

Response by www.stephentemple.co.uk to the Ofcom consultation on traffic management and net neutrality

1. Introduction

This is a complex issue and it is inevitable that not all elements find their way into a consultation document. This only matters if these omissions impede a better understanding of the dynamics of the issue. The purpose of this contribution is to add what I believe are some critical missing elements in the consultation paper. In order to set the context for these I begin by looking behind the scenes at how the broadband Internet has evolved.

2. Evolution of the broadband Internet

When the broadband Internet first emerged the vast majority of users down-loaded Web pages and the vast majority of content was in the form of Web pages. This generated sporadic data usage that the IP nature of the Internet was very efficient in handling. At this time there was a rough industry rule of thumb to install capacity that was around 50 times less than might theoretically be needed if all customers were active at the same instant in time. Very attractive flat rate monthly fees resulted from applying this rule and everyone was happy.

The only threat to this ideal state of affairs came from a very small percentage of users shipping vast quantities of data per month with peer to peer applications – one of the most popular was exchanging DVD movies. This was the context in which traffic management was first applied to the broadband Internet along with caps, fair usage conditions, threatening letters etc...not that any of this had much effect on this minority of users.

What has changed is the growth of video streaming coupled with higher delivery speeds which is stimulating demand and the three factors (continuous data stream, higher delivery speeds and larger numbers of users) is leading to an exponential growth in the demand for network capacity. What might have appeared a fair use data cap of say 4 Gbytes per month 10 years ago has gradually become the average data being shipped per month per customer. ISP's are struggling with the consequence of this trend. Where traffic management has historically been applied to deal with a small minority of "bandwidth hogs" we now find the traffic management essentially being applied to one group of customer/applications in order to protect the quality of service for another group of customers/applications...within the constraint of the installed capacity. The capacity itself is limited by ISP's wanting to keep subscriptions low.

3. Are we looking at all the options?

As the numbers no longer add up something has to give and the choice boils down to:

A. Net Traffic Neutral Options

1. Let all monthly prices rise in order to install enough additional capacity so as to hold up the quality of service for all users/applications.

2. Keep subscriptions/investment low but let the quality of service crash, which everybody equally shares the misery of irrespective of their usage/application.

B. Net Traffic Discriminatory Options

3. Keep subscriptions/new investment in capacity low but discriminate technically against the most data demanding users/applications in order to preserve the quality of service for modest data usage users/applications...ie technical discrimination by application

4. Let subscriptions rise for the high data usage users/applications to pay for the corresponding additional capacity but keep subscriptions low for the modest data usage users/applications...ie price discrimination by application

4. Can some of these options be readily eliminated as undesirable?

Most people looking at the best solution would start from the premise that ideally consumers should always have a choice. This makes options 2 and options 3 the least desirable as consumers are being left with no choice.

5. The very heart of the issue is “who pays” for the extra capacity to meet rising data hungry applications

This neatly boils the Net Neutrality debate down to simply who pays for the extra network capacity needed to support the data hungry applications. Is it only those using these applications or are these incremental costs shared by all consumers – even the light broadband users who only surf a few web pages and send some e-mails?

We have many examples of public services within which cross subsidies exist between different classes of users – the urban to rural services cross subsidy is a good example so we should not be opposed in principle to a cross subsidy where it serves a wider public interest.

In the cross subsidy model the subscription for all users rises and usually when prices rise it leads to a correspondingly smaller global population of Internet users.

If only those using the data hungry applications, such as video, pay the extra cost – it is a much bigger jump in price for those users and the market for these data hungry applications would not grow nearly so fast.

There is also a sub-choice in the latter case as to whether the consumers of heavy data applications pay directly for this additional capacity or whether the applications companies pay and retrieve the money via their business model (subscription, advertising etc).

6. Conclusions

It is well known that pricing models can shape the course of technologies and networks...it is therefore an issue that Ofcom needs to take a view on since it shapes our national infrastructure. Does Ofcom consider it more important to see a higher

priced broadband Internet that offers the best innovation climate for data hungry applications or a less capable broadband Internet but providing a lower price for all? Or is there a “smart solution” between these two extremes.

What the country does not need is the “do nothing” option by the industry and the regulator as it is most likely to lead to under investment in new network capacity - which may well be Net Neutral but inevitably translates to Option 2 above ie the quality of service crashes for all. The Ofcom list of questions do not allow these critical issues to be very easily highlighted and I hope therefore this contribution adds something extra to the public debate.

About Stephen Temple: I pioneered Virgin Medias broadband Internet (when it was ntl) and have taken into pilots and commercial trials FTTC (DSL from the street cabinet), 10/100 Mb/s fibre to the apartment, Ethernet to the home and wireless local loop broadband. I also led the strategic study into Vodafone’s consumer mobile broadband strategy to the home. More recently I drafted the infrastructure section of the last Government’s Digital Britain Report.