

Cover sheet for response to an Ofcom consultation

BASIC DETAILS

Consultation title: Traffic Management and 'net neutrality'

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Representing (self or organisation/s): Detica

Address (if not received by email):

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Name Daniel Klein

Signed (if hard copy)

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

Currently, most revenue models for consumer broadband services are based on providing access rather than managing use. These models do not easily support pricing structure changes as consumer consumption continues to increase. Typically, this leaves ISPs unable to raise new capital to upgrade networks to cater for increasing demand.

Until the revenue model is based on usage, it is likely that rising levels of consumer traffic will cause congestion problems on all networks for all players.

The congestion is manifested across different areas of DSL and cable networks. DSL services (e.g. BT, Sky, Orange and TalkTalk) will experience server congestion at the Multi-Service Access Node (MSAN) and/or Broadband Remote Access Server (BRAS) during peak hours. Cable networks (used by Virgin Media, for example) are designed to a certain contention ratio, which may be unable to cope with increasing traffic generated by shared users.

In response, ISPs must invest in new networks to prevent churn. This is a balancing act because, ultimately, any upgrades that do occur will impose either higher cost for consumers (either through direct charges, or indirectly through other charges, subsidies or associated taxes) or will erode margins to the point where providers are forced to withdraw some services.

ISPs have, in the main, moved unilaterally to curb their investments in broadband provision through the use of better network management controls – a move that will make better use of their existing infrastructure. However, unless additional revenue can be raised to make investment possible, such controls will merely postpone congestion problems and potentially lead to a more general reduction in quality of service as demand increases across the board.

Traffic management does, however, provide an opportunity for service providers to change their pricing structures to a usage-based model, which may go some way towards generating the capital needed to upgrade networks and relieve congestion. Such models can already be seen in the market, with O2 having just launched a suite of broadband packages which are tailored to consumers' daily consumption needs: 'The Basics' is targeted at email and general browsing users, and 'The Works' is suitable for the heaviest data users who download films and use online gaming. Similarly, PlusNet offers their 'Plusnet Pro' package, which makes use of traffic management to prioritise all gaming and VoIP traffic for niche consumers.

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

As business models change, discrimination could begin to creep into the way services are provided, particularly where one ISP stands to gain (or lose) at the expense of another ISP or service provider/web application. The possible incentives are:

1. A service provider wanting to protect existing revenue

For example, an ISP could decide to degrade voice traffic from competing suppliers (e.g. Skype) which used their network in the hope that customers would decide to use their own proprietary voice-based products instead.

2. A service provider seeking to make a return on capital expenditure

For example, an ISP could build a special priority service and then sell it to other content or service providers, discriminating against individuals who do not subscribe to the premium service.

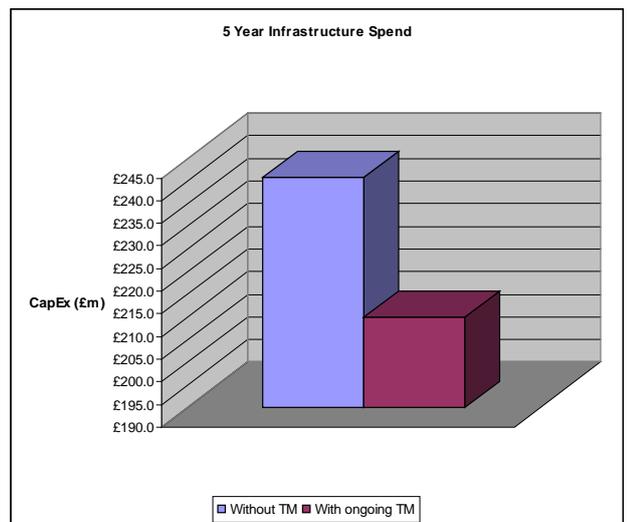
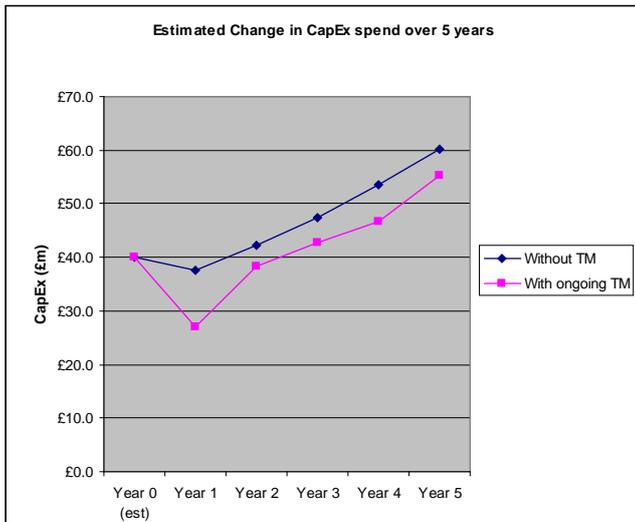
3) Can you provide any evidence of economic and or consumer value generated by traffic management?

Traffic management brings benefits across three specific areas:

1. Deferring capital expenditure (economic benefit)

Traffic management ensures that existing network resources can be used as efficiently as possible and postpones the need to upgrade networks.

Our analysis of network-traffic data from one UK ISP has shown that, over a five-year period, adopting an ongoing traffic management capability has the potential to save the organisation £30m in capital costs. As the graphs below demonstrate, traffic management does not remove the need for additional infrastructure investment, it merely reduces the amount required and *slows the rate of increase* that would otherwise be needed.



2. Line contention (consumer usage benefits)

The use of high-bandwidth applications in particular geographic areas by even small numbers of people can cause severe line contention issues. It would seem unfair, in these cases, for a majority of “responsible” consumers to be forced to share the costs of the network upgrades needed to maintain quality of service for all. Instead, if appropriate traffic management practices are implemented, “responsible” consumers would be able to continue to pay the same amount for their services, while high-bandwidth consumers will be forced to pay a “fairer” price to continue to use the Internet in the way they are accustomed to, more commensurate with their use.

The onset of premium services linked to usage could help consumers to decide if their data consumption is really appropriate to their needs. Some will choose to decline premium services and others will purchase them. The consequent self-regulation may positively affect the infrastructure investment decisions that the ISPs need to make.

3. Value to society

In terms of broader benefits, the technology used for traffic management also has the potential to protect individuals and society collectively from the harm caused by serious crime and terrorism, in particular by preventing the distribution of illegal material to minors, reducing copyright violations and copyright theft, and preventing cyber attacks. Such technology should only be introduced if it can be shown to address privacy and data protection requirements, ensuring equitable treatment for all users, whether direct subscribers of the ISP or those accessing services indirectly from the ISP from another service provider.

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.

No. We do not believe that traffic management is yet causing harm. To a large degree, the market is proving to be self-regulating because consumers can choose a supplier that best meets their needs – those with traffic management policies and those without. In today's challenging operating environment, the resulting churn goes some way to driving ISP behaviour. However, we believe that problems will arise as traffic management becomes more universal. Consumers will lose confidence. This is fuelled by a lack of understanding of the benefits of traffic management and deteriorating faith in the advertised bandwidth speeds supplied to consumers' homes. The ISPs need to be more transparent in reporting current broadband speeds to gain the confidence of the consumer that they can be trusted to implement traffic management in the future.

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

We do not believe that traffic management has a negative impact on innovation. In general, traffic management is having the opposite effect: it is driving innovation because ISPs are being forced to implement new technologies to remain competitive. There are some exceptions, however, caused by a lack of clarity around just how the technology for traffic inspection and control can be implemented proportionately. For example, despite the Digital Economy Act being passed into legislation this year, acceptable boundaries for the use of traffic management to handle copyright infringement remain unclear. Even these challenges can drive innovation, though, albeit in an area of polarised and heated debate. For instance, Detica's solution, CView™, is designed to anonymously identify legal versus illegal network traffic, complying with relevant legislation in the EU/UK.

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?

We are not aware of any evidence to justify ex ante regulation. We do know, however, that the Canadian Radio-television and Telecommunications Commission¹ has put in place a policy that amounts to ex ante regulation for wholesale internet services.

In the UK, the collection of more evidence in this area is essential. There is a real possibility otherwise that certain applications that require a minimum quality of service become unusable should they encounter significant amounts of contention. Examples of such services include VoIP services, online gaming and some virtual private network services, such as CITRIX. Should this occur, and the next available service was deemed prohibitively expensive, this could negatively impact the pervasiveness of broadband services within the UK.

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?

Yes. We believe that greater transparency could address potential concerns, but only if all ISPs were to provide details of their broadband speeds and quality of service measures in a standardised and unambiguous way. This requires all services to be *measured* in the same way. Consequently, the increase in transparency resulting from these like-for-like measurements will allow a more direct comparison between different ISP providers and their services. Consumers, therefore, will be able to make better-informed decisions based on their personal preferences rather than on ambiguous terms that could have different meanings to different parties. Agreement on quality of service definitions and how to take measurements in the same manner are vital to this process, because these will provide the consumer with confidence that all the ISPs are acting in a consistent, open and legal way.

Greater transparency will enable trust to be re-established with consumers. It is only then that consumers will readily accept the benefits that active traffic management can bring and the ISP's ability to deliver them.

To understand how traffic management can be used to benefit consumers, ISPs must first measure (using non-intrusive technology) the relative volumes of different types of traffic crossing their network. This will provide insight into how traffic management can be used to provide differentiated services to user segments, such as high bandwidth gamers.

¹ A summary of their policy can be found at:
<http://www.ictregulationtoolkit.org/en/Publication.aspx?id=3917>

These premium services must be marketed and priced according to consumption needs rather than pure headline connection speeds, so that consumers can make informed choices. As more of these services come onto the market, revenue models will shift from access to usage, providing ISPs with a mechanism to raise the capital required to respond to network upgrade requirements.

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?

Within the UK, we are aware of ISPs who have used their traffic management capabilities to offer premium services to user segments that would most benefit. For example, 'PlusNet Pro' is targeted at the gaming community, and O2 tailor their packages to consumers' daily consumption needs. Other ISPs have used similar capabilities to offer premium services on a cruder basis, purely based on download speeds: for example, Virgin Media's 10Mb, 20Mb and 50Mb broadband packages.

These examples demonstrate that ISPs and consumers are aware that premium services exist and, if purchased, could improve their user experience. However, there is currently no way for a consumer to check that these services have *actually* improved their experience, because validating the speed of their service connection in a precise manner is not possible.

In order to understand whether there has been an improvement or degradation in a consumers' ability to understand the information provided on traffic management, it would be prudent to survey the level of customer satisfaction that consumers currently have with their broadband service as a baseline measure. Periodic samples could then be taken to understand whether there has been any change in customer satisfaction. A more precise indication of any change is likely to come from consumers who have recently changed their broadband supplier.

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?

We believe that information on traffic management should be presented in terms of real-time, actual broadband speed and quality of service delivered to every consumer's home.

There is an opportunity to capture this data by building on existing products such as the BT 'Wholesale Performance Tester', which is a Broadband performance-measuring tool.

This data could be presented in a number of ways, including illuminated scales on modems/routers, desktop dials or web pages.

Such information would enable consumers to see how their service is affected during periods of congestion (for example 1800-2000hrs) and the impacts of any restrictions applied by their service provider.

Any data on speed and quality is best presented alongside the consumer's usage pattern, so that they can either tailor their usage or look for alternative services that better suit their needs.

Data should be derived in a uniform way across the market with the measures presented in a comparable format to enable a like-for-like comparison.

As an example, the finance industry presents comparable information on complex financial products, using an AER rate. This has a clear and unambiguous definition and has made it much easier for consumers to compare mortgage, loan and credit card rates on a like-for-like basis rather than having to rely on interpreting potentially ambiguous information in the small-print.

10) How can compliance with transparency obligations best be verified?

Compliance with the necessary transparency obligations can best be verified in the first instance through the creation and adoption of a voluntary code. This should request that all signatories publicise their data against a set of standardised criteria, using industry-wide definitions for their product set. By engaging and encouraging the major ISPs in the marketplace to sign up, we believe that it would also encourage the remaining players to adopt the code to avoid being put at a competitive disadvantage. A simple check on whether this information was available could then occur. Consumers would then be able to choose which of the standardised items of information were of most importance to them, and then make an informed decision with whom to contract. As with the implementation of all voluntary codes, compliance with all data protection and analysis legislation should be put in place.

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

A minimum quality of service would be appropriate for base-level, "no frills" products because there is a danger that, as more premium services enter the market, the quality of service (QoS) for these products may degrade to a point where they are deemed unacceptable due to the likely demand for high-bandwidth premium services.

Care must be taken, however, particularly for customers a long way from the local exchange: meeting minimum speed and QoS requirements means making measurements on the network. A programme of infrastructure enhancement and spend may be required to meet the defined and measured speed and QoS. As this may require apportionment across the ISP's entire user base, it may result in reduced direct accessibility to broadband services for customers of limited financial means.