

Voluntary industry code of practice on traffic management transparency for broadband services

March 2011

Overview

This document sets out a voluntary industry code of practice on traffic management transparency for broadband services.

The code was facilitated by the Broadband Stakeholder Group (BSG) with a number of leading Internet Service Providers (ISPs): BSkyB, BT, O2, TalkTalk, Three, Virgin Media and Vodafone.

Traffic management is the term used to describe a range of technical practices undertaken to manage traffic across networks.

The use of traffic management is not new. It has, and continues to be, a vital tool in supporting the efficient operation of the internet and providing a good experience for the end-user.

Interest in how and why traffic management techniques are used by ISPs has grown in recent years. Whilst it is recognised that the use of traffic management for operational reasons, such as the provision of consistent quality of service at peak times is essential, regulators and policy makers in the EU are agreed that more information should be provided about how and why traffic management practices are employed by ISPs.

This code marks a step-change in the provision of such information and, while it is based on the way traffic management is employed today, it is also designed to adapt to developments that emerge in the future such as managed services¹. The commitments made in this code also go significantly beyond any statutory requirements in regards to transparency.

Whilst ISPs already provide information about traffic management practices, this initiative recognises that given growing interest in traffic management it is important to build upon information currently available and crucially give consumers and policy makers access to comparable information for the first time.

The code has been developed to support meaningful, useful and comparable information for consumers about the traffic management practices employed by their ISP.

The code has three elements.

Firstly, an explicit commitment to provide more information to consumers about what practices are used in networks to (a) help maximise capacity for everyone's benefit and (b) to support adherence by customers to terms and conditions.

¹ Please see glossary on page 9

Secondly, an agreed set of good practice principles that will inform how ISPs communicate that information to consumers. Signatories agree that the information they provide about traffic management to their current and prospective customers will be:

- Understandable
- Appropriate
- Accessible
- Current
- Comparable
- Verifiable

Thirdly, to deliver on the comparability principle, signatories commit to publishing a consistent Key Facts Indicator (KFI) table, summarising the traffic management practices they use for each broadband product they currently market.

The introduction of the KFI will put information about the traffic management practices employed by these ISPs into the public domain in a consistent format. This information will be accessible to consumers and for third parties, such as price comparison websites, to be able to compile this information for consumers.

The development of this code by ISPs provides a key building block to delivering enhanced transparency to consumers about traffic management practices. The joint commitment to provide information in a common format should significantly assist in ensuring that information is made available in a way that enables comparisons to be made.

Furthermore, the code creates a framework for traffic management transparency that can be built on in the future. It commits ISPs to update consumers on any changes in the use of traffic management practices that would have a significant impact on their broadband product.

This is a new approach to providing information to consumers and refinements will likely need to be made over time to ensure this code delivers on its objectives. Therefore BSkyB, BT, O2, TalkTalk, Three, Virgin Media and Vodafone intend to pilot this initiative throughout 2011 and review it in early 2012.

Feedback and comments are welcome on this approach from interested stakeholders throughout the pilot stage. Please send feedback to trafficmanagement@broadbanduk.org by 31 December 2011.

During this pilot stage, the founding signatories of this voluntary code also hope that other ISPs will sign up in order that comparable information about traffic management practices can be made available for all ISPs offering broadband products in the UK.

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Traffic management: what is it and why is it used?

In its broadest sense, traffic management is a component of an ISP's overall approach to network management. Network management includes elements such as capacity planning and network dimensioning to provide a quality of experience for consumers. Traffic management practices are subsequently used to deliver and maintain that experience for consumers.

In the face of rapidly growing traffic volumes, traffic management techniques help to make efficient use of networks and improve customer experience. The internet, including the networks over which it runs, is a shared resource and it is therefore right and important that access to it is allocated appropriately between users.

There is also the potential for traffic management practices to be used to support the delivery of managed services as part of a consumer's individual contract. This would allow ISPs to meet the varying needs of different consumers by offering them a range of differentiated services.

Accordingly, there are broadly two scenarios under which traffic management practices are being used or could be used in the future:

1. Traffic management to manage the operation of the overall network

This type of traffic management relates to practices applied to ensure the most efficient use of the network.

This can involve deploying techniques to prioritise time-critical applications (e.g. video streaming) so that they work effectively even in busy periods or congested locations. Conversely, ISPs can limit the throughput of non-time critical applications to provide a better experience for consumers accessing other types of traffic.

Traffic management is also subject to all applicable UK law and ISPs block child abuse images as informed by the list provided by the Internet Watch Foundation.

2. Traffic management in relation to a customer's contract

This type of traffic management is used to ensure that the particular services and content that the customer has contracted to are provided and that data caps and fair usage policies are observed. As such traffic management can be used to:

- apply restrictions or limitations to applications and protocols as per the terms and conditions of the consumer's contract
- invoke data usage caps or fair usage policies
- deliver managed services, offering a guaranteed quality of service for specified content, services or applications

How can traffic management best be explained to the consumer?

Traffic management is not a straightforward issue to explain to consumers, particularly as the impact of traffic management practices is only one component of the various factors that can impact on a consumer's experience of their broadband service. Other issues such as contention ratios (the number of consumers sharing the available bandwidth within a given area), the technology or type of network used to deliver the service, bottlenecks in other parts of the network, network elements in the consumer's home such as domestic wiring or the processing power of the end-user device can all impact on the consumer's experience.

Furthermore, even when the consumer's ISP is providing un-contended capacity, it may be that the content, service or application they are seeking to access is itself congested, or subject to restrictions, or otherwise managed by the content owner. Consequently traffic management practices by the consumer's ISP are far from being the sole determinant of the broadband experience.

In light of this, it is important that ISPs are allowed to put traffic management into context for consumers and provide information about it alongside other relevant information about their service that can impact on the consumer experience. As services naturally vary between ISPs, it makes sense that ISPs can speak to their current and prospective consumers in "their own voice".

Whilst ISPs already provide information about traffic management practices, this initiative recognises that it is important to build upon information currently available and crucially give consumers access to comparable information for the first time.

As such, the signatories of this voluntary code agree to:

1. Provide specific information to consumers

ISPs will make available the following information to consumers:

- description of traffic management practices
- how traffic management can affect a user's internet experience for different types of internet services
- changes made to traffic management practices that could have a significant impact on their broadband product for example access to services
- information on usage caps or upload/download limits

2. Good practice principles on transparency

In order that this information is useful and clear to consumers, ISPs will ensure that the following good practice principles inform the way they communicate with their current and prospective consumers.

Good Practice Principles on Traffic Management Transparency

Understandable	ISPs will use non-technical and clear language that consumers can understand to describe the traffic management practices they use.
Appropriate	ISPs will ensure the level of detail of the information provided will be adequate to meet the varying needs of different consumers. This could involve providing headline information about traffic management practices and supplementing this with additional information for consumers who may wish to access more detailed information.
Accessible	ISPs will ensure that this information is easy to find and access.
Current	ISPs will keep customers up to date about changes to traffic management practices that have a significant impact on their broadband product as quickly as reasonably possible using the most appropriate method. ISPs also endeavour to offer real-time information where appropriate and practicable.
Comparable	ISPs agree to publish a consistent key facts indicator table on their respective websites to summarise the traffic management practices used on the broadband products they currently market. This information will be available to third parties to present this information collectively for consumers to compare the practices of different ISPs.
Verifiable	ISPs will support a credible and independent assessment of their traffic management practices to give consumers assurance that the information provided about traffic management is robust.

How the good practice principles will work in practice

The principles² will inform the way in which individual ISPs communicate with current and prospective customers about the traffic management practices they employ.

Naturally, ISPs will want to talk to customers in their own language and put traffic management into context for consumers as it relates to the broadband products they currently market.

Yet what will be consistent across ISPs is a commitment to making sure this information is understandable, appropriate to the needs of different consumers and accessible and easy to find.

Furthermore, the code creates a framework for traffic management transparency that can be built on in the future. It commits ISPs to update consumers on any changes in the use of traffic management practices that would have a significant impact on their broadband product.

Enclosed overleaf is the key facts indicator table that ISPs who have signed up to this voluntary code will make available on their websites in relation to each broadband product they currently market. This information is sufficiently detailed to provide comparable information and will be available for third parties, for example price-comparison websites, to compile comparative information about ISPs' practices for the benefit of consumers.

In order that the principles of "understandable" and "appropriate" are applicable, ISPs may choose to provide other, more top-line, discursive and contextual information about their approach to traffic management in line with the products they offer. However a link to the more detailed KFI will be clearly available to those consumers who would like further information and to third parties who may want to utilise it in order to innovate ways of presenting comparative information about ISPs' traffic management practices.

Finally, ISPs acknowledge that appropriate independent verification of the information they provide about the traffic management practices they use will assure consumers and stakeholders that the information provided is robust. Verifying traffic management practices is a technical process and it will be important to thoroughly explore how such an exercise could take place. During the pilot period, ISPs look forward to discussing with Ofcom any potential approaches that could be taken towards third party verification.

BSkyB, BT, O2, TalkTalk, Three, Virgin Media and Vodafone intend to pilot this initiative throughout 2011 and review it in early 2012.

Feedback and comments are welcome on this approach from interested stakeholders throughout the pilot stage. Please send feedback to trafficmanagement@broadbanduk.org by 31 December 2011.

² These principles are separate from, but build on, the requirements relating to traffic management set out in the Voluntary Code of Practice on Broadband Speeds.

TIMETABLE

Launch: March 2011

Publication of KFI: June 2011

Deadline for comments and feedback on approach: 31 December 2011

Review: Early 2012

TRAFFIC MANAGEMENT KEY FACTS INDICATOR*

Section 1: Traffic management in relation to your broadband product (not including during busy times and places to manage network congestion see Section 2)			
Name of broadband product			
<i>Use and availability of services, content, application and protocols on this product</i>			
Are any services, content, applications or protocols always blocked on this product?**			Y/N
If so what?	<i>List</i>		
Are any services, content, applications or protocols always prioritised?			Y/N
If so what?	<i>List</i>		
Are any managed services delivered on this product?			Y/N
If so what?	<i>This would highlight prioritisation of specific content or service and explanation on impact on any other traffic</i>		
What impact?			
<i>Data caps and download limits</i>			
What are the download/upload limits or data usage caps on this product?			Insert
Is traffic management used to manage compliance with data caps and download limits?			Y/N
Under what circumstances?			
Level of speed reduction?			
Duration of speed reduction?			
Is traffic management used in relation to heavy users?			Y/N
Under what circumstances?			
Level of speed reduction?			
Duration of speed reduction?			
Section 2: Traffic management to optimise network utilisation (what happens during busy times and places in addition to traffic management as described in section 1)			
Is traffic management used during peak hours?			Y/N
When are typical peak hours?	Weekdays:	Weekends:	
What type of traffic is managed during these periods?***			
<i>Traffic Type</i>	<i>Blocked</i>	<i>Slowed down</i>	<i>Prioritised</i>
Peer to Peer (P2P)			
Newsgroups			
Browsing/email			
VOIP (Voice over IP)			
Gaming			
Audio streaming			
Video streaming			
Music downloads			
Video downloads			
Instant messaging			
Software updates			
Is traffic management used to manage congestion in particular locations?			Y/N
If so how?	The same practices are applied as during peak hours		

*This KFI gives an overview of typical traffic management practices undertaken on this product; it does not cover circumstances where exceptional external events may impact on network congestion levels.

**This excludes any service, content, application or protocol that an ISP is required to block by UK law and child abuse images as informed by the list provided by the Internet Watch Foundation.

***If no entry is shown against a particular traffic type, no traffic management is typically applied to it.

Glossary

Traffic management:

Traffic management is the term used to describe a range of technical practices undertaken to manage traffic across networks.

The different outcomes achieved by the use of technical practices can include:

- the prioritisation of certain types of traffic in busy times or busy areas to ensure that it is of an adequate quality
- the slowing down of certain traffic types that are not time-critical at busy times or busy places
- ensuring compliance with a consumer's contract, for example slowing down of traffic for the heaviest users
- supporting the delivery of managed services, for example to ensure a guaranteed quality of service for a specific piece of content

Managed services: The majority of internet traffic is delivered on a “best efforts” basis. A managed service, on the other hand is one whereby an ISP offers “quality of service” that can guarantee a certain level of performance, so that the content, service or application can be delivered without risk of degradation from network congestion. Such a quality of service arrangement can be made between an ISP and a content or service provider or directly between an ISP and the consumer.

Best Efforts: This phrase relates to the delivery of internet traffic where traffic management is applied without distinctions based on the source of that traffic.

Slowed down: This outcome is achieved by the deployment of technologies that can decrease the priority of traffic types deemed to be non-time critical on the network e.g. slowing down traffic such as downloads during busy times and busy periods.

Prioritised: This outcome is achieved by the deployment of technologies that increase the priority given to certain traffic types, e.g. time-critical traffic such as video. This outcome can also be achieved as a consequence of slowing down other selected traffic which reduces the overall data flow on the network.

Heavy users: Heavy users can cause peak traffic volumes to exceed the engineered maximum load. In practice this refers to a very small proportion of users of a network whose use is excessive to the extent that it impacts on other users.