But for purposes of organization and thematic flow, we have organized our comments under the following sub-headings:

The Nature of Networks, Traffic Growth and Value of Network Management

The Internet is a network of networks, where traffic is exchanged in thousands of handshakes that take place by mutual agreement among the more than twenty thousand networks that comprise the Net. These handshakes, and the multitude of communications and complex interrelationships that they facilitate, are critical parts of the Internet ecosystem. In its consultation paper, the European Commission asked: "How might problems arise in the future, and could these emerge in other parts of the Internet value chain?"[1]

On any given day, more than 100 million people connect to the Internet using a Verizon network, whether wireless or wireline. And, each day, on Verizon's network:

- 1.7 billion text messages are exchanged (more than 180 billion in the most recent quarter alone)
- 50 million video/pictures are exchanged
- 400 million e-mails are received

[1] European Commission, "Questionnaire for the Public Consultation on the Open Internet and Net Neutrality in Europe." rel. 30 June 2010 [hereinafter "EC Questionnaire"], at: http://ec.europa.eu/information_society/policy/ecomm/doc/library/public_consult/net_neutrality/nn_questionnaire.pdf

- 8.7 petabytes of video is streamed – the data equivalent of 4 million full-length digital movies
- 5 billion potential online incidents are detected and acted upon

The volume of traffic that traverses Verizon networks, and the breadth of activity facilitated through our networks, is alone extraordinary. However, it is worth noting that the top ten global providers, in terms of Internet backbone traffic volumes, have changed significantly in only two years, and companies such as Google and others now are near the top of the list in terms of the amount of Internet traffic travelling over their networks, having displaced several traditional network operators.[2] Overall traffic volumes borne by these and others in the Internet ecosystem are only expected to increase. As a recent study produced by Cisco revealed, global IP traffic is expected to quintuple from 2008 through 2013.[3]

Verizon will have invested more than US$23 billion by the close of 2010 in its FiOS fiber-to-the-home network in the U.S. – an investment that has enabled Verizon to pass 15.9 million homes with fiber by mid-2010, approximately 50 percent of the households in Verizon's U.S. wireline network footprint. Verizon's fiber network today offers Internet download speeds of up to 50 Mbps and upload speeds of up to 25 Mbps, with much faster speeds possible when consumer demand warrants them. Most recently, Verizon completed a field trial in which approximately 1Gbps bandwidth was delivered to a customer on the currently deployed FiOS gigabit passive optical network.[4] In addition, in 2008, Verizon Wireless invested over $9 billion for spectrum in the 700 MHz auction, and it will initiate commercial 4G wireless service (via long term evolution, "LTE") with coverage to approximately 100 million people in 25-30 markets in 2010, with nationwide build out completed by the end of 2013.[5]

Verizon is also a premiere provider of communications and IT solutions internationally, with our European headquarters located in Reading, UK and business presence in the vast majority of the EU member states. With over 485,000 route miles of fiber over six continents, and operations in 159 countries, we combine professional expertise with one of the world's most connected IP networks to deliver award-winning communications, IT, information security and network solutions. We securely connect today's extended enterprises of widespread and mobile customers, partners, suppliers and employees – enabling them to increase productivity and efficiency and help preserve the environment. Many of the world's largest businesses and governments – including 96 percent of Fortune 1000 businesses and thousands of government agencies and educational institutions – rely on our professional and managed services and network technologies to accelerate their business.

Verizon recognizes that its strategic investments in FiOS, LTE and its world wide networks put it in a unique position to address future capacity needs. However, despite that the fact some network architectures have clear benefits over others, networks generally are designed on a premise of shared bandwidth with capacity limits. In this environment, the "necessity"

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[2] See Atlas, Internet Observatory: 2009 Annual Report, slides 10-15, at: http://www.nanog.org/meetings/nanog47/presentations/Monday/Labovitz_ObserveReport_N47_Mon.pdf.

[3] See Cisco Visual Networking Index: Forecast and Methodology, 2008-2013 (9 June 2009), at: http://www.cisco.com/en/US/solutions/collateral/ns341/ns525/ns537/ns705/ns827/white_paper_c11-481360.pdf. Key drivers cited for this growth are increasing take-up of high definition video, increasing high speed broadband penetration, and the growth of customer-generated content.

[4] See Verizon Demonstrates Near Gigabit-per-Second Throughput on its Existing FiOS GPON Platform, Verizon News Release (16 Aug. 2010), at: http://newscenter.verizon.com/press-releases/verizon/2010/verizon-demonstrates-near.html.

[5] Comments of Verizon and Verizon Wireless, in "in the Matter of Preserving the Open Internet and Broadband Industry Practices" [hereinafter "Verizon Comments"], FCC GN Dkt. 09-191, WC Dkt. 07-52 (14 Jan. 2010), Topper Decl. ¶ 65.

of applying network management tools (as raised in the EC Questionnaire) is easy to illustrate.

Some 'net neutrality' advocates have suggested that regulation should lock in place for the Internet a first-in-first-out, best-effort traffic model of packet delivery – an 'all bits must be treated the same' approach. This would be a radical change – the medium simply has never worked that way – and would be harmful going forward. Providers have long blocked certain packets identified as being harmful to the network or used content delivery networks or caching to benefit particular content. Future services also will increasingly benefit from network management that differentiates among packets. For instance, some real-time applications – IPTV, VoIP, online gaming, video conferencing and medical monitoring, to name but a few – demand very high service quality and are especially vulnerable to problems caused by congestion, latency and/or rapid changes in bandwidth demand. By prohibiting the beneficial differentiation among different types of network traffic, or forcing network operators to pre-justify use of certain technologies, responses to many very real business and consumer needs would cease or be far less effective.

— For businesses, for instance:
- Blocking a distributed denial of service attack
- Implementing new file compression techniques
- Adding bandwidth to links regularly exceeding 80% of their designed capacity
- Facilitating seamless video and interactive conferencing solutions
- Providing virtual private networks (VPNs)
- Delivering enterprise-wide Voice-over-IP (VoIP) and 'IP Centrex' services

— For consumers, for instance:
- Blocking spam or phishing emails
- Using network-based parental controls for the purpose of protecting minors from inappropriate online content
- Enabling real-time home medical monitoring
- Facilitating multi-player interactive gaming
- Delivering the highest quality video and IP television experiences

Since the OECD developed its policy paper on this subject in 2007 – "Internet Traffic Prioritisation: an Overview"[6] – the number and variety of management tools available to network operators have grown through continuous technical innovation by network operators, engineers and equipment manufacturers. Indeed, the Internet has grown, developed and flourished in an open environment characterized by competition, cooperation and adaptation. Many of the 'net neutrality'-related concerns regarding network management tools simply ignore the fact that operators today already operate in this highly competitive and productive environment, and that differentiation furthers this competition and increases the choices available to consumers. While it is uncertain which new and innovative services will succeed, customer choice and quality of service are key to the survival of multiple competitors. Thus, the "incentives for potentially unfair discrimination" are very few indeed. This conclusion is particularly true for operators serving sophisticated business customers, many of whom are savvy negotiators concerning all aspects of their broadband services.

[6] See OECD, DSTI/ICCP/TISP/2006(4)FINAL (6 April 2007).

Various tools and practices may distinguish among different types of traffic on networks and, by their very nature, may therefore 'discriminate' among the various bits. But this form of discrimination may be a reasonable form of network management, particularly to certain types of services, in much the same way as traffic signals at intersections in a busy city center necessarily discriminate momentarily in the interest of a better overall flow of vehicle traffic. This was a point made directly by Commissioner Neelie Kroes in her speech in Paris on net neutrality this past April.[7] It is for this reason that revision of the Framework highlighted in relevant part that "discriminatory" treatment – in this case, the differentiated treatment of network traffic – generally is not indicative of anti-competitive behavior. Indeed, it is problematic only if it restricts competition and harms consumers.[8]

This interpretation is consistent with other elements in the Framework that recognize many forms of "discrimination," or differentiation, are pro-competitive.[9] In this environment, where service quality is increasingly critical, several precepts regarding the utility of network management have emerged:

- *First*, it is now widely accepted that network management practices are critical to maintaining a well-functioning Internet – among other things, they are necessary to deal with network congestion, optimize service quality, and respond to security threats of all types, from viruses and spam to denial-of-service attacks and botnets. This is particularly true of wireless broadband Internet access providers because of additional constraints resulting from the unique nature of radio spectrum as both a shared and scarce resource.
- *Second*, there is no way to "grow" out of the need for effective network management practices by increasing capacity – for example, providers will need to deal with security threats and latency issues no matter how large the network becomes. Network management will always be necessary.
- *Third*, network management requires maximum flexibility, in real time, to address differences in network technologies and constant changes in threats, traffic patterns and other factors.
- *Fourth,* network management is explicitly demanded by business customers in order to provide the service quality for which the customer contracts. As such, traffic can be managed upon the customer's request as part of a service.

Finally, proponents of broadband regulation have, at times, suggested that network management issues are linked to important, but unrelated, societal and political issues. For a time, for instance, during revision of the Framework, the network management debate was linked to key issues of fundamental rights and freedom of expression. However, traffic management policies in the network neutrality context are principally concerned with the way a service is delivered, not with the nature of the actual content of the data carried over the network. (That said, some proposed restrictions would infringe on the rights and freedoms of broadband providers.) In any event, these important fundamental rights debates should be undertaken with the entire Internet ecosystem in mind, but should not be confused or intermingled with the debate around network management.

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[7] See Vice President of the European Commission, Net Neutrality in Europe Address at the ARCEP Conference (13 April 2010), at: http://europa.eu/rapid/pressReleasesAction.do?reference=SPEECH/10/153.

[8] See Directive on Universal Service and Users' Rights Relating to Electronic Communications Networks and Services [*hereinafter* "Universal Service Directive"], O.J. L 337, 18.12.2009, at 15 (Recital 34).

[9] See, e.g., Commission Guidelines on Market Assessment and Significant Market Power under the Community Regulatory Framework for Electronic Communications Services, O.J. C 165, 11.7.2002, at 12 (discussing differentiated pricing, product substitutability and user demand in an otherwise competitive market).

Technical Issues with "Reasonable Use" and Deterrents to Bad Behaviour

Technical issues surrounding the types of traffic management techniques to deploy, when to deploy them, and how these may facilitate new service architectures were discussed at length in a comment filing made by David Clark, William Lehr and Steve Bauer of the Massachusetts Institute of Technology in response to the FCC's Net Neutrality Notice of Proposed Rulemaking (NPRM) in the U.S.[10] In addition, Gerald Faulhaber and David Farber, of the University of Pennsylvania and Carnegie Mellon University, respectively, also wrote at length on these issues in an exhibit that was appended to the Comment filing of AT&T. We would commend both filings to you on these issues.[11]

Clark, Lehr and Bauer wrote in part to address desire to "constrain"[12] or limit the types or nature of network management tools that could be applied on a network. While the inclination to define a "reasonable use" standard is understandable, according to Clark, Lehr and Bauer, such a definition or set of definitions would neither be easy to set nor ultimately effective:

> To understand the balance between stability and platform evolution, one must consider both, the needs and expectations of application and service designers, as well as the needs and expectations of ISPs themselves. Specifically, from a regulatory point of view, the question is whether regulation should attempt to define what is acceptable and unacceptable innovation with respect to the platform service of the Internet. Our conclusion is that while there are specific forms of innovation that can be deemed acceptable in advance, much experimentation that might occur here will fit into that middle ground where one cannot expect to write specific rules in advance to differentiate what is acceptable and unacceptable.[13]

Faulhaber and Farber also addressed this issue in the context of the NPRM. They are largely in agreement on the utility and/or possible harm from attempts to set "reasonable use" standards:

> Network management is difficult at best; driven by exogenous shocks requiring instant reactions from experienced network administrators using what tools are available and relying on experience. The long history of network management in telephone and data networks teaches us that we learn by doing, and we are constantly surprised. … This is not a job which is amenable to rules, since it involves highly technical, complex and dynamic engineering decisions well beyond the expertise of most regulators. When an event occurs and new lessons are learned, we cannot wait for a regulatory body to write new rules, go through a 90 day comment cycle,

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[10] See Comments of Clark, et al. ("Clark et al. Comments"), in FCC Dkt. 09-191, 07-52 (Jan. 14, 2010), at: https://portal.neca.org/portal/server.pt/gateway/PTARGS_0_0_307_206_0_43/http%3B/prodnet.www.neca.org/publicationsdocs/wwpdf/0114mit.pdf.

[11] See also Faulhaber and Farber, the Open Internet: a Customer-centric Framework, in FCC Dkt. 09-191, 07-52 (Jan. 14, 2010) (filed as Exhibit 1 to the Comments of AT&T), at: http://www.att.com/Common/about_us/public_policy/Exhibit1_Faulhaber-Farber.pdf.

[12] The consultation paper released by Ofcom asks whether "you think that unconstrained traffic management has the potential for (or is already causing) consumer/citizen harm?" Ofcom, "Traffic Management and 'Net Neutrality': a Discussion Document," rel. 24 June 2010, at 64, Annex 5, at: http://stakeholders.ofcom.org.uk/binaries/consultations/net-neutrality/summary/netneutrality.pdf.

[13] See Clark et al. Comments, supra note 10, at 3.02.1.

> followed by a reply comment cycle, and then possibly a court challenge to be able to use the lessons experience teaches us. This is an area for which regulation is particularly ill-suited.[14]

The desire to define or constrain network management practices to an "acceptable" set, one would think, would be based upon the need to correct *documented* problems. Appropriately the revised Framework does not seek to define or constrain network management practices. It also recognizes that there is a lack of observed problems or market failures that would warrant action at this time. Indeed, for purposes of the revised Universal Service and Framework Directives, certain affirmed powers and new reserved competence were created to be used in response to documented practices harming consumers or competition. This is particularly true of Article 22 of the revised Universal Service Directive, which highlights a new reserved competence of National Regulatory Authorities (NRAs) to set minimum quality levels, not as an anticipatory rule, but only in response to an observed deficiency in an otherwise competitive market. In referencing powers under the revised Framework, in the context of its own consultation on net neutrality issues, Ofcom has similarly noted that there is "no obligation on national regulators to introduce restrictions on traffic management or other forms of network management."[15] As Member States implement the provisions of the revised Framework, these aspects of the Framework's address of network management issues that underlie theoretical net neutrality concerns are particularly critical.

We are not aware of any difficulties in Europe – or for that matter, even rumors of difficulties – related to network management practices, a key (but hypothetical) concern often raised in support of "net neutrality" regulation. The absence of such behavior was also most recently noted by Ofcom, a lack of evidence that "also seems to be the case in the majority of other EU countries."[16] The absence of supporting evidence supporting this speculative concern is in line with our experience both, in the EU countries Verizon Business is doing business in as well as in the U.S. Indeed, in response to the EC Questionnaire with regard to whether there is "currently a problem of net neutrality and the openness of the Internet in Europe," the vast majority of "concerns" raised in the context of "net neutrality" have not manifested themselves in the marketplace.

The EC Questionnaire also asked if "content and application providers also try to prioritize their services." A variety of established members of the Internet ecosystem such as Google, Akamai, and Level 3 have their own extensive network facilities that are used to deliver their own or others' content and applications over the Internet. Each of them is in a position to prioritize or discriminate against selected traffic. For example, Akamai and other content delivery networks offer various services for a fee to content and application providers (*e.g.*, caching and content distribution networks, or CDNs) that enable their content to be delivered faster and more efficiently.[17] Level 3 and other backbone providers could, if they chose, enter into business arrangements under which they would prioritize content from providers that paid them an extra fee or degrade traffic from a competing backbone provider. Level 3

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[14] See Faulhaber and Farber, supra note 11, at 24-25. Although this segment of Faulhaber and Farber addresses the wireline context specifically, further in their paper the authors emphasize that wireless networks are different from land line networks in many ways, due to the use of shared spectrum, management of powering levels, and other critical reasons, which require great flexibility in network management practices to assure good network performance.

[15] See Ofcom, "Traffic Management and 'Net Neutrality': a Discussion Document," rel. 24 June 2010, at 10, at: http://stakeholders.ofcom.org.uk/binaries/consultations/net-neutrality/summary/netneutrality.pdf.

[16] See id., at 21 and 47.

[17] Comments of Akamai Technologies, Inc., in FCC GN Dkt. 09-191, 07-52 (Jan. 14, 2010), at 15, at: http://fjallfoss.fcc.gov/ecfs/document/view?id=7020376186.

protests that there is no evidence it or other backbone providers have engaged in such behavior[18] – and, as discussed above, the same is true of broadband Internet access providers.

This absence of "bad" practices in the marketplace is not surprising. Stated simply, providers are disciplined by the competitive market. The need to retain and add customers by responding to consumer demand is a critical market reality that prevents anticompetitive practices that are harmful to consumers. For instance, in mid-2009, a customer survey found that an Internet service provider that restricted or limited the use of Internet services or applications would lose more than a quarter of its customers to competitors,[19] a conclusion corroborated by the fierce competition for broadband services. Moreover, even if market forces were insufficient to deter harmful conduct, existing law is in place and to address any anticompetitive practices that may arise. EU sector-specific rules and competition law will either prevent or severely sanction any such behavior.

Particular Misconceptions Regarding the Net Neutrality Debate in the U.S.

In view of the careful, deliberative approach taken to rules applying to network management in the revised EU Framework, some have asserted that the debate over network neutrality is largely more relevant in the U.S. They contend that the type of competition seen in the U.S. market is inferior to that prevalent in many parts of Europe. That is incorrect. While the U.S. comparison is not raised directly in this consultation, addressing these background misconceptions may be helpful to Commission deliberations.

Some have suggested that net neutrality rules are of greater relevance in the U.S. market because of supposedly less intradmodal retail competition than in Europe.[20] What this view misses is that the broadband marketplace in the United States is marked by intense, intermodal competition and high levels of investment and innovation of the type marked by the above fundamental themes. Telecommunications companies and cable providers have long engaged, and continue to engage, in fierce competition in the U.S. to retain existing wireline subscribers and gain new ones. Moreover, these providers are investing heavily in next-generation networks and technologies such as fiber-to-the-premises and DOCSIS 3.0. In addition, satellite-delivered and 3G wireless broadband have already become nearly ubiquitous and quite popular, fixed wireless broadband is now available and growing, and 4G services – enabling much faster data transmission speeds – are coming soon from multiple competitors.

The evidence in support of these points is compelling. First, broadband companies in the U.S. have made massive investments in their networks, with the result that cable modem services are available to 92 percent of all U.S. households and DSL to 83 percent.[21] The

[18] Comments of Level 3 Communications, Inc., in FCC GN Dkt. 09-191, 07-52 (Jan. 14, 2010), at 5, at: http://fjallfoss.fcc.gov/ecfs/document/view?id=7020374367.

[19] Number of consumers who would switch to another ISP with either the same or higher prices, in Synovate, "Consumer expectations of the Internet", research done on behalf of Skype, Google and Yahoo.

[20] Ofcom CEO Ed Richards touched upon this argument briefly in his 3 March 2010 speech on net neutrality to the Cable Congress. See Ed Richards, Chief Executive Ofcom, Cable Congress 2010, Speech on Net Neutrality (3 March 2010), at: media.ofcom.org.uk/2010/03/03/cable-congress-2010-speech-on-net-neutrality-3-march-2010.html. It's also alluded to – the potential impact on this debate of regulation on the local access market – in the opening background to the EC Questionnaire. See EC Questionnaire, supra note 1, at 3.

[21] Verizon Comments, supra note 5, Topper Decl. ¶¶ 9, 11. According to the FCC's National Broadband Plan, 95% of U.S. households can get broadband today on a landline basis. See Federal Communications Commission, Connecting America: the National Broadband Plan (March 2010), available at: http://download.broadband.gov/plan/national-broadband-plan.pdf.

FCC's recent High-Speed Internet Services Report indicates that, at a minimum, 87.1% of all census tracts have at least a cable modem and a DSL provider.[22] These providers are now pouring billions of investment dollars into upgrading these networks. Apart from Verizon's US$23 billion investment in FiOS, discussed above, other companies such as AT&T and Qwest also are deploying fiber-based broadband services to millions of households.[23] Each of the major cable operators is upgrading its network to DOCSIS 3.0 technology, with most upgrades already between 66 and 100 percent complete.[24] According to the FCC, wireline broadband providers made a staggering US$48 billion in capital expenditures in 2008 and another US$40 billion in 2009, with broadband-specific investments of US$20 billion in 2008 and US$18 billion in 2009.[25]

Broadband providers in the U.S. are making these multibillion dollar investments as a result of competitive pressures and the real risk that they will lose subscribers to rivals if they don't keep pace with the competition. Investment by one competitor breeds investment by another. Time Warner, for example, recently acknowledged that it is upgrading to DOCSIS 3.0 in a targeted way in direct response to Verizon's deployment of FiOS.[26] As the FCC recognizes in its Broadband Plan, "competition appears to have induced broadband providers to invest in network upgrades."[27]

Second, even as consumers have benefited from the higher speeds and greater capabilities of these networks, prices (particularly on a per megabit basis) have been *falling* over time – a result wholly at odds with the "cozy duopoly" caricature drawn by some regulatory critics of the U.S. market.[28]

Third, wireline broadband companies have been engaged in aggressive marketing campaigns, including deep discounts and special offers as a way to attract new subscribers. The advertisements regularly compare the provider's own service to those of competitors in terms of bandwidth capacity, features and price.[29] Such aggressive marketing tactics plainly make no sense in the absence of a highly competitive marketplace.

Fourth, vibrant competition is evident from the considerable and rising subscriber churn rates among wireline broadband providers.[30] For example, Comcast reports that 65% of its new subscribers are switching from other Internet service providers.[31] According to one prominent analyst, cable broadband providers have experienced monthly churn rates of

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[22] See Reply Comments of Verizon Communications on the FCC's Net Neutrality Notice of Proposed Rulemaking, in FCC Dkt. 09-191, WC Dkt. 07-52 (Apr. 26, 2010) [hereinafter "Verizon Reply Comments"], Topper Reply Decl. ¶ 19).

[23] See id. ¶¶ 26-27.

[24] Id. ¶¶ 30-31.

[25] Federal Communications Commission, Connecting America: the National Broadband Plan (March 2010) [hereinafter National Broadband Plan], at 38, available at: http://download.broadband.gov/plan/national-broadband-plan.pdf.

[26] See Verizon Reply Comments, supra note 22, at 26, citing TWC - Time Warner Cable, Inc. at Morgan Stanley Technology, Media & Telecom Conference at 11-12 (Mar. 1, 2010) ("I would say that there are going to be times where we [Time Warner and Verizon] trade innovative product sets back and forth. Something -- one day I will have something that they don't have and vice versa.").

[27] National Broadband Plan, supra note 25, at 38.

[28] Verizon Comments, supra note 22, Topper Decl. ¶¶ 35-36.

[29] See id., Topper Decl. ¶¶ 42-43.

[30] Id. ¶ 20.

[31] See Comments of Comcast in "in the Matter of Preserving the Open Internet and Broadband Industry Practices" [hereinafter "Verizon Comments"], FCC GN Dkt. 09-191, WC Dkt. 07-52 (14 Jan. 2010), at 20.

between 2.4 percent and 3.0 percent, equating to annualized churn rates of between 28.8 percent and 36 percent.[32]

Fifth, in addition to many of the wireline broadband options used today by the average user in the U.S.,[33] wireless providers are investing heavily in 4G services – which will offer speeds and capabilities that will make them an effective competitive alternative for many users – and have begun deploying them. In addition to Verizon Wireless' deployment of commercial LTE service, with coverage to approximately 100 million people by the close of 2010 and nationwide build out completed by the end of 2013 (speeds of 5-12Mbps will be typical), AT&T will be starting LTE trials in this year, with commercial deployment beginning in 2011.[34] Sprint has recently brought 4G to 27 markets and plans to bring service to multiple additional markets during this year.[35] Clearwire, in which Sprint has a controlling interest, has launched 4G wimax service in 72 U.S. markets to-date, with speeds from an average of 3 to 6 Mbps downstream with bursts of over 10 Mbps.[36] Cable companies such as Comcast and Time Warner have already begun to resell Clearwire's 4G service in 16 markets.[37] Regional providers are also upgrading – MetroPCS, for example, plans to begin deployment of its LTE network in the second half of this year.[38]

In the end, critics of the U.S. broadband marketplace are unable to show the same or better comparative depth of platform competition in their own markets as that which is available in the U.S. Whereas most consumers in Europe are confined to wireline offerings enabled by a single DSL network infrastructure, only 42% of U.S. broadband subscribers rely on DSL for their broadband, and the vast majority of foreign markets don't have nearly the depth of options (including cable, fiber, mobile and satellite) available to consumers in the U.S.[39] Critics of the U.S. market also often choose to ignore the remarkable successes in terms of price, deployment and take-up in the U.S., including the following:

- The U.S., Canada and Mexico have connected 27% more users with fiber than all of the countries in West, Central and Eastern Europe combined.[40] Verizon alone has deployed more fiber-to-the-premises lines than all of the providers in the EU.[41]

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[32] See Craig Moffett *et al.*, Bernstein Research, Broadband: Are We Reaching Saturation?, at 4, Ex. 2 (Aug. 14, 2007).

[33] Verizon Reply Comments, supra note 22, Topper Reply Decl. ¶ 13; Marguerite Reardon, *Verizon Expects 4G Launch Next Year*, cnet reviews, Feb. 18, 2009 ("In its initial trials, Verizon says that it has demonstrated peak download speeds of around 50Mbps to 60Mbps."), available at http://reviews.cnet.com/8301-13970_7-10166622-78.html.

[34] Id. ¶ 66.

[35] Verizon Reply Comments, supra note 22, Topper Reply Decl. ¶ 6.

[36] See Clearwire Services and Investor Relations, at: http://www.clearwire.com/ (noting that Sprint has a 51% interest in Clearwire) (last visited at 7 Sept. 2010).

[37] Id.

[38] Verizon Comments, supra note 5, Topper Decl. ¶ 71.

[39] See, e.g., OECD Communications Outlook 2009 (for DSL and cable penetration); OfCom International Telecommunications Market Report, statistical abstract (Dec. 2009), at 63 (measure of platform competition, select countries).

[40] IDATE, FTTx 2010: Markets and Trends, Facts and Figures (March 2010, figures through mid-2009), at 4.

[41] See Verizon Comments, supra note 5, at 22 n.20. Some may argue that a light touch approach to net neutrality is justified only where broadband is heavily regulated, including through mandated open access to next generation access networks (NGAs). See, e.g., the Economist, "the Internet: the Web's New Walls," 2 Sept. 2010, at: http://www.economist.com/node/16943579. In our view, a light touch approach to net neutrality is justified by myriad considerations set forth in this filing, but particularly – the absence of demonstrated problems, the regulatory tools of transparency and case-by-case review of alleged anti-competitive conduct, and adherence to consumer protection principles. Moreover, we note that the state of vigorous competition and market leading deployment of fiber depicted above has occurred in the U.S. in the absence of mandatory open access regulation of broadband. Thus, we strongly oppose the presumption that new fiber networks should be subjected to strict open access requirements. See, e.g., ECTA, Comments on the Commission's Draft Recommendations on Regulated Access to Next Generation Access Networks, July 2009, at:

- Over 67% of American households take-up broadband – far higher than the average for Europe.[42]
- The ITU ranks the U.S. 4th in average broadband price, behind Macao, Israel and Hong Kong.[43]
- Average minutes of use of mobile devices in the U.S. are the highest globally – 842 per month, whereas the average across Western Europe is 180 per month (a high of 314 in Asia – South Korea).[44]

In light of the overwhelming evidence to the contrary, it is not surprising that proponents of the net neutrality rules proposed in the FCC's NPRM have offered no facts or data in their comments that would even begin to support a finding that the broadband marketplace is not fully competitive. Instead, they have argued that the supposed presence of "only" two wireline competitors demands regulatory intervention.[45] The argument is wholly without merit: strong intermodal competition plainly exists in the U.S. broadband market and consumers are benefitting from it.

Differentiated Services and the Applicability of Rules to Wireless

It is important to recognize that the shared goal of maintaining the Internet as an open platform does not mean that broadband Internet access providers should be precluded from also offering managed, specialized, or other differentiated services that may not provide access to all lawful content[46] and applications on the Internet. As long as a provider offers a traditional Internet access service that allows consumers to navigate where they want and access what they want on the public Internet, it should also be free to offer additional services that can provide value to the consumer (*e.g.*, home medical monitoring,[47] an offering for children that permits access only to child-friendly Internet sites or a service that provides seniors who are uncomfortable with computers access to a more limited amount of content and applications). Doing so in no way undermines the openness of the Internet. To the contrary, openness is desirable because it allows consumers to make choices about what content and applications they want to use – managed and specialized services are entirely consistent with that goal because they provide consumers with even more choices to satisfy varying customer preferences.

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http://ec.europa.eu/information_society/policy/ecomm/doc/library/public_consult/nga_2/ecta_09_07_03_nga_recommendation_final3.pdf.

[42] See Connecting America: Nat'l Broadband Plan (Mar. 2010) at 3 & n.5; OECD Broadband Statistics, Households with Broadband Access (Nov. 2008); European Commission, DG-Information Society, "E-communications Household Survey" (June 2008), at 54.

[43] ITU, Measuring the Info. Society 2010, at 72, 4.9. The U.S. rank of fourth is based upon the average broadband price and its percentage of the average U.S. consumer's budget.

[44] CTIA, written ex parte communication (FCC GN Dkt. 09-51) (12 May 2009) (applying year-end 2008 data of Merrill Lynch).

[45] Even those who argue that the nature of competition in the U.S. market is the basis for net neutrality concerns cite that examples of net neutrality problems are few and far between, perhaps due to consumer pressure and the threat of possible regulatory action. Among critics of the U.S. market, most still agree that regulators should resist the temptation to deal with net neutrality concerns with ex ante rules because of the risks of market distortion and disproportionate or unforeseen consequences.

[46] It perhaps goes without saying, but access to content should, in our view, be slightly but importantly qualified as access to "lawful" content in the standard for openness.

[47] See e.g., Verizon Resource Center – Healthcare, at: http://www.verizonbusiness.com/resources/1002a1a2-111-Healthcare.xml (last visited at 7 Sept. 2010).

To ensure a reliable Internet experience, as discussed above, network operators must have flexibility to manage their networks. And, to promote continued investment and innovation, broadband service providers should also be able to offer additional differentiated services so long as these services are distinguishable from traditional Internet access services. Some critics continue to suggest that long-perpetuated narrative that broadband service providers seek to create a two-tiered Internet – what some have termed "the end of the Internet as we know it."[48] This could not be further from the truth.

We simply believe that users – both consumers and businesses – should have choices, a notion that is neither new nor novel. Customers already pay for differentiated levels of service. For example, a Verizon FiOS subscriber in the U.S., can choose to pay for speeds ranging from 5 Mbps and up to 50/20 Mbps. New services, such as telemedicine and optimized gaming networks come to mind, for which customers or content providers could choose to pay for security and quality-of-service much like a virtual private network, are emerging every day. These services would not come at the expense of the public Internet, the capacity of which continues to expand and grow.

Another issue raised by some regulatory proponents is the relevance of their proposals to wireless broadband. The fact is that wireless broadband – while developing rapidly – faces unique technical and operational constraints and needs to evolve under a different set of rules.[49] We believe that the market should be allowed to develop under the framework currently in place, with added consumer protections in the form of transparency rules. We have also established the Verizon Wireless Open Development Initiative (ODI) to facilitate use of new products, applications and devices on our wireless network beyond what Verizon offers in its portfolio.[50] This commitment to openness is further exemplified in the context of 4G by the Joint Innovation Lab (JIL), a joint venture formed between China Mobile, SoftBank Mobile, Verizon Wireless and Vodafone, to enable the design, development and testing of new mobile technologies.[51] Rather than imposing new regulations, at most policymakers should continue to monitor developments in wireless broadband to ensure that it continues to develop in a manner that is competitive and responsive to customer needs.

"Managed Service" Distinctions and Exempting Enterprise Services

Given the increasing and evolving uses of broadband networks and services, both enterprise and consumer end-users stand to benefit from managed services that providers may offer. As we commented in the U.S. to the FCC in the context of its NPRM[52]:

> "[S]ome services that clearly should be deemed "managed" or "specialized," including many private network offerings, would appear to fall within that definition.

[48] The EC Questionnaire alludes to this argument, noting the concerns of "some stakeholders" that an "increased focused on managed services might undermine the viability of the 'best efforts' internet model in the longer term." EC Questionnaire, supra note 1, at 6.

[49] These constraints have not gone unnoticed by European regulators. For instance, in its consultation paper, Ofcom alluded to operational constraints in discussing the particular impact of peak time congestion on mobile services (see Ofcom, supra note 15, at 6), highlighting later the "explosion of traffic on mobile networks over the last four years." See id., at 13 (citing a mobile Internet traffic volume increase of 2300 percent).

[50] See Verizon Wireless – Open Development Initiative (last visited 8 Sept. 2010), at: https://www22.verizon.com/opendev/faq.aspx#Answer1.

[51] *See* Verizon – Joint Innovation Lab Development Center (last visited 8 Sept. 2010), at: http://developer.verizon.com/jsps/devCenters/JIL/Landing_Pages/jil_gtng_strtd_intro_dtls.jsp.

[52] See in the matter of Preserving the Open Internet and Broadband Industry Practices, FCC NPRM, GN Dkt. 09-191, WC Dkt. 07-52 (Oct. 22, 2009), Appendix A, § 8.3, at: http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-09-93A1.pdf.

> For example, many VoIP services used by enterprise customers draw on public IP addresses. And, as noted above, more and more services increasingly integrate selected content or features from the Internet (e.g., the 'Widgets' component of Verizon's FiOS [TV] service, which allows users to access certain endpoints such as Facebook that are reachable using the Internet). There is no basis to impose the proposed regulations on these services just because they draw in part of specific content or features from the Internet or just happen to involve the use of a public IP address.
>
> That is particularly true with respect to private IP services provided to enterprise customers that allow them to deliver data over Verizon's IP network with the flexibility to control the priority and security afforded that traffic. Because such services are distinct from Internet access services (even if some customers may also incidentally use their private network to access content on the public Internet), they, and other services sold to business customers, have not been considered subject to the [FCC's] wireline broadband principles or been the focus of debates concerning "net neutrality," and these offerings presumably would not be affected by the Commission's proposed rules. Indeed, it would make little sense to impose requirements about access to all content and applications on the public Internet or "non-discrimination" when customers of such services are not intending to purchase undifferentiated access to the public Internet."[53]

For instance, most of our corporate customers seek services on our private IP (PIP) network, which is distinct from the public Internet. Services such as PIP involve proprietary networks and a high degree of traffic management, often at the customer's direction. These services are merely examples, but clearly they are exemplary of the need for a "managed services" exception to the powers envisaged in the revised Universal Service Directive's Recital 34, and particularly, the application of Article 22(3) powers to set minimum quality levels for network transmission services which are critical to large business customers.[54] However, as discussed above, it is also true that many corporate customers purchase and use what might be termed as traditional 'Internet access,' for instance, as a component of our Verizon Secure Gateway mobility offering. Such services utilize the public Internet, but do so in a secure manner with quality of service requirements, very often dictated by the customer.[55] In the context of its extensive discussion of managed service types and features, ARCEP, in its paper for national discussion earlier this year, eloquently summarised the difficulties with attempts to categorize such services:

> In any event, it does not seem relevant to make a list of potential managed services, nor to limit the quality of service parameters that operators can adjust when marketing

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[53] See Verizon Comments, supra note 5, at 77-78.

[54] Directive 2009/136/EC, on Universal Service and Users' Rights relating to Electronic Communications Networks and Services, amending Directive 2002/22/EC, O.J. vol. 52, L 337/11 et seq. [Universal Service Directive].

[55] Although businesses expect to have prioritization and quality-of-service provided as part of their service packages, and virtual private networks (VPNs) and the like are routine parts of this competitive market, consumers should also have the option to access such services. As emphasized recently by Tom Tauke, Verizon's Executive Vice President for Public Affairs, Policy & Communications:

> "Why should we say that this is good for businesses, but it is not good for consumers living at home … that they shouldn't be able to have their heart monitored or their blood pressure taken at home after they finish a hospital stay? Why would we say that consumers at home should not be able to get secure connections which would allow them to engage in a variety of activities, many of which we cannot even envision now?"

Keynote address of Thomas Tauke, Executive Vice President, Public Affairs, Policy and Communications, Verizon, at the Technology Policy Institute – Aspen Forum (23 Aug. 2010), at: http://www.techpolicyinstitute.org/video/aspen2010/100823-tauke_keynote.php#.

> managed services as it could impede Internet companies' and operators' ability to innovate, particularly with respect to the necessarily evolving and hard to predict nature of the applications that the Internet and electronic communications of tomorrow might enable.[56]

The above examples and discussion by ARCEP are particularly relevant in the context of *enterprise* service delivery, where even application of the powers envisaged under the present Framework would be wholly inappropriate. Given the present drive to implement the revised Framework into national laws, this distinction is particularly important. Further, given the clear aims of the new Framework with regard to "Better Regulation" and "Citizens' Rights", clarity from the Commission in terms of applicability of both will be key to avoid possible distortive effects from those regulations for operators serving enterprise customers.

As we recommended to the FCC in the context of the NPRM, rather than trying to define or predetermine a fixed category of "permissible" services in some static or artificial way, it would be more appropriate to emphasize transparency, and to make clear that any provider that offers traditional Internet access that allows consumers to access any lawful content and applications also is free to offer consumers the option of purchasing any other services that the provider chooses to provide, including any type of managed or otherwise differentiated service.[57] This would not only preserve consumer choice and exempt enterprise services from harmful regulation, but would also be a far better alternative to having an NRA attempt to set or define what is or is not a permissible "managed service" in the course of exercising power pursuant to the Universal Service Directive. Not all networks using an IP-based suite of services are "the Internet" – as a result, there is no one-size-fits-all regulatory scheme.

The Focus on Transparency

While the network neutrality debate has frequently placed great emphasis on theoretical problems, considerable efforts are properly underway to assuage concerns before they potentially become real issues. Among these efforts are initiatives to increase meaningful transparency and establish industry best practices and guidelines for application of network management.[58] Indeed, in the comments that have been filed in response to the FCC's NRPM, including the reply comments filed on 26th April, virtually all commenters have been in agreement that greater transparency would benefit consumers.[59] In addition to allowing consumers to decide what practices, services, or devices best suit their needs, greater

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[56] ARCEP, "Discussion Points and Initial Policy Guidelines on Internet and Network Neutrality," rel. 20 May 2010, at 22.

[57] See Verizon Comments, supra note 5, at 78. Several other commenters in the U.S. proceeding, who were otherwise equivocal on the issue of whether network neutrality rules are necessary, agreed with the need for caution, particularly in the context of enterprise services provision:

> "As it considers adopting new regulations in this area, the Commission [FCC] should mitigate any potential negative effects of such regulations on Internet innovation, development, and investment. The Commission should adopt any such regulations only for providers of broadband Internet access services, and it should not seek to regulate enterprise services, including those provided by Akamai, that do not "supplant or otherwise negatively affect" the public Internet."

E.g., Comments of Akamai Technologies, Inc., supra note 17, at 18.

[58] See, e.g., Network Management Coalition, Ensuring Network Stability and Consumer Confidence in Competitive Markets (16 Feb. 2009), p1, at: http://www.cableeurope.eu/index.php?mact=Publications,cntnt01,details,0&cntnt01documentid=113&cntnt01returnid=74.

[59] A focus on increased and meaningful transparency is also a key element of both the Ofcom consultation paper and ARCEP consultation discussion text. The Ofcom paper discusses the notion of increasing consumer awareness of restrictions to use of broadband services, while emphasizing that the information provided to consumers could be improved in both substance and manner of presentation as well as potential mechanisms to 'test' the validity of transparent assertions. See Ofcom, supra note 15, at 36-39. See also ARCEP, supra note 56, at 14 and 18.

transparency will allow them to identify practices to which they object and thereby permit greater policing of anti-competitive or anti-consumer practices through public scrutiny, the possibility of reputational harm and the risk of governmental sanction. An increased and comprehensive focus on transparency, included in promoting the creation and adoption of best practices and guidelines by industry, would be fundamental to enable well-informed consumer choices.

As Verizon wrote to the FCC, providers typically already disclose key terms and conditions related to use of their services. A highly competitive market for broadband services – as exists in Europe and the U.S. – means that providers have a strong incentive to develop and maintain a reputation for treating customers fairly – which includes providing clear and accurate information that is material to consumers in choosing what products and services to purchase.[60] The "provision of transparent information to end users," in the words of the EC Questionnaire, does have the capacity to "allay" net neutrality concerns.

A focus on informed consumer choice furthered by industry best practices also will help deter providers from adopting network management or other practices that are anticompetitive and harm consumers. The notion that providers are disciplined by the competitive market, and the need to retain and add customers by responding to consumer demand, has proven to be true in this context as well. For instance, as discussed in the FCC's NPRM, in both the *Comcast* and *Madison River* examples to which the FCC had referred, the provider failed adequately to disclose that it was blocking specific applications desired by certain users. Once these practices were disclosed, the providers ceased or altered their practices.[61]

Thus, in the context of both U.S. examples, to the extent a "problem" existed at all, increased transparency addressed it. And, given the context of today's very public and hyper-attentive policy debate regarding net neutrality and all its permutations, there is no doubt that the validity of any transparent assertion will be tested. Armies of technical experts, consumer advocates, journalists, academics and customers are watching and discussing everything that goes on in the broadband market. Broadband access providers, as well as other players in the Internet ecosystem, have strong incentives to make meaningful and truthful disclosures about practices and terms that are important to consumers in order to maintain a reputation for treating customers fairly, which is critical to compete successfully.

Importantly, the need for transparency applies to providers throughout the broadband ecosystem – to providers of networks, applications, content and devices alike. As Verizon and Google have stated, "[p]roviders throughout the Internet space should give users clear and meaningful information concerning Internet services, applications and content to facilitate informed choices. Transparency would also benefit the Internet more generally, as network operators could improve their services as a result of increased visibility into the demands of new applications, and vice versa."[62] Thus, for example, application and content

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[60] See Verizon Comments, supra note 5, at 50. Thomas Tauke, Verizon's Executive Vice President, Public Affairs, Policy and Communications, most recently emphasized that "transparency is vital to the functioning of a healthy competitive market" in a speech he gave at the Telecommunications Policy Institute – Aspen Forum on 23 August 2010. See Keynote address of Thomas Tauke, supra note 55.

[61] See id. The FCC's NPRM pointed only to two isolated instances on the wireline side: an incident in which a small rural telephone company, Madison River, tried to block users from placing VoIP calls over their DSL connections, and a case in which Comcast degraded BitTorrent P2P traffic.

[62] See Google and Verizon Joint Submission on the Open Internet, in FCC Dkt. 09-191, WC Dkt. 07-52 (Jan. 14, 2010), at: http://www.scribd.com/doc/25258470/Google-and-Verizon-Joint-Submission-on-the-Open-Internet, at 3. See also AT&T

providers should be expected to disclose practices that may affect a consumer's use of the Internet (or the use of the Internet by other consumers). Further, it may be relevant for an application provider to disclose the fact that a particular application "hogs" bandwidth and thus may degrade a consumer's ability to simultaneously use another service or consume a significant portion of a consumer's bandwidth allocation. Likewise, a search engine should disclose that it blocks particular types of content or applications – a practice that can clearly implicate a user's ability to access lawful content and applications of her choice. The Internet is by definition an interconnected network of networks, and this inter-dependent relationship extends to the applications and software that power the tools consumers use every day.

Some commenters in the U.S. open Internet proceeding have insisted that the FCC should mandate a detailed list of prescriptive disclosure requirements. But their own proposals illustrate the problems with such a heavy handed approach. For example, the Open Internet Coalition and Public Knowledge assert that network providers should be required to give 30 days prior notice before adopting new network management practices or changing existing ones.[63] This recommendation simply ignores the reality that network management practices must be adapted and evolve rapidly to deal with changes in security threats, traffic patterns and other factors. It would make no sense, for example, to say that the various providers that were targets of a hacking scheme should be prohibited from reacting for thirty days to the extent a proper security response required modification of a network management practice. Moreover, frequent and detailed updates of the sort these commenters envision would have little utility for consumers, many of whom would not understand the technical details and likely take little or no time to review them.

Another critical and often neglected facet of this discussion is the fact that contractual agreements for business customers are already negotiated in extensive detail at the customer's request. These contracts are comprehensive and cover all service topics, including such technical issues as latency and jitter. In most cases, these overall business customer agreements additionally consist of detailed service level agreements (SLAs). The highest conceivable level of transparency is therefore symptomatic of the service relationship. Furthermore, non-compliance with those SLAs is typically sanctioned by contractual penalties. The large business customer is well informed, well represented and able to set firm requirements to its suppliers.

The detailed disclosures that some have demanded would be useful for one group – those who wish to evade legitimate network management and security practices. The types of information some demand be disclosed – ranging from "technical details of the methods used" to "exact details of all thresholds . . . that trigger[] any network interference" to "practices undertaken to address the needs of law enforcement, public safety, or national security or homeland security authorities"[64] – would be a road map for hackers, criminals, and terrorists. As the Center for Democracy and Technology rightly noted, "highly detailed

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Comments, at 195, at: http://fjallfoss.fcc.gov/ecfs/document/view?id=7020377217; Comcast Comments, supra note 31, at 46; TWC Comments at 99, at: http://fjallfoss.fcc.gov/ecfs/document/view?id=7020375997; NCTA Comments at 44-45, at: http://fjallfoss.fcc.gov/ecfs/document/view?id=7020375323.

[63] See Comments of the Open Internet Coalition, FCC NPRM, GN Dkt. 09-191, WC Dkt. 07-52, (14 Jan. 2010), at 90-91, at: http://fjallfoss.fcc.gov/ecfs/document/view?id=7020377928; Public Knowledge Comments, at 65-66, at: http://fjallfoss.fcc.gov/ecfs/document/view?id=7020378818.

[64] See, e.g., OIC Comments, supra note 63, at 88-89; Comments of the Electronic Frontier Foundation, at 23, at: http://fjallfoss.fcc.gov/ecfs/document/view?id=7020371860; Public Knowledge Comments, supra note 63, at 65; Free Press Comments, at 115 & n.232, at: http://fjallfoss.fcc.gov/ecfs/document/view?id=7020378751.

disclosures . . . would likely provide too much information to those with malicious intent."[65] For these reasons, implementation of the Framework's transparency provisions relating to network management, Universal Service Directive Articles 20(1)(b) and 21(3)(c-d),[66] must seek a level of detail that is meaningful to a consumer's informed choice among services in the marketplace, but not the provision of too much to those with malicious intent. In no event should providers have to disclose the technical details of their network management practices that would undermine the efficacy of those practices or that would otherwise reveal competitively sensitive information.

Collaborative industry efforts are underway to increase transparency and increase understanding of technical issues, address challenges and resolve disputes as they arise, to which the presence of a government can act as a backstop to address bad actors that harm competition and consumers. A number of the comments filed in response to the FCC's NPRM, including Verizon and Google in their joint filing,[67] noted that the Internet has thrived in part because of its model of self-governance and industry collaboration, guided by expert bodies such as the Internet Engineering Task Force.

In this spirit, our joint filing proposed a process to develop standards for dealing with bad actors on the Internet, including the creation of a "Technical Advisory Group," or TAG, to help discipline the industry, resolve disputes without the necessity of government intervention, and serve as an advisor for policymakers. Comprised of technical experts from a wide array of interests and sectors, one of the TAG's primary roles would be to set the norms of behavior and operation that will continue to preserve and protect the Internet. It would also provide a forum for resolving disputes short of government involvement. TAGs also provide guidance on specific issues and help develop best practices and standards. For all these reasons, TAGs should be encouraged.

These also were among the aims of the Broadband Internet Technical Advisory Group (BITAG), launched on 9 June 2010, a collaborative industry effort to develop consensus on broadband network management practices or other related technical issues that can affect users' Internet experiences. The intention is that the BITAG promote organized, forward-looking discussion, driven by key stakeholders, and that it also provide opportunities to educate and inform policy makers on underlying technical issues from the perspectives of diverse stakeholders. While the BITAG is initially a U.S.-centric activity, it is possible that the model could be expanded to account for the global nature of the Internet.[68]

Conclusion

We are grateful for the opportunity from the European Commission to offer our comments as a part of their public consultation on the open Internet and network neutrality in Europe. Verizon has long maintained that the original architects of the Internet had incredible

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[65] Comments of the Center for Democracy and Technology, FCC NPRM, GN Dkt. 09-191, WC Dkt. 07-52, (14 Jan. 2010) at 34, at: http://fjallfoss.fcc.gov/ecfs/document/view?id=7020378292.

[66] See EC Questionnaire (highlighting the application of these rules), supra note 1, at 3-4.

[67] See Google and Verizon Joint Submission on the Open Internet, supra note 62.

[68] See Initial Plans for Broadband Internet Technical Advisory Group Announced, PR Newswire (9 June 2010), at: http://www.prnewswire.com/news-releases/initial-plans-for-broadband-internet-technical-advisory-group-announced-95950709.html. Initial responses to this initiative have been enthusiastic, including a statement of support from the ISOC-North American bureau. See http://www.isoc-ny.org/?p=1602. See also McSlarrow, Kyle, Introducing the Broadband Internet Technical Advisory Group, CableTechTalk (1 July 2010), at: http://www.cabletechtalk.com/broadband/2010/06/09/introducing-the-broadband-internet-technical-advisory-group/.

foresight in the key elements of network design. By making the network open, they enabled the greatest exchange of ideas in history. By making the Internet scalable, they enabled explosive innovation in the infrastructure and content.

Maintaining the openness of the Internet, while encouraging continued investment and innovation in broadband, remains an important goal. Users should choose what content, applications, or devices they use, as this openness – enabling users – has been central to the innovation that has made the Internet a transformative medium. Is "the regulatory framework capable of dealing with the issues identified," asks the EC in its Questionnaire. We believe, "yes." The revisions to the Framework have struck the right balance – preserving openness, without prejudicing the ability of fixed and mobile network operators to manage congestion and capacity constraints on a secure network, or the market's ability to experiment with new ways to organize and provide services.

Consumers in Europe (and the U.S.) continue to benefit from a highly competitive market place for broadband Internet access, choosing from a range of providers and options to access and use the Internet. Competition is driving users' ability to access content, applications and services they require, whether on fixed or mobile networks. And, the revised EU Framework includes additional transparency measures that further enhance consumers' ability to make informed choices regarding their Internet service. In addition, NRAs are empowered under the revised Framework with a new reserve competence to address observed degradation of service quality for consumers.

Moreover, any regulation with respect to networks operated by the providers of enterprise services would be particularly inappropriate. This necessary exemption for business services recognizes that required quality levels, detailed service transparency and technical characteristics, penalties for non-compliance, are most often addressed through contract. By the very nature of the business services market, and the high level of competition in Europe, the business customer has a high degree of control. To quote Commissioner Kroes' April speech on the issue of network neutrality,[69] for NRAs not to exempt business services from network management rules under the Framework would be truly tantamount to a "policeman in search of a busy corner."

In the highly competitive markets for fixed and mobile broadband, regulation that would restrict traffic management and service differentiation would undermine Europe's digital economy by excluding new business models, locking in today's technologies, and hampering necessary innovation. We would agree that the evidence in Europe, as elsewhere, is lacking support for ex ante rulemaking with regard to network management or the pre-emptive setting of network quality levels. The focus on meaningful transparency, in consultations to-date in Ofcom and ARCEP, and possible guidelines and mechanisms to enhance the ability of consumers to choose in the marketplace, are critical. Improved and meaningful transparency of service terms, conditions and limitations should be the goal of all network, service and content providers.

We therefore encourage the Commission to continue following its own policy approach to the open Internet under the revised Framework in support of Europe's digital agenda, and we would welcome any questions or further opportunity to participate in this process with them.

[69] Neelie Kroes, Address at the ARCEP Conference (13 April 2010), supra note 7.