

## Comments on NMHH’s consultation on net neutrality

by VON Europe, June 2012

### Preliminary remarks

The Voice on the Net Coalition Europe (“VON”) welcomes the opportunity to comment on NMHH’s Consultation on Net Neutrality (hereafter “the Consultation”).

#### **Discrimination is unacceptable**

VON specifically welcomes NMHH’s analysis that ‘*service providers are increasingly using traffic management tools in a growing number of countries that allow them to discriminate against selected applications based on their own business interests, thus violating the interests of users and other service providers*’ (p. 4 and 6 of the Consultation – our emphasis added). We would simply add ‘innovation generally’ to the list of violated interests by such practices. VON indeed strongly believes that traffic management for commercial motivations based on the exploitation of a bottleneck or discrimination between services, content, and applications of similar nature does not create consumer value, as it decreases choice and switches the control from the end-user to the access operator acting as gatekeeper. It also creates a barrier to trade and innovation, by artificially limiting the potential of certain Internet technologies, applications or services.

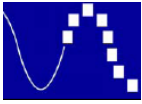
#### **Self-regulation has its limits**

VON is slightly more reserved however when NMHH considers that the solution to net neutrality violations could lie in ‘self-regulation’.<sup>1</sup> VON fears that practice has shown that self-regulation efforts, as recently illustrated in Norway, do not seem sufficient to guarantee an open Internet. The following quote from a letter of the European consumer organisation BEUC to European Commissioner Neelie Kroes underscores this.

“The **recent developments in Norway**, where the biggest telecom operator has announced its intention to charge content providers for prioritized transmission with the aim of promoting its content and that of its partners, raises serious concerns from the consumers’ point of view. At the same time, Norway’s second largest mobile services provider is publishing schemes to disallow VOIP on their networks. Developments

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<sup>1</sup> See the Consultation, p. 5.



towards that direction are extremely worrying, when considering that Norway has been among the first countries to adopt guidelines on net neutrality. However, **this soft approach has proven to be ineffective in protecting consumers’ from discriminatory practices.**<sup>2</sup>

### **The need to strike the right balance**

There is a symbiosis between the users (including the Internet content, application and service providers) and the companies that control the access network infrastructure and provide transmission services at the access network level. Thanks to the continued innovation in Internet content, applications and services – which net neutrality enables - consumer demand for broadband Internet access continues, therefore providing return on network investment for network operators.

In addressing the issue of an open Internet and net neutrality, VON believes NMHH should strike a careful balance between:

- the need of operators to manage their networks;
- the ability of service and application providers to develop and innovate, including the proverbial ‘2 guys in a garage’;
- the position of content providers, regardless of whether they are a citizen, an administration, a school or university, or a media conglomerate; and,
- the role of NMHH as regulator to address the risk inherent in an operator’s ability to discriminate in the treatment of traffic based upon the operator’s control over a bottleneck and its resulting economic or other fundamental interests.

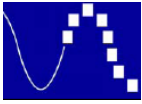
### **VON’s recommendations**

The Internet ecosystem is characterised by a virtuous cycle whereby all actors in the chain benefit:

- ‘Over the top’ Internet content providers (including users, public services, businesses across the economy, etc.) bring innovative content, information, applications and tools to the global public through the Internet;

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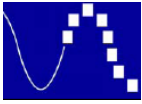
<sup>2</sup> See BEUC. (2011). *Net Neutrality in Europe needs to be safeguarded. Letter sent to Ms Neelie Kroes, Vice-President of the European Commission.* p. 2. Retrieved at, <http://www.beuc.eu/BEUCNoFrame/Docs/2/IFMGGBABLLHODCMADAJPJJBLPDWY9DBYW19DW3571KM/BEUC/docs/DLS/2011-00115-01-E.pdf>.



- These innovations motivate continued and renewed consumer demand for (better, faster) broadband Internet access;
- This content-driven demand from consumers provides the return on investment for telecom operators, hence the basis for further investment in Internet-supporting infrastructure; and,
- Upgrades in Internet infrastructure provide new opportunities for over the top providers to develop new online content, apps and services, thus fuelling the cycle again.

In order to protect this virtuous cycle, the appropriate balance needs to be struck between the interests of network operators and end-users, including content, application and service providers, by taking the following steps, which only make sense if taken in conjunction:

- First, the explicit **endorsement of the widely-accepted principles that end-users have the right to send and receive the content of their choice**, as well as access and use the Internet content, applications and services of their choice, and to connect hardware and use software of their choice that does not harm the network.
- Second, the provision of a **transparency standard requiring network operators to provide all end-users (i.e. consumers, but also service, content and application providers, including the media and cultural industries and governments at all levels) with clear, precise, and relevant information** on the content, applications and services accessible through their network operator, the traffic management practices on the networks, and any quality of service limitations and their impact from a user experience and privacy point of view (see our answer to question 2 for more details).
- Third, there is a need for a **behavioural standard intended to prohibit network operators to put in place discrimination that is anticompetitive, creates barriers to innovation, or harms end-users, and it should bar conduct violating the other core principle of the open Internet: user choice on the Internet** (see our first bullet point). VON agrees that regulation should not limit network operators' efforts to fairly use network management to overcome genuine technical challenges and maintain a high quality Internet service for their customers. But, this freedom to manage the network should not be a licence for network operators to engage in anti-competitive and other harmful conduct, such as blocking legitimate content and applications or unreasonably degrading services that users have paid to access.



Finally, VON would welcome the opportunity to interact directly with the relevant NMHH teams, in order to discuss both the current obstacles faced by online communications applications with regards to net neutrality, and how to best protect net neutrality in practice.

More details can be found in VON’s responses below.

### **Detailed remarks**

**How transparent do you consider the descriptions of traffic management procedures discriminating against services included in GTCs and individual subscriber agreements? How clearly are these worded for the average user?**

VON does not wish to comment specifically on the GTCs.

VON would however like to stress that, regardless of the quality of these descriptions, transparent traffic management is only one element of the Open Internet equation, seeing that even those markets which most European regulators deem to be competitive (*e.g.* the mobile retail markets) do not in fact exhibit the market dynamics leading to unrestricted access to the Internet.

The dysfunction of the mobile market has been exemplified with the need for the introduction of the EU Roaming Regulation(s) and the 2009 EC Recommendation on Regulated Fixed and Mobile Termination Rates, after the European Commission’s and ERG/BEREC ‘wait and see’ approach had failed. VON fears a repetition of this scenario with regards to net neutrality and Internet access. In fact, the results of the EC/BEREC traffic management investigation,<sup>3</sup> and the resulting communication by the European Commissioner responsible for the dossier<sup>4</sup> and BEREC,<sup>5</sup> does not point to decisive action.

Indeed, competition implies much more than having several players on the market

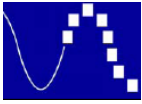
Transparent information tells consumers about the terms and conditions of their package, but does not offer them real choice nor unrestricted Internet access if operators mimic each other’s behaviour – as experience in Europe demonstrates. Therefore, VON believes that the essence of the problem to

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<sup>3</sup> See BEREC. (2012). *A View of Traffic Management and Other Practices Resulting in Restrictions to the Open Internet In Europe*. Retrieved at, [http://berec.europa.eu/doc/consult/bor12\\_30.pdf](http://berec.europa.eu/doc/consult/bor12_30.pdf).

<sup>4</sup> See Kroes, N. (2012, 29 May). *Next Steps on Net Neutrality – Making Sure You Get Champagne Service if that’s What You’re Paying For*. Retrieved at, <http://blogs.ec.europa.eu/neelie-kroes/netneutrality/>.

<sup>5</sup> See BEREC. (2012). *Differentiation Practices and Related Competition Issues in the Scope of Net Neutrality. Draft for Public Consultation*. Retrieved at, [http://berec.europa.eu/doc/consult/bor\\_12\\_31\\_comp\\_issues.pdf](http://berec.europa.eu/doc/consult/bor_12_31_comp_issues.pdf).



address is better summarised by BEREC’s statement in its Transparency Guidelines,<sup>6</sup> namely that for transparency to be effective, it implies that “*the market is not wholly restricted (i.e. all competing providers offer similarly restricted services)*”. VON would also wish to express its concern that, while Internet access on fixed broadband has historically been the default service available to all, NMHH should strive to avoid seeing the trend observed<sup>7</sup> elsewhere in Europe whereby Internet access becomes the premium, most expensive service, compared to a plethora of services that offer ‘a selection’ of the Internet, a ‘subset’ of the Internet, or ‘mimic’ certain Internet properties becoming the norm.

**1. Besides the information published so far by Internet service providers, how could the transparency of services be improved (what service features should be disclosed)?**

VON considers the disclosure of traffic management information as a critical resource for NRAs, service, content, and application providers, end-users, and consumers in order to allow them to determine whether operators are engaging in anticompetitive behaviour or putting in place harmful practices at the level of Internet access services.

As accurately noted by NMHH, traffic management practices cover quite rather some technical details, which can seem incomprehensible or even frightening for mainstream end-users (not only individual consumers, but also small businesses and administrations, etc.). Then again, oversimplification of this information can be misleading, as often, the devil lies in the details.

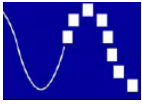
Hence, VON considers that information on traffic management should be provided in at least **two different formats**:

- 1) on the one hand, an easily understandable end-user fact sheet.** In this context, the key principle should be that “information is definitely not communication, and information overkill leads to information not being read rather than readers trying to get to the bottom of it”; and,
- 2) on the other, a comprehensive and detailed technical fact sheet.** Indeed, BEREC has rightfully pointed out in 2010 that *‘as well as transparency for consumers, the transparency towards*

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<sup>6</sup> See BEREC. (2011). *Guidelines on Transparency in the scope of Net Neutrality : Best practices and recommended approaches*. Retrieved at, [http://erg.eu.int/doc/berec/bor/bor11\\_67\\_transparencyguide.pdf](http://erg.eu.int/doc/berec/bor/bor11_67_transparencyguide.pdf)

<sup>7</sup> See VON Europe. (2012). VON Europe - Non-exhaustive Identification of Restrictions on Internet Access by Mobile Operators. Available at, <http://www.scribd.com/doc/98641591/VON-Europe-Non-exhaustive-Identification-of-Restrictions-on-Internet-Access-by-Mobile-Operators>.



*content/application providers should also be considered*<sup>8</sup>. This is logical as access to detailed traffic management information can help service, content, and application providers assure that their offers are optimised to make the best and most efficient use of the network. It is therefore crucial that NMHH addresses this second aspect in detail and not only information for consumers.

This two-pronged approach would then result in meaningful information for all players.

Moreover, the traffic management information available should conform with a minimum number of conditions, being: their ease of access in various formats (e.g. on the operator's website, paper brochures, etc.); their communication prior to subscription; the immediate notification in case of changes to them; the adoption of a comparable format amongst operators, preferably agreed upon by the different relevant stakeholders including consumer groups and the online providers' community, to allow all end-users to compare the different available offerings in an informed and user-friendly manner.

**VON also considers that transparency towards consumers should not only cover the technical impact of traffic management practices implemented by the access provider. The information supplied should also disclose user experience impact and privacy impact.** Indeed, the European Data Protection Supervisor (EDPS) pointed out in a recent Opinion on net neutrality, that traffic management and the protection of privacy and personal data that *"increasing use by ISPs of traffic management policies could possibly limit access to information. If this behaviour became common practice and it was not possible (or highly expensive) for users to have access to the full Internet as we know it, this would jeopardise access to information and user's ability to send and receive the content they want using the applications or services of their choice"*.<sup>9</sup> This finding led the EDPS to conclude that *"a legally mandatory principle on net neutrality may avoid this problem"*.<sup>10</sup>

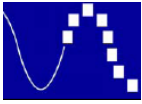
Regardless of the conclusion by EDPS, it is clear that the **Deep Packet Inspection techniques used by some access providers to discriminate between packets in a way that is not application agnostic**

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<sup>8</sup> See BEREC. (2010). *Response to the European Commission's consultation on the open Internet and net neutrality in Europe*. p. 17. Retrieved at, [http://erg.eu.int/doc/berec/bor\\_10\\_42.pdf](http://erg.eu.int/doc/berec/bor_10_42.pdf).

<sup>9</sup> See EDPS. (2011). *Opinion of the European Data Protection Supervisor on Net Neutrality, Traffic Management and the Protection of Privacy and Personal Data*. p. 4. Retrieved at, [http://www.edps.europa.eu/EDPSWEB/webdav/site/mySite/shared/Documents/Consultation/Opinions/2011/11-10-07\\_Net\\_neutrality\\_EN.pdf](http://www.edps.europa.eu/EDPSWEB/webdav/site/mySite/shared/Documents/Consultation/Opinions/2011/11-10-07_Net_neutrality_EN.pdf).

<sup>10</sup> See *Ibid.* p. 4.



raises serious privacy concerns amongst users<sup>11</sup>, who should hence be informed of these practices and their implications, both from a general transparency point of view and from a data protection perspective.

**2. How helpful would it be for customers to have a unified table filled out by Internet service providers listing their packages and published them on their website? Are Internet service providers in favour of creating and publishing such a table?**

Traffic management practices should be able to be assessed in light of BEREC’s statement that “*Lack of transparency (the “end-user transparency problem”) may mean that consumers do not find it easy to make informed decisions and compare services. This may be because the information does not exist or is deceptive. It might also be because the information consumers are presented with is complex, not easy to interpret and/or set out in a number of different places, which makes it difficult to interpret and/or compare. Transparency problems can be generated and amplified by a variety of factors, including the increasing number and diversity of offers, the complexity of tariff plans, the bundling of services and the deficient presentation of information by service providers.*”<sup>12</sup>

The proposal to ensure that some ‘key facts’ understandable by the “man in the street” are made available next to more detailed, including technical, information, therefore seems appropriate.

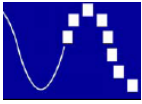
The shorter version would enable an average consumer to understand what they are buying so that they can compare it easily with other offers. This should include clear information about how much data volume is available and how much the user consumes, how much speed they can expect, and the effect that traffic management would have on their use of the Internet, for instance whether their experience of video calling or streaming would not be ‘excellent’ at certain peak times.

The longer section would enable the consumers and any other interested parties to find out more detail on specific points if necessary, for instance to verify how traffic management techniques are deployed. Crucially this longer section should also enable other stakeholders involved, from consumer associations to regulators and online content, application and service providers, to verify

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<sup>11</sup> As evidenced by the outrage in the Netherlands when the incumbent KPN admitted to DPI practices, outrage which led to the adoption of the Netherlands’ Net neutrality legislation. See <http://www.law.com/jsp/lawtechnologynews/PubArticleLTN.jsp?id=1202498194607&slreturn=1>.

<sup>12</sup> See ERG (2008), *Report on Transparency of Tariff Information*, retrieved at [http://erg.eu.int/doc/publications/2009/erg\\_08\\_59rev\\_2\\_report\\_on\\_transparency\\_of\\_tariff\\_information.pdf](http://erg.eu.int/doc/publications/2009/erg_08_59rev_2_report_on_transparency_of_tariff_information.pdf)



how operators respect the open and neutral character of the Internet in practice, how they manage their networks and offer their services.

An important element in this context is to properly define what Internet access is.

The recent Plum Consulting report on ‘the open Internet – a platform for growth’<sup>13</sup> suggests that *“the term ‘Internet access’ be defined consistent with open internet norms and that use of the term in marketing be allowed only for those network access providers who abide by the stipulated set of open internet principles (rather than consumers having to assess potentially complex and opaque information regarding network management and blocking)”*.

This is in line with the earlier recommendation formulated by the French regulator ARCEP in its 2010 Public Consultation document on discussion points and initial policy directions on Internet and network neutrality,<sup>14</sup> which states that:

- *“In the case of offers of partial access to the services available on the Internet, due to the blocking (outside the scope of regulatory obligations) of certain services, websites or protocols, which is generally the case on mobile networks today, operators cannot qualify these offers as ‘Internet access’ so as not to mislead end users. Only an offer that has all the characteristics of ‘Internet access’ (...) may employ this”*; and,
- *“the term ‘unlimited’ cannot be used to describe service offerings that include ‘fair use’ type limitations that restrict consumption over time.”*

In light of this ARCEP pointed out that: *“(...) even in data offers that are not qualified as ‘Internet access,’ it does not seem legitimate to block voice over IP services (such as Skype) since that they not consume more bandwidth than other services that are currently accessible via mobile networks”*.

In VON’s view, BEREC hence correctly concluded earlier in 2010 that *“there are some limitations on the effectiveness of transparency as a measure remedying network neutrality issues”*<sup>15</sup>. This point was also acknowledged in the April 2011 Communication issued by the European Commission on the

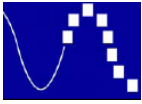
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<sup>13</sup> See Plum Consulting, *The Open Internet – a Platform for Growth*, October 2011; retrieved at [http://blogs.skype.com/en/Plum\\_October2011\\_The\\_open\\_internet\\_-\\_a\\_platform\\_for\\_growth.pdf](http://blogs.skype.com/en/Plum_October2011_The_open_internet_-_a_platform_for_growth.pdf).

<sup>14</sup> See [http://www.arcep.fr/uploads/tx\\_gspublication/consult-net-neutralite-200510.pdf](http://www.arcep.fr/uploads/tx_gspublication/consult-net-neutralite-200510.pdf).

<sup>15</sup> See BEREC. (2010). *Response to the European Commission’s consultation on the open Internet and net neutrality in Europe*. p. 10-11. Retrieved at, [http://erg.eu.int/doc/berec/bor\\_10\\_42.pdf](http://erg.eu.int/doc/berec/bor_10_42.pdf).





open internet and net neutrality in Europe,<sup>16</sup> which states that “*transparency and ease of switching are key elements for consumers when choosing or changing internet service provider but they may not be adequate tools to deal with generalised restrictions of lawful services or applications*”.

**We would therefore recommend that:**

- (i) The term ‘Internet’ (or ‘Internet access’) be clearly defined,<sup>17</sup> and that offers which do not entail access to the open Internet may not be marketed as ‘Internet’; and,
- (ii) Make clear that blocking or otherwise hindering VoIP is not a legitimate practice.

**4. How severe is congestion, and does it cause any problems on service provider networks? What levels does congestion usually affect (access network, backbone network, domestic peering, international peering)?**

There is no question that the Internet has experienced tremendous growth in traffic volumes in its history, including in recent years. However, the rate of growth is declining, whilst the increase in capacity is forecast to be able to handle the volumes appropriately. At the same time, the costs of upgrading and maintaining both fixed and mobile networks are falling to such levels that such capacity increases will continue to be manageable.

In its recent ‘draft Report to the Parliament and Government on Internet Neutrality’<sup>18</sup>, the French regulator ARCEP conducted an analysis of congestion and cost of upgrading of networks and concluded that:

- The increase of traffic has been substantial but the ratio of increase is currently flattening out.<sup>19</sup>
- “*The costs supported on the fixed access network (copper local loop in this case) are about 13€ per subscriber per month (about 90% of the network costs). These costs barely increase in relation to traffic. The costs supported by collecting and transit networks currently represent about 1,4€ per subscriber per month. Part of these costs – related to active equipment –*

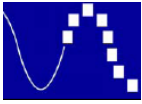
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<sup>16</sup> See European Commission. (2011). *The open internet and net neutrality in Europe*. p. 9. Retrieved at, [http://ec.europa.eu/information\\_society/policy/ecomm/doc/library/communications\\_reports/netneutrality/comm-19042011.pdf](http://ec.europa.eu/information_society/policy/ecomm/doc/library/communications_reports/netneutrality/comm-19042011.pdf).

<sup>17</sup> For instance as “*a service enabling users to access and distribute any content or service, and run any application of their choice on the Internet, on the device of their choice*” (based on UK NRA Ofcom’s statement on its approach to net neutrality, section 1.3, 24 November 2011, <http://stakeholders.ofcom.org.uk/consultations/net-neutrality/statement/>).

<sup>18</sup> See [http://www.arcep.fr/uploads/tx\\_gspublication/20120516-projet-rapport-neutralite-internet.pdf](http://www.arcep.fr/uploads/tx_gspublication/20120516-projet-rapport-neutralite-internet.pdf).

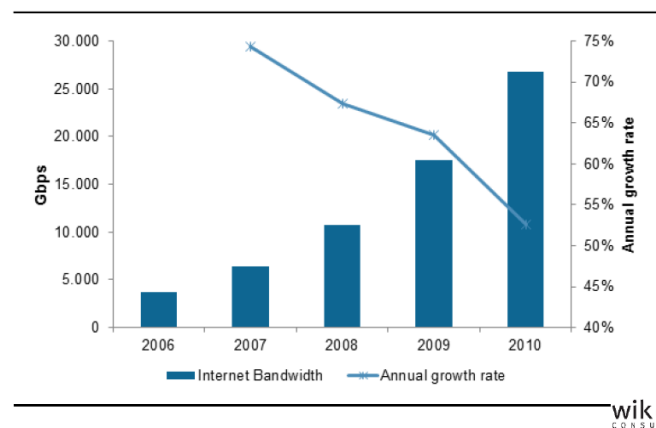
<sup>19</sup> See *Ibid.* p. 14



increases with the increase of traffic. Between an average subscriber and a subscriber with an intensive consumption (three times above average), this increase is only about 30 to 40 cent per subscriber per month in the case of an operator using unbundling, and can reach 1,20 € per month on a bitstream connection bought from France Telecom”.<sup>20</sup> ARCEP hence concludes that “these results (...) show that at the end of the day, costs increase relatively little in relation to the increase of traffic. A consumption multiplied by three only induces an increase of 2 to 3% of network costs related to Internet access”.<sup>21</sup>

ARCEP’s finding in terms of traffic growth is confirmed by the graph below, and noted by WIK Consult: “In the past, traffic as a whole grew more than 100% annually a decade ago, but has since slowed down to a more moderate pace (...) the absolute volume of traffic is increasing, but the rate of traffic growth is clearly declining. Global IP traffic is expected to grow from a volume of 20 Exabytes per month in 2010 to a volume of 80 Exabytes per month in 2015, but the annual rate of growth of IP traffic is expected to decline to 27% by 2015. (...) The projected increase in mobile data is substantial; once again, however, the percentage growth rate declines sharply over time Furthermore, mobile data traffic of 6,254 Petabytes per month in 2015 will represent only about 8% of total traffic of 80,456 Petabytes per month. This is a substantial increase from today’s mobile share of slightly less than 2% of total IP traffic in 2011, but still represents a declining rate of traffic growth”.<sup>22</sup>

Figure 13: Western and Eastern Europe international Internet traffic (Gbps)

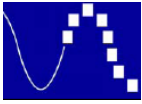


Source: Telegeography (2011). Data reflect Internet traffic across international borders as of mid-year.

<sup>20</sup> See *Ibid.* p. 20 – our translation.

<sup>21</sup> See *Ibid.* p. 21 – our translation.

<sup>22</sup> See Marcus, J. S. (2011). *Network Operators and Content Providers: Who Bears the Cost?* p. 26. Retrieved at <http://ssrn.com/abstract=1926768>.



Similarly, on the costs side, the Plum Report also confirms that for fixed networks traffic related costs are low, falling on a unit basis and likely to fall overall given declines in traffic growth and on-going cost-reducing technical progress, whilst for mobile access they are higher but nevertheless declining on a unit cost basis.<sup>23</sup>

In summary, although traffic growth continues, its pace is declining, and it should not pose a problem to cope with it. Importantly, without this increase in consumer demand for Internet access, Internet access providers would see their market and revenues shrink. As the Chairman of Vodafone Sir John Bond commented:<sup>24</sup>

*“Data has been the key driver of growth over the last year. Our customers around the world are increasingly drawn to the experience of the mobile internet and related services. Organic data revenue growth was 26.4% achieved through combining increasingly disciplined pricing structures with a broad range of devices and a network with a deserved reputation for market-leading speed and reliability.”*

US operator Verizon also explained the relationship between revenue growth and data growth as follows:

*“(…) with our 4G launch and the speeds that 4G give and the proliferation of video and content consumption through mobile handset, we see usage starting to be on an escalating scale (…) then ARPU will start to accrete because people will start to use more, they will start to buy the higher tiers (…)”<sup>25</sup>*

It is therefore crucial that innovation in Internet content, applications and services is protected, so that consumer demand for Internet access remains high. Without this demand, the whole ICT ecosystem would suffer. The respect of Open Internet principles, as proposed in our ‘general remarks’, would achieve this protection and encouragement of continued Internet-based innovation.

##### **5. Which service provider traffic management interventions are justified, and which are not?**

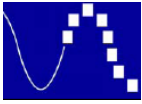
Since the beginning of the Internet, network administrators have had to manage Internet traffic. In case of congestion, administrators have used a variety of means to deal with this congestion by

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<sup>23</sup> See Plum Consulting, *Ibid*.

<sup>24</sup> See [http://www.vodafone.com/content/annualreport/annual\\_report11/business-review/chairmans-statement.html](http://www.vodafone.com/content/annualreport/annual_report11/business-review/chairmans-statement.html).

<sup>25</sup> See Verizon. (2011, 10 August). *Oppenheimer & Co. Technology & Communications Conference - Final Transcript*. p. 3. [http://www22.verizon.com/investor/investor-consump/groups/events/documents/investorrelation/event\\_ucm\\_5\\_trans.pdf](http://www22.verizon.com/investor/investor-consump/groups/events/documents/investorrelation/event_ucm_5_trans.pdf).



either sending packets along an alternative route, delaying packets in a buffer (queuing or buffering), or dropping packets completely. This has been mainly done through so-called “traffic shaping”,<sup>26</sup> which allows administrators to control the flows of data, identify types of traffic (data packets) and handle them differently in order to ensure users have the best possible Internet experience. To that, one must add the fact that ISPs filter spam and content that could be malicious. All of these interventions are widely accepted and for the vast majority of consumers and their ISPs, they are uncontroversial.

But with technological evolution, more sophisticated tools have been put in place. A major change has notably occurred with the possibility to do deep packet inspection (DPI) – and in some cases the obligation to do so for law enforcement purposes (*e.g.* in Hadopi type obligations in France). These tools could lead to more efficient and more secure traffic management practices, but also allow discriminatory practices which are harmful to users, innovation and the ecosystem as a whole.

**VON would still like to emphasize that it sees traffic management for the purpose of combating spam, network security or punctual exceptional measures to alleviate congestion as useful and these have never been contested as such, as long as they remain proportional and not harmful.**

**However, academic research shows that the security rationale is “often used to justify practices that block traffic”, and therefore “this rationale should be divided into two categories — traffic management to address traffic potentially harmful to the user versus network management techniques employed by broadband Internet access providers to address traffic harmful to the network”.<sup>27</sup>**

At the same time, this same research highlights that the congestion rationale is “is often used to justify ISP traffic shaping on file-sharing traffic”, but “if the practice involves blocking without user choice” this should then be classified “as unreasonable”.<sup>28</sup>

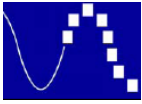
VON would also like to add that traffic management for commercial motivations based on the exploitation of a bottleneck, or discrimination between services, content, and applications of similar

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<sup>26</sup> This concept is set out in more detail in OECD. (2007). *Internet Traffic Prioritisation : An Overview*. p. 8ff. Available at, <http://www.oecd.org/dataoecd/43/63/38405781.pdf>.

<sup>27</sup> See Jordan, S. (2010). A Framework for Classification of Traffic Management Practices as Reasonable or Unreasonable. *ACM Transactions on Internet Technology*, 10(3), 1-23. p. 15. Retrieved at, <http://www.escholarship.org/uc/item/3ng6r1fw>.

<sup>28</sup> See Jordan, S. (2010), *Ibid*, p. 17.



nature does not create consumer value, as it decreases choice and switches the control from the end-user to the access operator acting as gatekeeper.

The figure below exemplifies that the services, content and applications running over the networks, such as VoIP in this example, are at the mercy of the companies controlling the access network infrastructure.

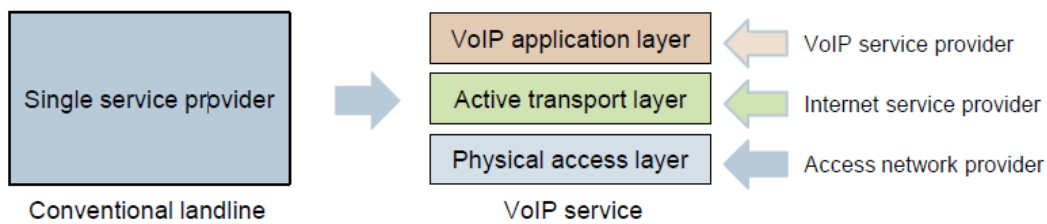


Figure 1: Comparison of VoIP and conventional landline service delivery models

(Source: Ofcom / Analysys Mason)<sup>29</sup>

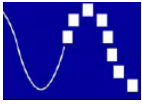
Harmful traffic management practices breach the end-to-end connectivity principle of the Telecoms Package enshrined in Article 5 of the Access Directive (2009/140/EC),<sup>30</sup> the principles set out in Recital 28 of the revised Universal Service Directive (USD) (2009/136/EC)<sup>31</sup> as well as Recital 40 of the Roaming Regulation (Regulation (EC) No 544/2009).<sup>32</sup>

<sup>29</sup> See Analysys Mason. (2011, 28 June). *Report for Ofcom – Assessment of VoIP location capabilities to support emergency services*. p. 7. Retrieved at, <http://stakeholders.ofcom.org.uk/binaries/research/telecoms-research/emergency-voip-location.pdf>.

<sup>30</sup> It must be noted however that Article 5 applies to ‘access and interconnection’ issues, which would not cover many issues faced by content, service or applications providers faced with abusive behaviour by an ISP or mobile operator.

<sup>31</sup> “End-users should be able to decide what content they want to send and receive, and which services, applications, hardware and software they want to use for such purposes, without prejudice to the need to preserve the integrity and security of networks and services. A competitive market will provide users with a wide choice of content, applications and services. National regulatory authorities should promote users’ ability to access and distribute information and to run applications and services of their choice, as provided for in Article 8 of Directive 2002/21/EC (Framework Directive). Given the increasing importance of electronic communications for consumers and businesses, users should in any case be fully informed of any limiting conditions imposed on the use of electronic communications services by the service and/or network provider. Such information should, at the option of the provider, specify the type of content, application or service concerned, individual applications or services, or both. Depending on the technology used and the type of limitation, such limitations may require user consent under Directive 2002/58/EC (Directive on privacy and electronic communications).”

<sup>32</sup> “(...) there should be no obstacles to the emergence of applications or technologies which can be a substitute for, or alternative to, roaming services, such as WiFi, Voice over Internet Protocol (VoIP) and Instant Messaging services. Consumers should be provided with this information, thereby allowing them to make an informed choice.”



A starting point in the approach to traffic management and net neutrality should thus be the desire and duty to preserve and promote an open Internet, a goal that is now mandated for NRAs under the revised Framework Directive in Art. 8.4 g.<sup>33</sup>

**6. To what extent do subscribers recognize the discrimination (blocking or slowing down) of service providers against certain online applications?**

It is very difficult for users to realise where a low quality Internet experience comes from. Indeed, it could come from the hardware they use – such as low computing power or faulty configuration of their Wi-Fi router – or from an ISP having a poor quality network, from an ISP's traffic management practices, or indeed, from the poor quality of a piece of content, application or service.

This difficulty was highlighted by BEREC in its Response to the European Commission's consultation on the open Internet and net neutrality in Europe' from September 2010:

*"Consumers may not be able to detect the actual application of discriminating traffic management techniques and find it difficult to distinguish between the effects of traffic management techniques on quality of service from the effects of other quality degrading factors. For instance, a consumer who is observing that traffic is routinely throttled may not know whether this is done by intention, or is caused by other factors such as network congestion, which is leading to the degradation of service."*<sup>34</sup>

This presents an added complication when it comes to the discriminatory behaviour affecting a number of Internet uses, especially VoIP, through blocking or degradation. Users may think that it is the VoIP software application they are using which is of poor quality, and with one or two clicks, switch to an alternative application – or indeed, if they experience bad quality for all VoIP applications, not use VoIP anymore but only traditional, less versatile telephony.

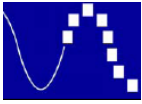
A study by Synovate in 2009, commissioned by Yahoo!, Google and Skype,<sup>35</sup> confirmed this : when experiencing a bad Internet experience, a quarter of users surveyed in the UK, Germany, and France, attributed the problem automatically to the webpage or software they were using.

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<sup>33</sup> "(...) promoting the ability of end-users to access and distribute information or run applications and services of their choice."

<sup>34</sup> See BEREC. (2010). Response to the European Commission's consultation on the open Internet and net neutrality in Europe. Retrieved at, [http://erg.eu.int/doc/berec/bor\\_10\\_42.pdf](http://erg.eu.int/doc/berec/bor_10_42.pdf).

<sup>35</sup> See main findings of the study at, [http://about.skype.com/2009/03/new\\_study\\_suggests\\_consumers\\_w.html](http://about.skype.com/2009/03/new_study_suggests_consumers_w.html)



This confirms the need for very clear, meaningful information by the ISPs to end-consumers in the form of a short factsheet as well as with some more detail, for use by anyone including end-consumers who so wish and any other interested parties including content, application and service providers. Users should be able to know not just that certain traffic management practices are taking place, but:

- That they will only affect them for purely technical (congestion management), legal or security reasons; and,
- How they will affect their Internet experience in practice, for instance, that it will take them for a typical service or application X number of minutes to download a normal quality movie at given times of day, compared to ‘non peak’ times; whether they will be able to make a good quality video-call at all times or whether the ‘management’ of peer to peer or VoIP traffic in times of congestion will make it difficult for them to do so at certain times of the day; etc. Further studies on users’ understanding of traffic management information could help regularly improve the clarity and usefulness of the information provided.

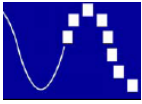
For VON, policymakers and regulators should ensure that end users and consumers can continue to use the Internet applications, services and devices of their choice. Regulators and policymakers should resist any attempts, whether regulatory, commercial or competitive, to block or hinder unfettered access to VoIP (or similar technologies) and more generally to all legal Internet content, applications and services, including the underlying technology, and that prevents it from being utilised to its full potential.

**7. Do you currently use or plan to introduce any deep packet inspection technologies for traffic management purposes?**

This question is not applicable to VON, as a trade association.

**8. Have you experienced that in case of “Triple play” service packages (IPTV + Internet + VoIP service), the guaranteed quality of public Internet access service is not performed?**

We are aware of the availability of a number of triple play offerings relying on bandwidth-reservation. We are not specifically aware of any ongoing problems where open Internet traffic is severely negatively impacted by the delivery of a triple play offer, although several instances of concerns were reported in the past.



While we see no problem with the development of triple play services and enhanced quality of service offerings, it is important to note that:

- Triple / multiple play offerings often translate into a reduction in the switching ability of consumers. Although this is not a problem *per se*, it means that relying on consumers switching providers thanks to transparent information, in order to protect the open character of the Internet, cannot be sufficient.
- The development of so-called ‘specialised’ or ‘managed’ services, as described in NMHH’s consultation, should not be allowed to endanger the delivery of the open Internet, either technically or financially. By that we mean that open access to the Internet should not become over-priced or a slow, ‘dirt’ road to Internet content, compared to managed services. Safeguards must be put in place to avoid a ‘dirt road effect’ – whether because network improvements favour managed services only, or because Internet access becomes overpriced compared to managed services.

This point has also been raised in a recent Report from the French Parliament, which states that *“the quality of the public Internet could quickly degrade because of the important growth in data streams, if Internet access providers were not to invest in their networks or were to give priority to the commercialisation of managed services”*.<sup>36</sup>

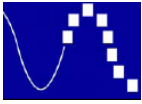
VON would therefore like to draw NMHH’s attention to Art. 22.3 of the Universal Service and User’s Rights Directive (2002/22/EC) as amended by the Citizens Right’s Directive (2009/136/EC) which stipulates that (our emphasis added): *“In order to **prevent** the degradation of service and the hindering or slowing down of traffic over networks, Member States shall ensure that national regulatory authorities are able to set minimum quality of service requirements on an undertaking or undertakings providing public communications networks”*.

VON believes that the use of the wording ‘prevent’ implies that actions must be taken ex-ante instead of ex-post, as measuring the network capabilities of an offering could be rendered more difficult once unreasonable traffic management practices have already been put in place. The use of the wording ‘prevent’ indicates that NRAs should be proactive, and not merely accept offers that

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<sup>36</sup> See <http://www.scribd.com/doc/52922958/Rapport-d-information-sur-la-neutralite-de-l%E2%80%99internet-et-des-reseaux>.





entail a provision of subsets of the open Internet, or application-specific restrictions, as legitimate or normal, and of which end-users must merely be informed.

In setting such minimum quality of service (QoS) requirements, NMHH, should take into account the complexities and multi-dimensional facets of the online ecosystem. The enforcement of open Internet policies and regulations will therefore require on the one hand the leveraging of deep technical expertise within NMHH and on the second hand the gathering of input from outside experts.

VON recommends that NMHH convenes a technical expert group – comprised of industry participants (service, content, and application providers together with operators) – operating across the EU. The resulting expert input should help NMHH in taking reasoned and well balanced decisions about what forms of traffic management could be discriminating and/or anticompetitive, and thus harm end-users and consumers, and create barriers to innovation. These experts could also provide NMHH with valuable input on practices abroad, network management techniques and developments in network infrastructure and technologies, and on what constitutes minimum QoS.

**9. Is there an established practice on paid data substitution? Are there any negotiations underway in the matter between major content providers and Internet service providers?**

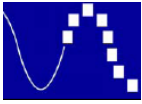
As a trade association, VON is not aware of any such developments.

**10. What is the position of service providers on Content Delivery Networks? Do you have CDN interconnection agreements with any application or content providers, or do you provide access to such content via the CDN of another application provider?**

As a trade association, VON can only comment in a generic manner as regards Content Delivery Networks (CDNs).

Some broadband providers have asserted that CDNs are ‘non-neutral’. VON believes that this argument is incorrect.

CDNs provide a way for content, application and service providers to optimise the delivery of the traffic generated by their users. This can take the form, for example, of the most popular content being ‘cached’ closer to the end-user so that it can be accessed more speedily, thus helping assuage the effect of traffic increase. In other words, the function of a CDN is to enhance users’ overall Internet experience by hosting and serving content from a location more proximate to end users,



thus avoiding points of possible congestion and reducing latency. By definition, they do not and cannot involve or interfere with other traffic flows to end users. Only last-mile broadband access providers like incumbents have such control.

Moreover, to our knowledge and in our experience, the CDN market is very competitive and does not present any current problem. NMHH should, however, monitor whether access network providers expanded their activities vertically, whereby they would also offer CDN capabilities. In such cases, which are acceptable in principle, it is crucial that the two businesses are managed separately, in other words that the CDN delivery remains ‘neutral’, in order to avoid those controlling end-user access creating a situation of ‘bottleneck’ also at the CDN level.

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We thank you in advance for taking consideration of these views. Feel free to contact Herman Rucic, VON Europe, by phone (+32 (0)478 966701) or email ([hrucic@voneurope.eu](mailto:hrucic@voneurope.eu)) should you need further information.

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### **About the VON Coalition Europe**

The Voice on the Net (VON) Coalition Europe was launched in December 2007 by leading Internet communications and technology companies, on the cutting edge to create an authoritative voice for the Internet-enabled communications industry. Its current members are iBasis, Google, Microsoft, Skype, Viber, Vonage, Voxbone and WeePee.

The VON Coalition Europe notably focuses on educating and informing policymakers in the European Union and abroad in order to promote responsible government policies that enable innovation and the many benefits that Internet voice innovations can deliver.