

COMMENTS OF VERIZON COMMUNICATIONS

In the U.K. Ofcom Public Consultation on “Traffic Management and ‘Net Neutrality’: a Discussion Document”, Issued 24 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 specifically for the current Ofcom consultation, it borrows from experiences related in the most recent ARCEP and Ministry of Economics and Industry consultations in France. Where relevant, we have also discussed developments that have been particular to the U.S. debate.

In several short years, the debate regarding network neutrality has grown from a discrete but ill-defined set of concerns voiced 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 are also conclusions emphasized in the Ofcom consultation text.

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 has 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, and that they are empowered to address service degradation when or if it occurs.

In addition to these aspects of the Framework, which are also addressed in the Ofcom consultation paper, we explain that these provisions 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. Where relevant, we have referenced specific questions from the Ofcom consultation document's Appendix 5, and the European Commission's Questionnaire, the latter having been issued for the Commission consultation closing on 30 September. 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](#)
- [Technical Issues with “Reasonable Use” and Deterrents to Bad Behaviour](#)
- [Particular Misconceptions Regarding the Net Neutrality Debate in the U.S.](#)
- [Differentiated Services and the Applicability of Rules to Wireless](#)
- [“Managed Service” Distinctions and Exempting Enterprise Services](#)
- [The Focus on Transparency](#)

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, Ofcom asked: “How enduring do you think congestion problems are likely to be on different networks and for different players?”¹ Related questions were posed by the European Commission in its text, such as: “How might problems arise in the future, and could these emerge in other parts of the Internet value chain?”²

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
- 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 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.³ Overall traffic volumes borne by these and others in the

¹ Ofcom, “Traffic Management and ‘Net Neutrality’: a Discussion Document,” rel. 24 June 2010 [hereinafter “Ofcom Paper”], at: <http://stakeholders.ofcom.org.uk/binaries/consultations/net-neutrality/summary/netneutrality.pdf>.

² 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/ecommerce/doc/library/public_consult/net_neutrality/nnet_neutral_questionnaire.pdf

³ See Atlas, Internet Observatory: 2009 Annual Report, slides 10-15, at: http://www.nanog.org/meetings/nanog47/presentations/Monday/Labovitz_ObserveReport_N47_Mon.pdf.

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 2013.⁴

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 20 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.⁵ 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 up to 30 markets during in 2011, with nationwide build out completed by the end of 2013.⁶

Verizon is also a premiere provider of communications and IT solutions internationally, with our U.K. headquarters – among our largest markets in Europe – located in Reading. 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 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 “evidence of economic value” from network management (as requested in the Ofcom Paper) and/or “necessity” of its application (as raised in the EC Questionnaire) are fairly easy to illustrate.

‘Net neutrality’ advocates have often suggested that what the Internet really needs is a first-in-first-out 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. 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

⁴ 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.

⁵ 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>.

⁶ 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.

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”⁷ – 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. 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,” as queried in the Ofcom Paper, are very few indeed. This conclusion is particularly true for operators serving business customers.

In the context of the current debate, network management has at times been portrayed as 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. Freedom of speech and an uncensored and pluralistic Internet are often and rightly referred to as key elements of an open Internet. 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. 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.

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

⁷ See OECD, DSTI/ICCP/TISP/2006(4)FINAL (6 April 2007).

traffic.⁸ 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 – is not necessarily indicative of anti-competitive behavior. Indeed, it is problematic only if it restricts competition and harms consumers.⁹

This interpretation is consistent with other elements in the Framework that recognize many forms of discriminatory behavior can be pro-competitive.¹⁰ In this environment of scarce capacity, where service quality is increasingly critical, particularly in highly competitive markets, 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.

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.¹¹ In addition, Gerald Faulhaber and David Farber, of the University of Pennsylvania and Carnegie Mellon University, respectively, also

⁸ This was a point made directly by Commissioner Neelie Kroes in her speech in Paris on net neutrality this past April. 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>.

⁹ 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).

¹⁰ 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).

¹¹ 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_307_206_0_43/http%3B/prodnet.www.neca.org/publications/docs/wwpdf/0114mit.pdf.

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.¹²

Clark, Lehr and Bauer wrote in part to address desire to “constrain” (as the Ofcom Paper puts it) 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, 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 *observed* behaviors. Indeed, this is the approach taken for purposes of implementing the provisions of the revised Framework, particularly provisions in the revised Universal Service and Framework Directives, where certain new powers anticipate observed activity in the marketplace before they are utilized. This is particularly true of Article 22 of the revised Universal Service Directive, which highlights the power of National Regulatory Authorities (NRAs) to set minimum quality levels not as an anticipatory rule but in response to an observed deficiency in an otherwise competitive market. In referencing powers under the revised Framework, the Ofcom Paper

¹² 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.

¹³ See Clark et al. Comments, supra note 11, at 3.2.1.

¹⁴ See Faulhaber and Farber, supra note 12, 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.

similarly notes that there is “no obligation on national regulators to introduce restrictions on traffic management or other forms of network management.”¹⁵

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 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 in the U.S. as well. Indeed, the vast majority of “concerns” raised in the context of “net neutrality” have not manifested themselves in the marketplace.

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 protests that there is no evidence it or other backbone providers have engaged in such behavior¹⁸ – 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 – unlike Europe – the U.S. some time ago removed broadband from telecom sector regulation and that the type of competition seen in the U.S. market is inferior to that prevalent in many parts of Europe. Both assertions are

¹⁵ See Ofcom Paper, *supra* note 1, at 10.

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>.

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.

incorrect. While the U.S. comparison is not raised directly in this consultation, addressing these background misconceptions may be helpful to Ofcom deliberations.

Broadband Internet access services have never been treated as regulated, common carriage services under Title II of the Communications Act in the U.S. In enacting the 1996 Telecommunications Act, Congress intentionally excluded Internet services, like broadband Internet access, from the scope of traditional regulatory burdens (embodied in Title II of the Communications Act) that applied to telephone services. Congress and the FCC – with the U.S. Supreme Court affirming the critical FCC ruling – have a long history of distinguishing broadband Internet access services, which inherently involves the processing of information, from traditional telecommunications services involving pure transmission. The FCC has consistently refrained from applying traditional common carriage regulation to Internet access services.²⁰

Correctly understanding this regulatory history assists to frame the environment in which a most recent development occurred in the U.S. On 9 August 2010, Ivan Seidenberg and Eric Schmidt, the CEOs of Verizon and Google, respectively, announced a joint proposal²¹ in the form of a suggested legislative framework for consideration by U.S. lawmakers, to protect the future openness of the Internet and encourage the rapid deployment of broadband. A key element of the joint proposal seeks to address the question of FCC jurisdiction over the Internet, recommending that Congress provide the FCC with clear but circumscribed enforcement authority over wireline broadband Internet access services in the form of a case-by-case model for determining harm to users or competition. The FCC would be authorized to act decisively to stop bad practices and to hit knowing violators with substantial fines. In this way, Google and Verizon believe that our joint effort contributes constructive ideas to end the uncertainty caused by the Comcast court case and provide alternatives to imposing traditional regulatory approaches on U.S. broadband services.

For those who have watched the U.S. debate over net neutrality develop, the fact that Verizon and Google have jointly released this proposal should come as no surprise. In October 2009, Verizon and Google issued a shared statement of principles²² on network neutrality. A few months later in 2010, we submitted a joint filing to the FCC,²³ and in an April joint op-ed,²⁴ our CEOs discussed their common interest in an open Internet. Since that time, we have listened to all sides of the debate in the U.S., engaged in good faith with policy makers in multiple venues, and challenged each other to craft a balanced policy framework guided by two fundamental themes:

²⁰ In the wake of the FCC's 'third way' proposal to apply Title II regulation to broadband Internet services, a majority of the House of Representatives and a third of the Senate have to-date signed letters recommending that the FCC abandon the approach. See, e.g., Reardon, Marguerite, Lawmakers Oppose FCC Plan to Assert Net Authority, CNet News (28 May 2010), at: http://news.cnet.com/8301-30686_3-20006332-266.html.

²¹ See "Joint Policy Proposal for an Open Internet," (9 Aug. 2010), at: <http://policyblog.verizon.com/BlogPost/742/JointPolicyProposalforanOpenInternet.aspx>; Eric Schmidt and Ivan Seidenberg, "A Path to an Open Internet," Wash. Post. (10 Aug. 2010), at: <http://www.washingtonpost.com/wp-dyn/content/article/2010/08/09/AR2010080905647.html>.

²² See joint statement from Lowell McAdam, CEO Verizon Wireless and Eric Schmidt, CEO Google, "Finding Common Ground on an Open Internet," 21 Oct. 2009, at: <http://policyblog.verizon.com/BlogPost/675/FindingCommonGroundonanOpenInternet.aspx>.

²³ 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>.

²⁴ See Eric Schmidt and Ivan Seidenberg, "Unleashing American Broadband," Wall St. J., 30 Mar. 2010, at: <http://online.wsj.com/article/SB10001424052748704100604575145663137195890.html>.

- First, users should choose what content, applications, or devices they use, since openness has been central to the explosive innovation that has made the Internet a transformative medium.
- Second, the U.S. must continue to encourage both investment and innovation to support the underlying broadband infrastructure; it is imperative for our global competitiveness.

Some have suggested other rationales for the notion that net neutrality rules are of greater relevance in the U.S. market – for instance, citing that the U.S. broadband market is characterized by intense intermodal competition and has less intramodal competition than Europe. Ofcom CEO Ed Richards touched upon this argument briefly in his 3 March 2010 speech on net neutrality to the Cable Congress.²⁵ 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.²⁶ The 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.²⁷ 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.²⁸ 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.²⁹ 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 2009.³⁰

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

²⁵ 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.

²⁶ Verizon Comments, supra note 6, Topper Decl. ¶¶ 9, 11.

²⁷ 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).

²⁸ See id. ¶¶ 26-27.

²⁹ Id. ¶¶ 30-31.

³⁰ 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>.

targeted way in direct response to Verizon's deployment of FiOS.³¹ As the FCC recognizes in its Broadband Plan, "competition appears to have induced broadband providers to invest in network upgrades."³²

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.³³

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.³⁴ 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.³⁵ For example, Comcast reports that 65% of its new subscribers are switching from other Internet service providers.³⁶ According to one prominent analyst, cable broadband providers have experienced monthly churn rates of between 2.4 percent and 3.0 percent, equating to annualized churn rates of between 28.8 percent and 36 percent.³⁷

Fifth, in addition to many of the wireline broadband options used today by the average user in the U.S.,³⁸ 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 2011.³⁹ Sprint has recently brought 4G to 27 markets and plans to bring service to multiple additional markets during this year.⁴⁰ 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.⁴¹ Cable companies such as Comcast and Time Warner have already begun to resell Clearwire's 4G service in 16 markets.⁴²

³¹ See Verizon Reply Comments, supra note 27, 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.").

³² National Broadband Plan, supra note 30, at 38.

³³ Verizon Comments, supra note 27, Topper Decl. ¶¶ 35-36.

³⁴ See id., Topper Decl. ¶¶ 42-43.

³⁵ Id. ¶ 20.

³⁶ 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.

³⁷ See Craig Moffett *et al.*, Bernstein Research, Broadband: Are We Reaching Saturation?, at 4, Ex. 2 (Aug. 14, 2007).

³⁸ Verizon Reply Comments, supra note 27, 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.

³⁹ Id. ¶ 66.

⁴⁰ Verizon Reply Comments, supra note 27, Topper Reply Decl. ¶ 6.

⁴¹ 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).

⁴² Id.

Regional providers are also upgrading – MetroPCS, for example, plans to begin deployment of its LTE network in the second half of this year.⁴³

In the end, critics of the U.S. market are often 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.⁴⁴ 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.⁴⁵ Verizon alone has deployed more fiber-to-the-premises lines than all of the providers in the EU.⁴⁶
- Over 67% of American households take-up broadband – far higher than the average for Europe.⁴⁷
- The ITU ranks the U.S. 4th in average broadband price, behind Macao, Israel and Hong Kong.⁴⁸
- 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).⁴⁹

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. 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

⁴³ Verizon Comments, supra note 6, Topper Decl. ¶ 71.

⁴⁴ 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).

⁴⁵ IDATE, FTTx 2010: Markets and Trends, Facts and Figures (March 2010, figures through mid-2009), at 4.

⁴⁶ See Verizon Comments, supra note 6, at 22 n.20.

⁴⁷ 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.

⁴⁸ 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.

⁴⁹ CTIA, written ex parte communication (FCC GN Dkt. 09-51) (12 May 2009) (applying year-end 2008 data of Merrill Lynch).

access to all lawful content⁵⁰ and applications on the Internet. This seems to be a premise with which the Ofcom consultation text agrees, both in its emphasis that there is insufficient evidence to justify ex ante regulation of traffic management, and in its highlighting of transparency as critical to user awareness of certain service limits. 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,⁵¹ 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.

This also was a key element contained in the Verizon-Google joint proposal for a U.S. legislative framework.⁵² To ensure a reliable Internet experience, we proposed that network operators in the U.S. have a fair amount of flexibility to manage their networks. And, to promote continued investment and innovation, we also proposed that broadband service providers be able to offer additional differentiated services so long as these services are distinguishable from traditional Internet access services. Some critics seized on this point and twisted it to continue a long-perpetuated narrative that we’re trying to create a two-tiered Internet – what some have termed “the end of the Internet as we know it.” 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., for example, 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 discussion point regarding our jointly proposed policy framework in the U.S. has focused on wireless. The Verizon-Google proposal acknowledges the fact that wireless broadband – while developing rapidly – faces unique technical and operational constraints and needs to evolve under a different set of rules.⁵³ 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.⁵⁴ This commitment to

⁵⁰ 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.

⁵¹ See e.g., Verizon Resource Center – Healthcare, at: <http://www.verizonbusiness.com/resources/1002a1a2-111-Healthcare.xml> (last visited at 7 Sept. 2010).

⁵² See “Joint Policy Proposal for an Open Internet,” *supra* note 21.

⁵³ The Ofcom Paper alludes to operational constraints in its discussion of the particular impact of peak time congestion on mobile services (*see* Ofcom Paper, *supra* note 1, 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).

⁵⁴ See Verizon Wireless – Open Development Initiative (last visited 8 Sept. 2010), at: <https://www22.verizon.com/opendev/faq.aspx#Answer1>.

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.⁵⁵ Rather than imposing new regulations, we have proposed that the U.S. Congress evaluate the state of competition in the wireless broadband market on an annual basis to ensure that it continues to be highly competitive and responsive to customer needs.

If there is a message in the proposal ripe for international consumption, it is that the Verizon-Google joint proposal is a prime example of the capacity for industry initiative to address potential concerns and continued policy disagreement in the marketplace – in this case, a proposal for an open Internet policy framework in the U.S. that properly empowers consumers and preserves a healthy and growing Internet that can continue to be a laboratory for innovation.

“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 NPRM⁵⁶:

“[S]ome services that clearly should be deemed “managed” or “specialized,” including many private network offerings, would appear to fall within that definition. 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 Commission’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.”⁵⁷

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

⁵⁵ See Verizon – Joint Innovation Lab Development Center (last visited 8 Sept. 2010), at: http://developer.verizon.com/jspdevCenters/JIL/Landing_Pages/jil_gtng_strtd_intro_dtls.jsp.

⁵⁶ 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.

⁵⁷ See Verizon Comments, supra note 6, at 77-78.

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.⁵⁸ 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 that are not only transparent, but also very often dictated by the customer. In the context of its extensive discussion of managed service types and features, ARCEP 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 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.⁵⁹

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 relevant.

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.⁶⁰ 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.

⁵⁸ 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].

⁵⁹ ARCEP, “Discussion Points and Initial Policy Guidelines on Internet and Network Neutrality,” rel. 20 May 2010, at 22.

⁶⁰ See Verizon Comments, *supra* note 6, 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.

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.⁶¹ Indeed, in the comments that have been filed in response to the FCC's NPRM, including the reply comments filed on 26th April, virtually all commenters have been in agreement that greater transparency would benefit consumers. A focus on increased and meaningful transparency is also a key element of both the Ofcom Paper⁶² and ARCEP consultation discussion text.⁶³ In addition to allowing consumers to decide what practices, services, or devices best suit their needs, greater 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.⁶⁴ In contrast, regulatory prescription about what disclosures are required limits providers' flexibility to respond to consumer feedback and their ability to tailor their disclosures to provide information in the manner that is most meaningful and relevant to consumers.

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.⁶⁵

⁶¹ 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>.

⁶² 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 Paper, supra note 1, at 36-39.

⁶³ See ARCEP, supra note 59, at 14 and 18.

⁶⁴ See Verizon Comments, supra note 6, 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, 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#.

⁶⁵ 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.

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 network management, 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. As Verizon has said in the past, they should “keep it up.” 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.”⁶⁶ Thus, for example, application and content 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 insist instead that the FCC should mandate a detailed list of disclosure requirements through prescriptive regulation. But their own proposals illustrate the problems with such an 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.⁶⁷ 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.

⁶⁶ See Google and Verizon Joint Submission on the Open Internet, FCC NPRM, GN Dkt. 09-191, WC Dkt. 07-52, (14 Jan. 2010), supra note 23, at 3. See also AT&T Comments, at 195, at:

<http://fjallfoss.fcc.gov/ecfs/document/view?id=7020377217>; Comcast Comments, supra note 36, 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>.

⁶⁷ 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>.

Another critical and often neglected facet of this discussion is the fact that contractual agreements for business customers are negotiated in extensive detail. 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”⁶⁸ – would be a road map for hackers, criminals, and terrorists. As the Center for Democracy and Technology rightly noted, “highly detailed disclosures . . . would likely provide too much information to those with malicious intent.”⁶⁹

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,⁷⁰ 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.⁷¹

⁶⁸ See, e.g., OIC Comments, supra note 67, 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 67, at 65; Free Press Comments, at 115 & n.232, at: <http://fjallfoss.fcc.gov/ecfs/document/view?id=7020378751>.

⁶⁹ 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>.

⁷⁰ See Google and Verizon Joint Submission on the Open Internet, supra note 23.

⁷¹ 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->

Conclusion

We are grateful for the opportunity from Ofcom to offer our comments as a part of their consultation on network neutrality. Verizon has long maintained that the original architects of the Internet had incredible 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.

It continues to be imperative that we find ways to maintain the openness of the Internet and encourage the rapid deployment of broadband. 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. We were pleased to read Ofcom’s preliminary opinion that this openness can be preserved 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 with a new reserve competence to prevent a possible degradation of service quality for consumers.

However, with respect to networks operated by the providers of enterprise services, the reserved competence on service quality and focus on consumer transparency would be inappropriate in the context of traffic management practices for business customers. 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,⁷² 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 (and the U.K.’s, in particular) by excluding new business models, locking in today’s technologies, and hampering necessary innovation. We would agree with the preliminary assessment by Ofcom 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 of both Ofcom and ARCEP on meaningful transparency, and possible guidelines and mechanisms to enhance the ability of consumers to

[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 McSiarow, 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/>.

⁷² Neelie Kroes, Address at the ARCEP Conference (13 April 2010), [supra](#) note 8.

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 Ofcom 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.