

Representing:

Self

Organisation (if applicable):

What do you want Ofcom to keep confidential?:

Keep name confidential

If you want part of your response kept confidential, which parts?:

Ofcom may publish a response summary:

Yes

I confirm that I have read the declaration:

Yes

Ofcom should only publish this response after the consultation has ended:

You may publish my response on receipt

Additional comments:

Question 1: How enduring do you think congestion problems are likely to be on different networks and for different players?:

Congestion problems will be more prominent due to high volume content e.g. video on demand (inc. internet TV) becoming mainstream. The BBC iPlayer congestion phenomenon will increase, although this would likely be worse during periods when high demand content is broadcast (e.g. Wimbledon, football, Olympics). This should be seen as additional congestion to the existing high peer to peer demand and the relatively low amount of web browsing and email traffic.

However, I do not think that such problems have been or will be enduring in the long term, because the ISPs will eventually increase the capacity of their networks to meet this increase in demand, or suffer high customer attrition rate as the latter will be seeking a better performing provider.

Also, I think that if ISPs were to respect net neutrality and instead of discriminating against types of data packets they introduced steeper price discrimination for high usage (as some of them have done) the so called heavy users would both pay their way, thus gradually funding needed investment into capacity expansion and also be financially compelled to modify their behaviour.

In other words, true price discrimination would fairly and transparently regulate congestion and help with the development of the networks to meet demand. This of course goes against the 'cheap as chips' commoditisation model of the Internet that some of the bigger ISPs are pursuing.

Finally, when congestion is caused by customers rushing to carry out large downloads at the start of a paying period (on accounts with a download limit), the ISPs can stagger when they bill each customer so as to level any surges through the month.

Question 2: What do you think are possible incentives for potentially unfair discrimination?:

Why profit of course, as pursued under certain business models. Most ISPs maximise their returns by maximising their number of subscribers for as little investment in network capacity as possible. Therefore, the likes of PlusNet, Virgin, etc seek to cram as many users down a BT or their own pipe as physically possible by utilising traffic shaping and throttling, instead of purchasing spare capacity to offer acceptable performance at times of high demand.

In addition, some ISPs have moved beyond a 'mass market / low price' ADSL provision to offering additional content and services, e.g. video on demand, VoIP, web hosting, etc. Packet discrimination will allow them to penalise competitors offerings by degrading the experience of users who opt for a competitor's service. A simple example here is with Plusnet, who is filtering packets to their own ftp servers differently to the ftp servers of other providers. Other services e.g. VoIP, storage, etc. can be discriminated in a non-transparent way and users eventually will stop using them to the delight of the ISP who can now sell their own products to them.

Question 3: Can you provide any evidence of economic and or consumer value generated by traffic management? :

I cannot provide material evidence since I do not work for an ISP to have access to their data, but there is a use case scenario which can be seen as beneficial both to ISPs and subscribers. This is one where the consumers in question are light users of very basic internet browsing and email. These users would not be overly disadvantaged by typical browsing sessions or use of email by traffic shaping. They are also less likely to notice the increase in latency* or reduction in speed of their connection. Traffic shaping such users' connections would bring both higher margins to the provider and a lower ADSL price to the consumers. However, this must be seen in the context of the disbenefit for all other users who require connections to servers on other than the typical browsing ports (http and https), who require low latency for gaming, or who have a need for other time critical business activities and cannot wait until 1 o'clock in the morning for traffic shaping to cease and the network response to improve. This traffic shaping would be fine as long as the consumers in question are not advocates of net-neutrality, or the market structure is regulated to ensure that adequate numbers of ISPs exist to offer connections without any form of traffic shaping, and, or the same ISP is obligated to offer connections without processing them through traffic shaping switches and filters.

* The traffic shaping always introduces latency even when no packets are throttled as a result of

it. This is because the deep packet inspection performed by switches (like the Ellacoyas and Cisco) always takes a few milliseconds to complete. This is both measurable and noticeable, as testified in the forums frequented by users of ISPs who employ traffic shaping to manage demand.

Question 4: Conversely, do you think that unconstrained traffic management has the potential for (or is already causing) consumer/citizen harm? Please include any relevant evidence. :

This question can be read in two ways:

a) Harm due to the semantic content, e.g. inappropriate, controversial content which may offend.

No, I do not think that unconstrained traffic management has singularly the potential for any material consumer/citizen harm. On the contrary, I think that the argument for the use of traffic management for the avoidance of harm caused by inappropriate content is an argument for censorship, typical of totalitarian regimes, but not modern Europe or the UK.* This is because the judgement of the inappropriateness of content is more often a subjective and personal matter. Therefore, the solution should be controlled by the individuals affected. Users who may be offended by content can use applications to filter such inappropriate content at their PC, or at their home router, or by using an online filtering service (which is often offered for free from Broadband ISPs, or DNS service providers, e.g. OpenDNS). In addition, traffic management which discriminates against packets applied uniformly on all traffic is an inappropriate solution to what essentially is a problem of content filtering. Also, traffic shaping and deep packet inspection will only temporarily hinder those who want to access or distribute 'inappropriate' content on peer-to-peer networks. This is because non-transparent proxy server technology and encryption can be readily employed to circumvent traffic filtering in the same manner that it is being used in totalitarian states today. If traffic shaping/censorship of content were to be deployed en mass, the demand for privacy either for legitimate or illegitimate purposes would quickly generate technological solutions and service provision to cater for it (like anonymising technology and tunnelling protocols).

* I am in no way supporting the dissemination through the Internet of child pornography, or malicious software, etc. However, a very suitable explanation of why Internet traffic content filtering is not the right way to do this is presented under the heading "Censoring" in this page: <http://aaisp.net.uk/kb-broadband-realinternet.html>

b) Harm due to network congestion effects that unconstrained traffic would cause.

This is also a flawed argument, because there are solutions (other than enforcing traffic management) which can manage congestion until the infrastructure is expanded to meet demand. Price discrimination by amount of usage and time of usage has been shown to work effectively in managing demand. Furthermore, this is how BT are charging the ISPs for capacity. Paying your way in terms of capacity usage is a fair and transparent way of managing congestion effects.

Question 5: Can you provide any evidence that allowing traffic management has a negative impact on innovation? :

Yes, most definitely. At a personal level: My wife's business was inhibited in its ability to serve customers because of PlusNet's traffic shaping. Traffic shaping which was being experienced at its most severe during peak demand, almost incapacitated connections to both customer computers and her own web hosting server. My wife was unable to perform her work and lost both income and customer good will as a result. It took quite some time of troubleshooting before it transpired that all this was due to traffic shaping that throttled connections to particular server ports. At a community level: I recall the PlusNet, KitzADSL and other user forums buzzing regularly with incandescent users who were complaining of their constrained connections.

This problem for my wife was immediately solved by moving to another small ISP who did not apply any traffic shaping. However, one can see that the market could easily gravitate towards an oligopolistic scenario of few big players who can buy cheaply enough the influence of politicians to affect regulation policies to their benefit. Therefore such a choice may not be available to us in the future. Initially we purchased Internet access via Metronet UK, then we found out that they were bought by PlusNet, who in turn were bought by BT. Before long, traffic shaping was applied by the ISP with the promise that it would only affect kids that use BitTorrent to share music. It soon became evident that this was not going to be as promised. I would very much hope that Ofcom in their current considerations will try to guard against such an eventuality and safeguard choice for the consumer. Please note that such a choice has to be binary in its nature. Deep packet inspection employed by ISPs to effect traffic shaping, which is often marketed as offering the option of "unconstrained" traffic for users who pay more, is not truly so. The processing of packets has a time penalty which although small, it is noticeable and cumulatively degrades efficiency of traffic. So, true customer choice must be safeguarded to ensure the survival of smaller ISPs who are prepared to offer a service based on price, rather than packet discrimination.

Question 6: Ofcom's preliminary view is that there is currently insufficient evidence to justify ex ante regulation to prohibit certain forms of traffic management. Are you aware of evidence that supports or contradicts this view? :

The only evidence that I can offer is my personal experience and my wife's experience with PlusNet. Their traffic shaping was detrimental in the way that it prohibited her from performing her business. The way that traffic shaping was being sold at the time was not totally transparent in terms of network services and ports affected. In addition, problems with the traffic shaping equipment (during periods of load balancing) would regularly fill up the ISPs forums with complaining users. Traffic shaping technology and its implementation proved time and again to be significantly inferior to the performance promised by the equipment manufacturers and the ISP in question, or the explanations offered by their support team.

Pro 'net neutrality' regulation would have avoided this problem, but it would of course go completely against the PlusNet/BT business model. Ex-ante regulation would correct this problem either by clear explanation offered by the ISP support teams and the promotional

material on the detrimental effects on line performance caused by traffic shaping for extended periods at a time, or by prohibiting such traffic shaping in the first place.

An unregulated market soon gravitates towards an oligopolistic model of a few big players, which unless controlled by legislation has every incentive to introduce traffic shaping and discrimination in communications. The illegal trials by BT, and consideration by Virgin and Talk-Talk of Phorm technology shows the intent of big suppliers when they start acting as an oligopoly: <http://badphorm.co.uk/page.php?2>

Question 7: Ofcom's preliminary view is that more should be done to increase consumer transparency around traffic management. Do you think doing so would sufficiently address any potential concerns and why?:

No, on its own transparency would not address all concerns, unless legislation/regulation also ensures that oligopolistic market dynamics were prevented from monopolising the market offerings and corrected when their occurrence is to the detriment of consumer choice. Regulation and if necessary legislation should seek to encourage ample competition between providers, so as to ensure that net neutrality is safeguarded. Effective regulation should secure the availability of adequate and effective consumer choice, both for retail and business users.

Question 8: Are you aware of any evidence that sheds light on peoples' ability to understand and act upon information they are given regarding traffic management?:

Yes, but the information provided by ISPs is rarely open, or articulated clearly enough. The failure of network connectivity due to inadequacy of the equipment to manage traffic during peak demand and load balancing was almost always claimed by the ISP (PlusNet) to be due to a temporary glitch. I have not yet seen in black and white any ISP explaining exactly what the potential of traffic shaping is in blocking and incapacitating connections to selected services and network ports, interrupting communications and at times being completely unable to access particular content. When this happens while managing remote servers the results can be dire and catastrophic in their effect.

Question 9: How can information on traffic management be presented so that it is accessible and meaningful to consumers, both in understanding any restrictions on their existing offering, and in choosing between rival offerings? Can you give examples of useful approaches to informing consumers about complex issues, including from other sectors?:

The type of service and ports which are blocked or throttled should be detailed and explained with details on the time windows during which adverse effect on these services may be experienced and the magnitude of worse possible disruption quantified. This should include specific information, for example: "connections to IRC instant messaging services on ports XXXX and XXXXX using TCP/IP and UDP/IP protocols will experience up to 75% disruption

on average and 100% at busy times, which can cause these connections to become unreliable and fail completely between 18:00 and 24:00 Monday to Friday”;

Question 10: How can compliance with transparency obligations best be verified?:

By Ofcom auditing the ISPs.

By establishing voluntary community/user/focus groups with the purpose of monitoring performance.

Ultimately, by establishing regulations which obligate the ISP to seek approval from Ofcom for the content and format of this type of communications with their users; and by ensuring that the effect of traffic shaping is monitored and published (in terms of percentage of packets dropped or retransmitted,) for each type of account on offer by the ISP or a third party, and that this is easily accessible from the pages advertising each product.

Question 11: Under what circumstances do you think the imposition of a minimum quality of service would be appropriate and why? :

I think that even when traffic shaping takes place all connections should be allowed through, albeit at reduced speeds. From my experience this is not the case. Current practice where certain port connections are completely throttled is not acceptable. The minimum quality of service should therefore stipulate what this throttling threshold/minimum acceptable throughput is. For business accounts the usual SLA T&C's apply in terms of availability and this can be more granular if traffic shaping takes place.