

May 2010



Discussion points and initial policy directions on Internet and network neutrality

Submitted for public consultation
from 20 May to 2 July 2010

Notice concerning the submission to consultation

The French Electronic communications and postal regulatory authority, ARCEP, is launching a public consultation on Internet and electronic communications network neutrality, which will run until 2 July 2010. Stakeholders are invited to provide feedback on the whole of this document.

This document can be downloaded from the ARCEP website. Comments must be sent to the Authority, preferably by e-mail to cp_neutralite@arcep.fr, by 5:00 pm on 2 July 2010. All comments submitted to ARCEP will be taken into the utmost account.

Contributors are invited to respond to this consultation, preferably in French.

As it strives to remain transparent, ARCEP will publish all of the comments it receives, with the exception of those protected by trade secrecy. To this end, contributors are asked to put any elements they believe should be protected by trade secrecy in a clearly identified appendix. Again, in a bid to maintain transparency, contributors are asked to keep their confidential remarks to a minimum.

This consultation is intended to enable ARCEP to publish a first series of guidelines on Internet and electronic communications network neutrality in July 2010.

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Introduction

Electronic communications are becoming an increasingly prominent part of both the economic and social landscape, in particular thanks to the Internet. At the same time, technological developments and changing consumption habits are causing upheavals in the relationship between Internet players.

The information and communication technologies sector already generates revenue of 2,700 billion euros, or close to 7% of global GDP, and could account for 20% of GDP within the next 10 years. But, going beyond this sector alone, many believe that the Internet could become the backbone of our entire future economy and society, and constitutes a “global strategic shared asset” that needs to operate in an optimal fashion, for everyone’s benefit. Ensuring the future viability of electronic communications networks and of the Internet will therefore be one of the central issues of the next decade, so public authorities naturally need to concern themselves with it.

One of the key areas of concern here is Internet and network neutrality. It is a debate emerged in the mid-2000s and has already led certain regulatory authorities around the world (the United States, Canada and Japan) and in Europe (Norway, Sweden) to examine and publish works on the subject.

It was within this environment that ARCEP (hereafter referred to as “the Authority”) began its examination of the issue back in October 2009. From November 2009 to March 2010, the Authority conducted some fifty interviews along with a survey, the purpose being to engage in a dialogue with the players concerned by the question of Internet and network neutrality (electronic communications operators, providers of content, service and applications, equipment manufacturers, consumer associations, public authorities, etc.) from both Europe and around the globe.

The Authority also held talks with other institutions and regulatory authorities that were interested in the matter, and drew on existing publications on the topic to help further its exploration.

Among the documents the Authority took into consideration were the report from March 2010 on Internet network neutrality (*“La neutralité dans le réseau internet”*) drafted by the French General Council for industry, energy and technologies, the *“FCC Policy Statement”*, dated 23 September 2005, and *“FCC Notice of proposed rulemaking”* of 22 October 2009, the *“Report on Network Neutrality”* published in Japan in September 2007, the *“Principles for Network Neutrality”* report from March 2006 by the Centre Annenberg in Sweden and *“NPT Guidelines for network neutrality”* produced by the Norwegian regulator in February 2009.

On 13 April 2010, the Authority hosted an international conference on Internet and network neutrality. This widely covered event marked the end of the period of investigation that began in the autumn, and led the Authority to produce this present document which is being submitted to public consultation.

Parallel to the process the Authority began in October 2009, Parliament requested that the French government submit a report on net neutrality before 30 June 2010, pursuant to the Law on bridging the digital divide that was ratified in December 2009.

Meanwhile, at the European level, a working group devoted to net neutrality, of which the Authority is a member, has also been created as part of the Body of European Regulators for Electronic Communications (hereafter referred to as “BEREC”), which is due to publish a report on the topic by the end of 2010 – added to which the European Commission announced a public consultation in June on this topic.

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To ensure the efficient operation of both networks and the Internet, taking account of the principle of neutrality as well as the various restrictions weighing on market players, the discussion points and initial directions presented in this document are intended to enable the Authority to achieve a three-pronged goal:

- to guarantee that “Internet access” providers, as defined in section II.b, provide users with access to all of the content, services and applications carried over the network, in accordance with the legal provisions in effect and in a transparent and non-discriminatory fashion;
- to ensure that electronic communications networks run smoothly, in other words to guarantee a satisfactory quality of service;
- to enable the long-term development of the networks and services thanks to innovation and the development of the most efficient technical and business models.

To achieve this, the Authority intends to promote rules and best practices that apply to the entire value chain, in a manner that is fair to all of the different stakeholders, and which has a dual dimension: technical-economic and socially responsible.

These rules are meant to apply regardless of access technology, and to both fixed and mobile networks – although their implementation does need to take the specific features of each type of network into account.

The present document includes:

- a brief background of the situation and reminder of the issues at hand (Part I);
- for those areas that are within the Authority’s regulatory purview, specific directions proposals aimed at promoting a lasting, open, neutral and high quality state of balance for electronic communications networks in general and for the Internet in particular (Part II);
- for those areas that are not within the Authority’s purview, at least not immediately, discussion points intended to contribute to the public debate, notably the work being carried out by the French government and the European Commission and, later on, by the French Parliament (Part III).

I - Background and issues

a) Definitions and general issues

One of the goals of this document is to enable all of the players concerned by the overall operation of the “Internet chain” to share their understanding of the main (technical, legal and economic) concepts and notions that form the basis of the debate on Internet and network neutrality, despite their different vantage points.

- *The notion of “Internet and network neutrality”*

Tim Wu, the man considered to have coined the term “Net neutrality”, defines it as a network design principle whereby “a maximally useful public information network aspires to treat all content, sites, and platforms equally. This allows the network to carry every form of information and support every kind of application.”¹ For the purposes of this document, the Internet, as defined below, is the main network being considered.

To better understand this approach, we should begin with the reminder that the essential feature of electronic communications networks in general, and of the Internet in particular, is that these networks constitute a platform for free trade, both market and non-market, between all economic and social agents connected to it: whether for the purposes of self expression and interaction, to view information, publish content, to offer services and applications or to access them. To guarantee the freedom and the symmetry of these various transactions (with each user of the network capable of acting as either a receiver or transmitter of content), which are sources of strong positive externalities, the network must uphold a principle of neutrality as much as possible. This principle can be defined as consisting of a dual demand of non-interference and equal treatment: on the one hand, exchanges between users in the “upper layer”² must be neither prevented nor restricted by operators’ practices in the “lower layer”² and, on the other, data routing requests submitted to the network under equivalent conditions must be given equal treatment by the network.

In other words, according to the principle of neutrality, every user must have access, via the Internet and, more generally, electronic communications networks (regardless of distribution platform) to all of the content, services and applications carried over these networks, regardless of who is supplying or using them, and in a transparent and non-discriminatory fashion.

In practice, this principle – which is not inscribed but widely agreed upon by stakeholders – finds itself confronted by an array of restrictions, such as the fact of having to protect the networks from attacks, along with traffic problems, the need to install mechanism to comply with legal obligations... All of which leads the Authority

¹ Tim Wu’s website, “Network Neutrality FAQ” : http://www.timwu.org/network_neutrality.html

² The “upper layer” is the one where data are exchanged, while the “lower layer” is where data are transported (see definitions below).

to seek to assess the principle of Internet and network neutrality in a pragmatic and reasonable manner – the goal being to avoid the two following extreme scenarios:

- a total lack of traffic management (see definition below), which creates a clear risk of network degradation and, ultimately, of the quality of service for end users;
- complete freedom in traffic management practices and in operators' definition of the terms governing Internet access, which can lead to discriminatory and anti-competitive practices, which would threaten the model of openness, universality and freedom of expression that is proper to the Internet.

- *Other definitions*

Below are the definitions for the main terms used in this document.

- Internet: the public network, routed by IP³, made up of the 50,000 autonomous systems recognised by the IANA (Internet Assigned Numbers Authority).

More precision can be added here. The Web is a distinct notion of the Internet: it is an application that operates over the Internet in the same way as e-mail or instant messaging, for instance, and which allows users to view the pages available on websites through a browser (using a hypertext system).

- Internet access: a service that consists of providing the public with access to online communication services⁴. This service provides the public with the ability to send and receive data by using the IP communication protocol, from all or virtually all points, designated by a public Internet address, from all of the interconnected public and private networks around the world that make up the Internet.

It would be worth providing a further clarification here: the routing method used on the Internet is often referred to as the “best effort” method, which means that, by design, it does not offer any performance guarantees (in terms of time delay, packet loss, etc.), even if certain IP extensions have been introduced to improve transport quality, such as the transmission control protocols enabled by TCP (*Transmission Control Protocol*) and UDP (*User Datagram Protocol*). There is therefore an obligation of means but not of results.

- Internet service provider (hereafter referred to as ISP): a provider of electronic communications services⁵, one of whose areas of business is providing the public

³ IP (Internet Protocol): basic protocol used on the Internet for data transmission. It defines the way that data packets are organised for routing over the Web.

⁴ Article 1 of Law No. 2004-575, dated 21 June 2004, concerning confidence in the digital economy, or LCEN (*Loi pour la confiance dans l'économie numérique*), which stipulates that “public online communication refers to all transmissions of digital data, resulting from an individual request, and which are not private correspondence, through an electronic communication process that enables a reciprocal exchange of information between sender and receiver”.

⁵ Directive 2002/21/EC (Framework Directive): “An electronic communications service means a service normally provided for remuneration which consists wholly or mainly in the conveyance of signals on electronic communications networks, including telecommunications services and transmission services in networks used for broadcasting, but exclude services providing, or exercising editorial control over, content transmitted using electronic communications networks and services; it does not include information society services, as defined in Article 1 of Directive 98/34/EC, which do not consist wholly or mainly in the conveyance of signals on electronic communications networks”.

with access to the Internet. For the purposes of this document, we will occasionally employ the broader term “operator”. Unless explicitly stated otherwise, other business areas in which some ISPs engage – such as hosting, content production and distribution, etc. – are not covered by this document.

- Information society service vendor⁶ (hereafter referred to as “ISVISV”): any legal entity or natural person who provides an information society service, in other words any service provided by means of electronic equipment and at the individual request of a recipient of a service, regardless of the business model employed. In practice, this category of economic actor includes the providers (publishers, distributors) of services/content/applications to the public by electronic channels – particularly but not solely via the Internet (e.g. TV channels delivered over ADSL). A consumer (see definition below) who makes information available on the Internet can be one particular example of an ISV.

- End user: a legal entity or natural person who uses or requests an Internet access service, but does not themselves provide the service⁷. In most instances, the end user is an ISP’s subscriber. It should be pointed out that an end user may also make different types of content or application available online. Lastly, we will occasionally use the term “consumer” in this document to refer to a natural person who uses or requests an Internet access service for non-business purposes.

We can group ISVs and end users together as being the “upper layer” players (the layer where data are exchanged) as opposed to the “lower layer” where data are transported.

The services/content/applications are made available to end users according to the different transport methods provided by operators. This may be Internet routing in the strictest sense of the term, or other electronic communications techniques which may employ the same infrastructure as the one used to provide access to Internet– and in some instances the Internet protocol as well.

Such is the case with what are referred to as broadband offers whose access rate makes it possible to supply specific services alongside Internet access, such as voice over broadband or access to a package of TV channels for residential users or, for business customers, channels supplying guaranteed or symmetrical bitrates, etc. These transport systems imply particular traffic management procedures, over and above those used for “best effort” routing. These specific services are referred to here as “managed services”.

- Managed services: services providing access to content/services/applications through electronic means, marketed by the network operator which guarantees certain specific features thanks to the process it uses on the network it owns and operates. Some of the classic features include reliability rate, minimal latency, jitter

⁶ Directive 2000/31/EC (Electronic commerce Directive) and Directive 98/34/EC, as amended by Directive 98/48/EC: “any legal entity or natural person who provides an information society service, in other words any service normally provided for remuneration, at a distance, by means of electronic equipment and at the individual request of a recipient of a service.”

⁷ Directive 2002/21/EC (Framework Directive): “user means a legal entity or natural person using or requesting a publicly available electronic communications service”; “end-user means a user not providing public communications networks or publicly available electronic communications services.”

(variation in time between packets), guaranteed bandwidth, security level, etc. According to the above definition, providing end users with access to the Internet does therefore not constitute a managed service.

Some managed services can be governed by a contract with an ISV, and may also result from an offer made available to the end user, whether as a standalone offer or in the form of an option bundled with Internet access.

- *Traffic management*: all the technical means of processing traffic that may be used, regardless of whether or not they are employed to deliver a “managed service”. They could include measures that consist of introducing delays between the transmission of certain data packets, referred to as traffic shaping, of degrading certain applications through buffer management or imposing an order on the transmission of certain application streams, a process referred to as traffic scheduling.

b) “Net neutrality”: a global debate

To have a better understanding of the original context of the debate over network neutrality, we need to remember that it emerged at a time when many of the regulations governing ISPs’ activities were being lifted (broadband services having already been removed from the scope of the sector’s regulation) in the United States in the early 2000s. As a result, we need to understand the FCC (Federal Communications Commission) decision of 2005 as the creation of safeguards for consumers, specifying their *right* to use all of the content/applications/devices and to leverage competition between ISPs for their own benefit.

The paradigm has evolved, notably since the traffic management practices that cable company Comcast put into place on its network in 2007. A more proactive approach emerged in the proposed guidelines that the FCC submitted to public consultation in October 2009: self-regulation and consumer rights are being replaced by obligations imposed on ISPs, in the form of six rules – with transparency and non-discrimination being added to the four guiding principles established in 2005.

In Europe, the recent review of the regulatory framework provided an opportunity for all of the stakeholders to assess regulatory needs and appropriate tools, while recognizing that the sizeable economic and technological shifts that were taking place on the networks made too proscriptive an approach a dangerous thing. The Telecom Package nevertheless confirms the prime objective of providing access to content, and introduces several notions and mechanisms that directly echo the concerns surrounding network and Internet neutrality (cf. paragraph I.d).

As it stands, the issue of neutrality is being examined by European Commission departments which are preparing for a public consultation in June, and by several national regulatory authorities (NRAs) – two of which have already published guidelines (NPT in Norway, in a co-regulation-based approach with the sector’s players) or reports (“Open Networks and Services” by Swedish regulator, PTS). In both instances, competition and transparency in the broadband retail market are upheld as keys to guaranteeing neutrality. Other NRAs are planning publications (Ofcom in the UK, for instance), but most are still in the preliminary examination phase. And, finally, as mentioned in the introduction, the topic of network neutrality is

part of the BEREC work programme for 2010. Early efforts in this area have already helped put forward certain best practices.

The Canadian regulator, the CRTC, announced a new framework last October for ISPs': "*Internet traffic management practices*" (ITMPs). The CRTC based its policy on four principles: transparency, innovation, clarity and competitive neutrality.

Competitive neutrality is an idea that is also found in the 2007 report produced by Japan's Ministry of Information and Communication (MIC) on Net neutrality. Three guarantees for consumers (access to the Internet, non-discriminatory use and a reasonable price) are found in this report, alongside actions aimed at promoting Internet neutrality, notably a government-led initiative for stimulating investment in networks and open access to these networks.

We find certain similarities in all of the cases mentioned, such as the need to leave operators some leeway, notably to allow them to handle congestion problems (traffic management), as well as a major preoccupation with ensuring that consumers have the freest possible access to the Internet (non-discrimination).

c) The bodies responsible for network and Internet regulation in France

There are several public and semi-public entities in France that apply different forms of regulation in this area. Their areas of responsibility are nevertheless quite clearly identified and their respective means of intervention ensure the cohesion of their actions. In addition to the courts, the main bodies are as follows:

ARCEP, which is in charge of the sector-specific regulation of electronic communications markets, and so of Internet service providers (ISPs), particularly as concerns their relationship (e.g. via interconnection) with other links in the Internet value chain, regardless of the type of network (fixed or mobile) or the content being transported.

The broadcasting authority, referred to hereafter as CSA (*Conseil supérieur de l'audiovisuel*), which is responsible for regulating audiovisual content, regardless of distribution network. This, in practice, now includes new services such as video on demand and catch-up TV, grouped together under the name of "on-demand audiovisual media services" or AVMS.

The Competition Authority (*Autorité de la concurrence*) which oversees all players' (content, network, etc.) compliance with competition law.

The French national commission on data protection, referred to hereafter as "CNIL" (*Commission nationale de l'informatique et des libertés*) whose chief responsibility is to protect privacy and freedom in the digital world.

The High authority for the distribution of creative works and protection of rights on the Internet (*Haute Autorité pour la diffusion des œuvres et la protection des droits sur Internet*) (hereafter referred to as "HADOPI"), which is in charge of protecting the interests of the parties who control the rights to literary and artistic works.

The general directorate for fair trade, consumer affairs and fraud control, hereafter referred to as “DGCCRF” (*Direction générale de la concurrence, de la consommation et de la répression des fraudes*) which oversees issues that concern consumers in particular.

The French Association for Internet domain naming in cooperation, or AFNIC (*Association française pour le nommage Internet en coopération*) which is the registry of the database of **.fr** (France) and **.re** (Reunion Island) Internet domain names.

And, finally, the Internet rights forum (*Forum des droits de l'internet*) which is an association that brings together different Internet players to fulfil a public service mission. It has set itself the task of promoting co-regulation of Internet usage.

A similarly large array of players is also found in other countries, notably in the United States.

d) Legal environment

Internet companies must take account of all the rules of common law as they apply to the Internet, as well as certain stipulations that are specific to the Internet universe. These are listed in Part III.b.2 of this document.

As mentioned earlier, the principle of Internet and network neutrality is not provided for specifically in legislation and the “globally neutral” practices that have developed over the past several years are chiefly the result of unwritten rules. What is the current regulatory framework governing network neutrality?

Provisions exist in national law, such as the notion of “*neutrality with respect to the content of transmitted messages*” introduced in Para. 5 of Section II of Article L. 32-1 of the French Postal and Electronic Communications Code, hereafter referred to as “CPCE”. This concept nevertheless appears rather limited and has never been used, which makes it a risky basis for regulatory intervention. Other areas of French law do, however, appear capable of providing relevant instruments, particularly those applying to consumer rights (cf. II.d.3 in particular) and to interconnection and access obligations (cf. II.d.2).

More specific demands are contained in the new European regulatory framework that was adopted last autumn, where significant room is given to symmetrical regulation, providing NRAs with more wide-reaching tools than before for achieving the overarching objective of guaranteeing access to content (Art. 8 of the Framework Directive, which lists among the goals of regulation the need for NRAs to ensure that competition in the electronic communications sector is not distorted or restricted, including for the transmission of content). The transposition process will provide an opportunity to add details on implementing the most notable provisions in this area at the national level, namely:

- the obligation to be transparent with end users about any possible restrictions on use practiced by network operators, and about traffic management

practices implemented by operators (Art. 20 & 21 of the Universal Service Directive);

- a new power to set a *minimum quality of service*, overseen by the Commission, in cases where certain traffic management practices threaten the smooth running of the networks (Art. 22 of the Universal Service Directive);
- expansion of NRAs' powers to settle disputes (Art. 20 of the Framework Directive). A content provider may appeal to an NRA to obtain reasonable terms of network access from an ISP. As it stands there are not, however, any provisions in place that would allow an ISP to make a comparable appeal to a regulatory authority to obtain reasonable terms for accessing the services provided by ISVs.

Of course the legislature will need to specify these new regulatory tools but, even before that happens, we need to deepen our understanding of the technical, legal and economic chain: information needs to be gathered on how the different markets operate and on users' experiences and wishes, so that the legislature can implement the most appropriate regulatory instruments and so that regulators use them as effectively as possible.

e) Observed and potential practices

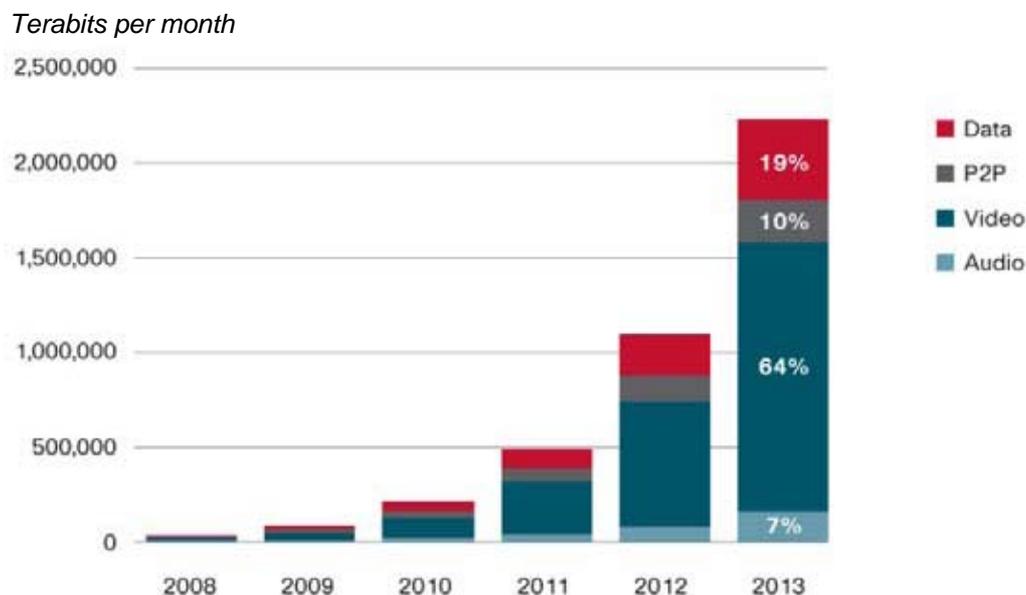
The vast majority of players in the markets concerned, and civil society actors in general, have expressed their desire to have an open and neutral Internet as the general rule, while working to ensure economic efficiency and taking account of societal issues (cf. I.a). The principle of neutrality also appears to have been upheld on the whole in France and Europe until recently, without having been an absolute and inviolable rule. This has been particularly true on fixed networks, especially since there have been no major congestion issues on these networks and due to the satisfactory state of competition in the fixed broadband and ultra-fast broadband retail market in France. Visible, major and prolonged disparities between ISPs are in fact commercially difficult to imagine in this situation. The situation in the mobile market is a more contrasted one, and neutrality is not the rule. Regardless of the technology, some facts currently point to a danger of increased violation of the principle of neutrality.

The first thing that needs to be mentioned are the profound upheavals in the affected markets, such as the tremendous increase in video traffic travelling over the networks, and the growing asymmetries in traffic at points of interconnection.

According to a recent study, Pyramid Research and Light Reading predict a rise in annual worldwide revenue for voice and data services of around 2.5% and 12.8%, respectively, between 2010 and 2013, while data traffic is forecast to increase by 131% during that same period⁸. To give an example, in December 2009 ComScore reported that 5.4 billion videos had been watched in France that year (a 141% increase over the year before), of which 1.8 billion on YouTube.com between January and September.

⁸ <http://www.alcatel-lucent.com/>: from a talk at the Mobile World Congress in Barcelona in February 2010.

According to Cisco, the massive rise in users' average consumption is expected to be especially significant on the mobile Internet, as illustrated in the following graph:



Forecast growth of global Internet traffic (Cisco Visual Networking Index 2009)

Consumption patterns are also evolving: while they were once dominated by entertainment, they are tending to expand into services that will have a potentially structuring influence on daily life, such as home automation, telelearning, telemedicine, e-government, etc. This can lead to shifts in both public and private sector players' expectations and strategies.

All of these upheavals lead to questions over which business models will enable not only the creation and distribution of content, but also the networks' development and operation.

It is within this environment that questions are being raised over possible drifts, in light of practices being engaged in by:

- ISVs: geo-IP filtering (e.g. users in France cannot access content on American on-demand TV platform, Hulu), exclusive programming rights, the proliferation of applications that make inefficient use of transport resources;
- fixed telcos and ISPs: instantaneous throttling or port blocking in non-unbundled areas, cases of false DNS (Domain Name System), restrictive "peering"⁹ policies, bandwidth capping on Numericable customers beyond a certain reasonable usage, Dailymotion blocked by Neuf-SFR in 2008;
- mobile operators and ISPs: a number of sites and applications are not available to customers with "unlimited Internet" flat rates ("streaming"¹⁰, peer-to-peer, Skype...), integration of "widgets"¹¹ on mobile platforms;

⁹ Often free interconnection between two players for their shared traffic

¹⁰ Continuous transmission of audio and video streams

¹¹ Small interactive applications that make it possible to display information (weather, stock market prices, etc.) or to perform small operations (calculator, dictionary, etc.)

- device vendors: walled gardens such as the App Store, Google Voice blocked on certain handsets, remote deletion of books on certain e-book reader models.

Meanwhile, the legislature is imposing solutions that are not neutral, either to achieve objectives that are in the general interest or to protect certain rights: battle against child pornography on the Web (cases in Australia and in Germany¹²), protecting private property, copyright (Creative works and Internet Law), etc.

Because of the current situation, the vast majority of stakeholders appear to want firmer action from public authorities, albeit to varying degrees and for very different – and in some cases opposite – reasons.

Some of the regulatory needs that have been identified concern the Authority directly:

- setting an official principle of neutrality for network management with respect to what they transport (content/services/applications/usages);
- taking account of the profound changes in certain economic relationships, e.g. the tremendous rise in data streams that require a re-examination of certain markets such as IP interconnection;
- preventing or imposing penalties for potential discriminatory deviations in related or vertically integrated markets;
- strengthening transparency on the content of electronic communications service offers, notably with respect to quality of service.

These points are addressed in Part II of this document.

Other regulatory needs that are tied more or less directly to the issue of neutrality are of more primary concern to bodies other than ARCEP. These are addressed in Part III of this document.

For all of these issues, public authorities (Parliament, government, ARCEP and other public institutions) do appear to need to:

- identify the acceptable and ideal practices at all points along the network and on the Internet (i.e. the “rules of the game”);
- equip themselves with the tools needed to ensure the effective application of these rules of the game.

Questions

No. 1) The Authority invites players to comment on its proposed definitions.

No. 2) The Authority invites players to comment on its presentation of the background and issues surrounding Internet and network neutrality.

¹² The draft legislation in Germany that allowed a “filtering” mechanism was quashed in February 2010, and replaced by a law on content removal.

II – Neutrality of Internet access networks

One of the main elements that guarantees the neutrality of Internet access networks is the fact of maintaining, and even improving, the state of broadband and ultra-fast broadband retail market competition, both fixed and mobile. The state of fixed network competition appears to be much healthier in Europe, notably in France, than in the United States (cf. II.d.1).

In light of the existing or potential practices listed above, it nevertheless appears necessary to formulate a certain number of directions that are geared to promoting a lasting, open, neutral and high quality state of balance for electronic communications networks in general, and for the Internet in particular, even when there is no single ISP that dominates the retail market.

a) Description of the main courses of action

As stated in the background to the current situation, for a long time the Internet ecosystem was an area governed by self-regulation between the different players along the chain, according to an operating mode that was based on private contractual relations, often involving no monetary exchange (as is the case with peering system), on unwritten and often disparate rules of behaviour and a certain opacity with respect to end users.

To ensure a dynamic and lasting state of equilibrium for this ecosystem, the Authority believes it necessary to:

- define an Internet access area that can be clearly identified by users, where neutrality is the rule and where mechanisms can be implemented to guarantee this neutrality, which is a necessary prerequisite to being able to speak legitimately of “Internet access”;
- recognise and also provide a framework for a “managed services” area which includes specific wholesale market offers between ISPs and ISVs that comply with competition regulation;
- and to monitor and guarantee the conditions that help maintain this balance, in a dynamic fashion, in particular to avoid a decline in the quality of Internet access.

To achieve this, two main elements need to be distinguished (cf. II.b and II.c).

- All Internet access included in an offer marketed to end users implies *at least* the supply of a service that has the following main features (cf. II.b):
 - o complete openness to all of the Internet’s functional capabilities;
 - o strict supervision of the authorised traffic management practices;
 - o a sufficient quality of service, based on verifiable criteria (qualification of relevant metrics and indicators).

A retail offer that does not have all of these features would not be able to call itself an “Internet access” service.

- Operators/ISPs can also market managed services (cf. II.c) that have specific characteristics, in particular through agreements with information society service providers (ISV), which will involve remuneration for the operators/ISPs (from the ISVs and/or end users, cf. I.c) greater than what is charged for “Internet access”, provided the vendor complies with competition laws and any possible specific regulations.

Moreover, the following elements are needed for this overall balance to remain consistent and robust (cf. II.d):

- maintenance of a satisfactory and dynamic state of competition in the broadband and ultra-fast broadband retail markets;
- monitoring and increased knowledge of the way the wholesale data interconnection market works, in particular to be able to analyse the state of competition;
- encouraging increased transparency with respect to end users, the ultimate goal being clearly stated offers that can easily be compared.

These principles are intended to be applicable to any access technology, on both fixed and mobile networks – although their implementation does need to take the specific features of each type of network into account, particularly with respect to the means of assessing which traffic management mechanisms are acceptable.

b) Internet access

Openness, neutrality and a satisfactory quality of service appear to be the criteria for actual “Internet access”.

b.1) Open and neutral access

1st direction

The Authority recommends that, to provide “Internet access,” an ISP must be obligated, in accordance with the legal provisions in effect, to furnish end users with the ability to:

- **send and receive the content of their choice;**
- **use the services and run the applications of their choice;**
- **connect the hardware and use the programmes of their choice, provided they do not harm the network.**

This freedom of access and use of the Internet implies open and lasting relationships between ISPs, ISVs and all of the players (transit operators, CDN providers¹³, etc.) who convey content/services/applications so that these items are truly available in their entirety through Internet access. More specifically, in terms of interconnection mechanisms, the open nature of Internet access requires compliance with a dual obligation:

¹³ Content Delivery Network: a network made up of servers that are connected via the Web and which cooperate to provide users with content or data (especially large multimedia files) in an optimal fashion.

- obligation for an ISP to grant all reasonable requests for interconnection from a third party for “Internet access” in a non-discriminatory fashion;
- by the same token, the obligation for ISVs to treat all operators in a non-discriminatory fashion with respect to the accessibility of their services/applications/content via “Internet access”.

We should nevertheless underscore the fact that end users cannot lay claim to a right to send or receive any content (or use services, applications, hardware or software to this end) which has been qualified as illegal by a competent judiciary or administrative authority, in accordance with a procedure provided for by law. For its part, an ISP is not required to take the initiative to verify the legality of the uses being made of the Internet. An ISP must, however, implement the measures provided for by law – which concern network integrity, protection of personal data, the battle against child pornography or protecting intellectual property¹⁴, for instance – when requested to do so by the competent parties and authorities.

b.2) Supervising traffic management mechanisms

2nd direction

The Authority recommends that the traffic management practices that ISPs employ to ensure Internet access remain exceptional and comply with the general principles of relevance, proportionality, efficiency, transparency and non discrimination.

Above all, this means that the general rule for Internet access is not to differentiate how each individual data stream is treated, whether according to the type of application/service/content or to the stream’s transmission or reception address. This must apply to all points along the network, including points of interconnection.

First, however, it needs to be made clear that operators’ response, from a structural standpoint, to the fact that most end users’ are consuming more and more bandwidth must be to invest in increasing the networks’ capacity.

In cases where traffic management does occur, the purpose will be to have capacity shared by end users under the most fair and efficient conditions possible. To achieve this objective, ISPs may, for instance, endeavour to maintain a “technical” neutrality by slowing all data packets to the same degree if they have similar technical parameters (same underlying protocol, etc.), or endeavour to maintain a neutrality “with respect to network termination points,” by reducing the bandwidth supplied to each user in the same proportions. Choosing between these methods will depend on the network configuration, and the effect will vary considerably depending on users’ consumption and connectivity mode. For instance, the fact of limiting the bandwidth available to all users to an equal degree does not really resolve a congestion problem in the network’s core.

It is therefore understandable that it would be difficult, and probably not relevant, to specify in advance which traffic management methods are “acceptable”, and even

¹⁴ A more complete description of the legal framework governing the treatment of content can be found in section III.b of this document.

less so to exclude all adjustments that ISPs make to data streams. Adjustments are indeed necessary in certain cases, to protect the network against spam, for instance, or denial of service attacks (which seek to cripple the network), as is the prioritisation of certain services that are critical for society in emergency situations.

As a result, the Authority recommends that all traffic management measures implemented by an ISP for Internet access comply with the following principles, to meet the quality of service objective:

- *Relevance*: this concerns the motives behind the planned measure and its correlation to the problem that has been identified. Acceptable motives include: avoiding congestion (when a danger has been proven), ensuring network integrity (e.g. protecting it from attacks) or satisfying regulatory or legal obligations. Using balanced measures also means that the response is properly targeted – for instance not managing type A traffic to resolve congestion due to type B traffic.
- *Proportionality*: the measure must seek to have the least possible impact on the network's operation. Available capacity allocated to a certain type of traffic must not, for instance, be divided by four if it will suffice to divide it by two to avoid congestion. One important criterion in this area appears to be the duration and frequency of the measures applied: beyond a certain threshold, the congestion can no longer be viewed as temporary but rather a capacity issue whose cause is structural, and for which corrective measures need to be put into place, particularly through additional investments.
- *Effectiveness*: this means that the measure must produce the hoped-for effects, by limiting collateral damage as much as possible (e.g. in terms of data security) and any harmful technical and economic incentives. This principle can therefore be verified if the adjustments to traffic lead to a real improvement in access to certain services, without significantly degrading the rest of the services that can be accessed via the Internet, and without lessening ISVs' incentives to code their content efficiently.
- *Transparency*: for an ISP this means informing end users properly, as much as possible, on the traffic management mechanisms in place. Naturally, the right level of detail and the most opportune time and means of communication need to be sought so that this information be as useful as possible. In the case of "fair use" policies (see II.d.3) in particular, subscribers must be kept informed of their consumption, while avoiding overly intrusive mechanisms that would discourage use of the services.
- *Non discrimination*: this principle means that streams with comparable technical properties must be treated in an equivalent fashion. The particular goal is to prevent an ISP from favouring its partners' content/services/applications (or its own if it is vertically integrated) over those supplied by others, as this type of preferential treatment must be reserved for managed services only, and cannot apply to Internet access.

These principles constitute a framework of assessment and the general rules governing best practices that all players must endeavour to comply with on all Internet access networks. Their application to technical situations that are objectively different in the short term will differ, however, depending on the different types of access being considered, and depending on the problem that needs to be solved.

- On the whole, if there are no major and proven risks of large-scale congestion, the principles listed above would appear to create a situation where all of the Internet's functional capabilities are available to end users via "Internet access";
- within specific technological environments, and particularly on mobile networks, although the overall goal must prevail, it nonetheless seems acceptable for mobile operators to restrict access to certain sites or applications for objective, non-discriminatory and justified reasons:
 - o these networks are currently more vulnerable to congestion, in particular because of the scarcity of available frequencies and the surge in data traffic generated by smartphones;
 - o this type of constricting practice must nevertheless only be possible when it satisfies real technical imperatives, and can never involve banning or blocking an application or a protocol (including voice over IP, peer-to-peer or streaming), nor must it act as a substitute for investing in increasing network capacity, which is the solution that must prevail in the medium term.

b.3) Quality of service level for "Internet access"

3rd direction

A connection to the Internet must be provided with a sufficient and transparent quality of service.

To guarantee this, the Authority is launching sector-specific efforts to qualify the minimum quality of service parameters for Internet access, and is working to implement specific indicators.

Two requirements need to be made clear here.

- *Transparent quality of service*: this means that end users must be contractually informed of the technical properties of their Internet access, so that they can know the resources that have been assigned to them and the performance they can expect under "normal conditions" (i.e. "best effort" operations). Also included here is information on the way in which Internet access (potentially) shares available connectivity (or capacity) resources with other electronic communication services. This stipulation applies especially to bundled broadband solutions whose contractual terms must specify how use of the television, for instance, affects the quality of the Internet connection.
- *Sufficient quality of service*: the purpose here is to avoid a degradation of the quality of the Internet connection (particularly for managed services). Given the shared social interest in having an Internet connectivity that operates in a satisfactory way for the maximum number of users (see above), it seems necessary to encourage the service to be of satisfactory quality. An ISP's responsibility in this matter is naturally central, even if it should be said that the quality of service that they can control is distinct from the quality of end users' actual experience, of which access is only a sub-element. Because of this, work also needs to be done on the contribution of other players in the equation (ISVs, equipment manufacturers, software providers, etc.).

Several approaches, which are by no means mutually exclusive, are possible when seeking to guarantee a sufficient quality of service:

- a standards-based approach, using existing quality of service specifications for audio, video and data applications on fixed and mobile networks (ITU-T G.1010 and ETSI TS 122 105 standards). Although they are important, such initiatives are long and complicated, so probably not a suitable solution in the short term;
- sector-specific co-regulation approaches between NRAs and market players to identify and disseminate common references, notably with respect to the definition of quality of service parameters for Internet access, and best practices (Ofcom in the UK already supports one such programme¹⁵);
- statistical measurement and monitoring methods, based on the selection and supervision of indicators and, possibly, setting relevant requirement levels at a later time based on analysis of these indicators, which can be paired with giving users the ability to measure, report and compare their own qualitative experience (e.g. by making a dedicated application available. EETT in Greece has been engaged in such a process since summer 2009¹⁶);
- imposing a minimum quality of service on operators, as the new provisions in Article 22 of the Universal Service Directive will allow once they have been transposed – with the European Commission having a right to approve these demands. It appears difficult at this stage to define minimum quality criteria, and even more so to verify them. This approach can only be part of long-term plans and needs to be based on preliminary work to limit the risks of sending negative signals to the affected markets.

In the current state of affairs, the Authority therefore believes that the priority is to begin sector-specific work on qualifying the minimum quality of service parameters for Internet access, and implementing specific indicators.

First, the Authority invites operators and the associations that represent them to engage in sector-specific work devoted to setting minimum quality of service parameters for “Internet access” (availability, bandwidth, latency, packet loss, jitter, etc.).

To be useful, this work could be the basis of exchanges with consumer associations and be enhanced by close collaboration with other relevant players, and particularly with ISVs since, as the designers of services and applications, they are particularly well suited to analyse users’ qualitative experience.

Second, the supply of a sufficient quality of service could be further enabled by the implementation, through a decision from the Authority, of specific retail market quality of service indicators for Internet access from the end-user perspective (cf. II.d.2).

¹⁵ The “Code of Practice on broadband speeds” entered into force in December 2008, and was signed by all of the top ISPs in the UK.

¹⁶ Cf. EETT Decision 480/017/2008 (Official Gazette 1153/B/24-6-2008) “Designation of quality indicators for the electronic communication services provided to the public and definition of the content and the form of the information to be published and the time and means of its publication by the electronic communication service providers” and “Measurement Lab” (M-Lab): <http://measurementlab.net/>

c) *Managed services*

4th direction

To maintain all of the players' capacity to innovate, all operators must be able to market "managed services" both to end users and information society service providers (ISV), in accordance with competition laws and sector-specific regulation, and provided that the managed service does not degrade the quality of Internet access.

- *Managed services: types and features*

As mentioned earlier, and in light of the definition given for Internet access, the term "managed services" refers to any service marketed by an operator whose features differ from those of "Internet access," for certain parameters. This could include greater guarantees ("premium"), for instance, provided by the operator in terms of guaranteed bandwidth, packet loss, jitter, latency or increased network security.

Historically, managed services have included the services other than Internet access that ISPs market as part of bundled solutions: voice over broadband services, television over ADSL/FTTH supplied by ISPs or third-party distributors (chiefly the Canal Plus Group), which can be accessed over a TV set, video on-demand or catch-up TV services over ADSL/FTTH supplied by ISPs or third-party distributors. In most cases, these services benefit from a dedicated channel on operators' networks (upstream from the last mile), which is independent from the one that supplies access to the Internet.

In the business market, certain types of virtual private network (hereafter referred to as "VPN") are another example of a managed service, providing client enterprises with a private communications network.

Over time, this line-up of services could expand to encompass a great many others that need or request a preferential quality of service: this could include expanding certain existing managed services (e.g.: ubiquitous high-definition and later 3D TV services), emerging applications that require better quality and reliability to develop (e.g. telemedicine, telepresence, online gaming, online voting, etc.) or services that are available via the Internet and marketed by ISVs that want to differentiate themselves with end users.

The following table, which was produced by IDATE, helps to underscore the fact that different types of service could have very different needs in terms of higher quality of service. To give an example, while latency, or time delay, is critical for online gaming, jitter is the most important parameter for playing video content in real time.

Applications	Delay	Jitter	Bandwidth consumption
Email	+	+	+
File sharing (file transfer)	+	+	++
Web browsing	++	+	++
Online Gaming	+++	++	+
VoD	+	+++	+++
VoIP call	+++	+++	+
Video conferencing	+++	+++	+++

+: low sensitive +++: high sensitive

In any event, it does not seem relevant to make a list of potential managed services, nor to limit the quality of service parameters that operators can adjust when marketing managed services as it could impede Internet companies' and operators' ability to innovate, particularly with respect to the necessarily evolving and hard to predict nature of the applications that the Internet and electronic communications networks of tomorrow might enable.

- *A possibility for players to allow new business models to emerge*

The Authority believes that all operators must be able to market or offer “managed services” to both end users and ISVs.

The first case corresponds to a model whereby the ISP could market managed services that would enable end users to adjust certain parameters of their own data service directly, possibly in a dynamic fashion.

The second case constitutes the main category of managed service, resulting from agreements between operators and ISVs in the wholesale data interconnection market, regardless of whether or not these agreements are exclusive.

As is already the case with TV over ADSL and with managed video on-demand services on the TV screen, this type of managed service could involve ISVs paying the operator for the “transport” service, more than what might be paid for “Internet access” because the operator provides greater quality of service guarantees. This payment system would mark a departure from the system in place up until now, which has chiefly been end users' subscriptions for Internet access remunerating ISPs and the networks they have deployed.

It is nevertheless crucial to clarify that a managed service agreement between an ISV and an operator in the wholesale IP data interconnection market in no way predetermines differentiated or higher billing for the corresponding service in the retail market. A good example is e-government services which require a high quality of service and could involve the client administration remunerating the operator (which means they are wholesale market managed services), but it goes without saying that these services need to be available for free via any Internet access that an end user might subscribe to.

In terms of operator/ISP remuneration, then, there are four possible models for managed services:

- specific remuneration by the end user (higher than the price of the Internet access flat rate), without higher remuneration from the ISV that may be involved (e.g. a VPN service in the business market);
 - specific remuneration by the ISV (higher than what it would pay the operator as part of Internet access), with end users paying no specific remuneration to operators (e.g. TV over ADSL offers supplied by third-party distributors, such as the Canal Plus Group or e-government services that require a specific QoS level, etc.);
 - specific remuneration by the ISV and by the end user;
 - no specific remuneration by either the ISV or the end user (e.g. free-to-air terrestrial channels included in operators' basic TV over ADSL or over FTTH packages).
- *Necessary supervision with regards to legislation and the protection of Internet access*

Managed services transport agreements between ISPs and ISVs (which may be vertically integrated) must nevertheless:

- comply with the general rules of competition law, notably those that apply to exclusivity practices, and must not constitute an abuse of dominant power by the major content, Internet or electronic communications providers, by leveraging their positions in these markets or their vertical integration to favour their own content or networks unduly (cf. III.a.1);
- take the specific features of certain services into account, notably audiovisual media services (cf. III.b.1), in accordance with any possible decisions by the authorities concerned.

Regardless of the revenue model employed, to ensure that the development of managed services not occur at the expense of "Internet access," the following rule of conduct must be obeyed: in instances where an end user requests specific parameters for their Internet access – for instance in the case of a premium service agreement for a service supplied by an ISV that is also accessible on the Internet – the process put into place must not have a detrimental effect on other traffic or on the quality of other users' Internet access service.

d) Conditions for achieving a balance between Internet access and managed services

d.1) The key role played by competition

It appears that one of the chief guarantors for achieving an overall balance between "Internet access" and "managed services", and particularly for sustaining a sufficient level of quality of service for all, lies in maintaining, and even improving, the state of competition in the wholesale and retail broadband and ultra-fast broadband markets, both fixed and mobile.

An ISP will indeed have less incentive to degrade or limit the quality of the services supplied by ISVs that are available to its subscribers if there is strong competitive pressure coming from rival ISPs, who may well seek to differentiate themselves with a better quality of service or a broader array of services.

Regulating broadband and ultra-fast broadband markets to ensure the development of effective competition that is beneficial to consumers is precisely one of the Authority's main duties.

Here, a comparison with the situation in the United States seems particularly apt, particularly the situation surrounding fixed networks, as it helps to underscore the fundamental link between the state of competition in the access network and potential threats to neutrality.

Following a decision by the FCC in 2005 (consecutive to a Supreme Court ruling in the case of "Brand X"), wholesale broadband and ultra-fast broadband markets are no longer regulated. Of particular note is the fact that incumbent carriers in that country are not subject to any unbundling or bitstream¹⁷ obligations on DSL networks. The result has been an extremely concentrated broadband and ultra-fast broadband retail market (a *de facto* monopoly or, at best, a duopoly of the incumbent DSL provider and a local cable company), which means very real risks of infringements of the principles tied to Internet and network neutrality. This explains why the majority of current disputes over Internet and network neutrality are occurring in the United States.

In France, on the other hand, in accordance with the European framework, strong competition regulation has been instituted through an obligation for France Telecom to market wholesale unbundling and bitstream solutions. This has gone a long way in helping to create a competitive and dynamic retail market which allows end user to have access to a wealth of innovative bundled services, and the lowest price per Mbit/s for DSL offers. The Authority is committed to sustaining this healthy state of competition for optical fibre ultra-fast broadband networks, thanks to recently adopted and future regulatory decisions.

¹⁷ Bitstream is a type of wholesale offer that allows alternative operators to rent broadband connections activated by France Telecom. They can then market retail broadband services in areas where they are not present via unbundling.

d.2) Monitoring the data interconnection market

5th direction

To eradicate the opacity that currently exists in data interconnection markets, and to obtain information that will be useful to exercising its powers, the Authority will soon be adopting a decision on the periodical collection of information on these markets.

Based in part on this information, the Authority will later assess whether it is necessary to implement regulation in these markets.

- *A complex and opaque market*

Contrary to electronic communications network operators' strictly supervised business, from the very start interconnection on the Internet has been a self-regulated area between the different players along the chain, based in part on unwritten and often very opaque rules. As a result, current interconnection mechanisms are both heterogeneous and complex.

Data interconnection agreements between the leading operators, and particularly incumbent carriers and the main ISVs, are currently based on systems of traffic exchange and compensation, through what are called peering agreements, which involve no direct financial compensation. Paid peering has become more common in recent years, however, particularly when there is an especially large difference between the volume of incoming and outgoing traffic.

Other mechanisms exist as well, such as transit. It is IP transit operators that currently supply the link between ISPs and ISVs, for which they are paid (e.g.: Level 3, Cogent). These operators do not generally discriminate according to their customers' traffic volume, and allow small providers to access all ISPs' networks.

Lastly, some service providers use Content Delivery Networks, or CDN, which are a means of making content or data, and particularly large multimedia files, available to users, notably through interconnection with ISPs located close to their subscribers.

The diagram below, which has been deliberately simplified, provides a non-exhaustive overview of the various possible interconnection schemes, allowing an end user to access one type of service or another.

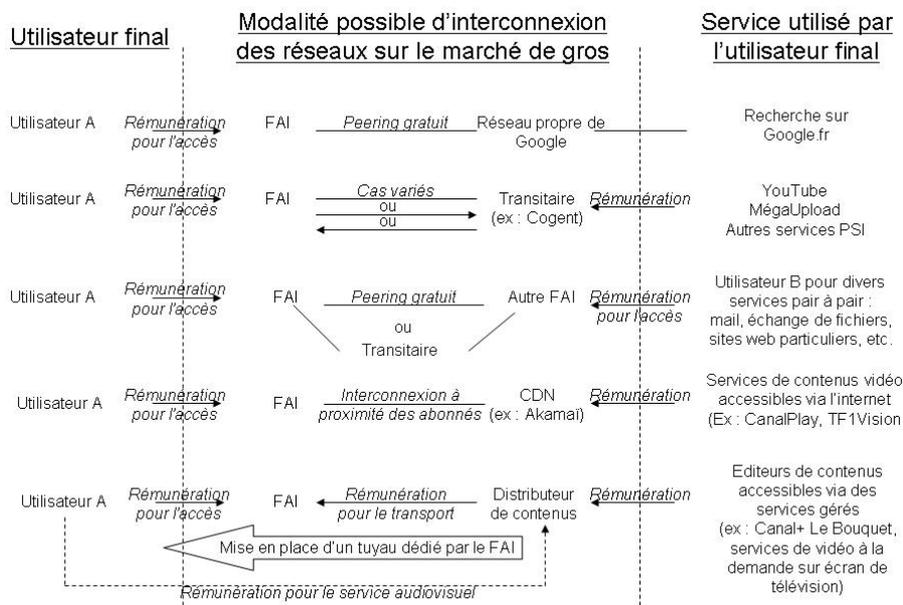
End user	Possible wholesale market network interconnection scheme			Service used by the end user	
User A Pays for access	ISP	Free peering	Google's own network		Search on Google.fr
User A Pays for access	ISP	Various cases Or Or	Transit provider	<- Pays	YouTube MegaUpload Other ISV service
User A Pays for access	ISP	Free peering Or Transit provider	Other ISP	<- Pays for access	User B for various P2P services: mail, file exchange, particular websites, etc.

User A Pays for access ISP Interconnection close to subscribers (e.g. Akamai) CDN <- Pays Online video service (e.g. CanalPlay, TF1Vision, etc.)

User A Pays for access ISP Pays for transport Content distributor <- Pays Provider of content accessed on managed services (e.g. Canal+ Le Bouquet, VoD services on the television screen)

ISP installs a dedicated channel

Payment for the TV service



- *Underlying issues: network financing and revenue sharing*

The tremendous rise in the amount of data being consumed over the past several years, and especially video content, has meant an increase in the costs linked to (the increasingly asymmetrical) transport of online services, particularly on mobile networks. This trend should act as an incentive to push ISPs to encourage the development of more local usage¹⁸ to curb this asymmetry, at least partially. Among other things, this gives rise to questions over financing the necessary increase in network capacity at different levels: core network, collection network, access network. The denser the network, the greater the investment needed, which amounts to several hundred million euros in France for the fixed and mobile core and collection network. Investments in deploying optical fibre in access networks are greater still (in the tens of billions of euros). But a significant drop in storage and transmission costs has been observed as access rates increase.

¹⁸ E.g. by encouraging distributed content hosting and exchange.

Up until now, it has been primarily end users' Internet access subscriptions that have remunerated ISPs and the networks they have deployed.

There is widespread agreement over the fact that the development of the Web and Internet access during the past ten years can be attributed chiefly to the existence of a broad array of innovative services which have attracted consumers. Their number and diversity stems from the ability to access the network freely, and the lack of obligation of a prior and direct economic and contractual relationship between the ISV and ISPs.

Several operators nevertheless want an overhaul of the interconnection mechanisms between operators and ISVs, and particularly the *ex ante* implementation of a "data call termination" mechanism, using the same model as voice call termination, so that ISVs that consume a great deal of bandwidth and which are potential sources of congestion on the network, contribute more to financing investments in increasing core and collection network, and even access network capacity – proportionate to the volumes of data they transmit or the bandwidth they consume. To achieve this, some want to see a decision from the regulator, given their limited negotiating clout with the main ISVs, especially North American ones.

In light of the information at its disposal, the Authority does not believe it necessary to make an immediate decision on a possible overhaul of the data interconnection business model. It does not, however, exclude the possibility of actions in this direction further down the road, particularly should the difficulties being predicted by some of the players materialize. This prospect already justifies starting immediately to pay closer attention to these interconnection relationships.

- *The different tools available to the Authority*

It should be mentioned that data interconnection is within the Authority's regulatory purview, in the same way as voice service interconnection.

Article L. 34-8 of the code governing postal and electronic communications markets in France, CPCE, stipulates that, "*to achieve the objectives defined in Article L. 32-1, the Authority can impose the terms of access and interconnection, in an objective, transparent, non-discriminatory and proportionate manner:*

a) either on its own initiative, after having received the opinion of the Competition Authority, public consultation and having notified the European Commission and the other competent national regulatory authorities in European Union Member States, the decision is adopted under the terms of the procedure published previously by the Authority;

b) or at the request of one of the other parties, in accordance with the terms of Article L. 36-8.¹⁹

The implementation of (a) would involve the Authority adopting a specific regulatory decision concerning data interconnection, e.g. on the *ex ante* implementation of a "data call termination" mechanism, using the same model as voice call termination.

¹⁹ Article concerning the Authority's powers to settle disputes.

Should this be the option that is eventually chosen, it would need to be sure to avoid any danger of creating disincentives to innovation on the Web. The general application of any additional schemes for ISVs to pay operators to access their networks will indeed cause difficulties for small players who could find their ability to innovate with bandwidth-hungry applications restricted, in areas where the larger players would have no problem in overcoming that financial barrier. Threshold or proportionality mechanisms could nevertheless help limit this type of risk.

A regulatory approach of this kind could only be taken after work has been performed at the European level involving the different national regulatory authorities (NRA) and the European Commission, particularly within BEREC which has launched a working group devoted to net neutrality. The Authority is involved in this work, and will take the utmost account of the guidelines and recommendations defined at the European level.

Shortly after that work has been done, to help create efficient and transparent market-initiated data interconnection relations, the Authority could intervene in two ways in particular to help modernise the relationship between the players, by making it a lasting and transparent one.

As mentioned in part I. of this document, the Authority could intervene by settling any disputes that arise in this area between operators, in accordance with part b) of the Article cited here above, and those between operators and ISVs, after having transposed the new Telecom Package which expands the Authority's powers to resolve this type of dispute. When one of the two players involved comes from the audiovisual media sector, the CSA could be asked to give its opinion. These powers to settle disputes could be enough to guarantee the obligation that the Authority would want to impose on operators to *"grant all reasonable requests for interconnection from a third party for "Internet access" in a non-discriminatory fashion"*.

Prior to that, and in a more gradual and cross-cutting fashion, the Authority could encourage greater knowledge of data interconnection systems, not only for the Authority but also for economic stakeholders and all public authorities. To this end, it seems relevant to implement periodical monitoring of the affected markets.

- *Implementing the periodical monitoring of the affected markets*

To monitor data interconnection markets (transit, peering, etc.), the Authority will need to equip itself with tools that enable a deeper understanding of these markets. To this end, the Authority will adopt a decision on the periodical collection of information on these markets from the players concerned.

The Authority indeed has the power to collect information to be able to carry out its missions, notably those cited above. According to the terms of CPCE Article L. 36-13, *"The Electronic communications and postal regulatory authority collects information and conducts the surveys necessary to the performance of its duties, within the limits and under the terms set by Article L. 32-4"*.

CPCE Article L. 32-4 endows the Authority with the power to collect information or documents from the legal entity or natural person who operates electronic communications networks or provides electronic communications services, which will allow it to ensure that these parties are complying with the principles defined in Articles L. 32-1 and L. 32-3, and with the obligations to which they are subject, in accordance with the CPCE and the texts adopted for its application.

In particular, the Authority is responsible for adjudicating data interconnection agreements concluded between players. CPCE Article L. 34-8 stipulates that, *“interconnection or access are subject to an agreement under private law between the concerned parties. This agreement will determine, in accordance with the provisions of the present code and the decisions issued for its application, the technical and financial terms governing interconnection or access. It will be submitted to the Electronic communications and postal regulatory authority upon request”*.

This type of approach seems capable of helping to evolve from an opaque market to a situation of lasting and more transparent reciprocal relations, and one which preserves those properties that are specific to the Web, specifically the ability for all consumers to develop a wide range of uses and applications.

At the same time, these relationships, and particularly the possible billing systems associated with them, should constitute a means of encouraging greater efficiency, particularly in terms of ISVs' coding²⁰ of online video content and of the performance and quality of respective transport services. The Authority could be required to take these issues into consideration when settling any dispute that might arise over the terms governing access to an operator's network.

In any event, a better organisation of the different wholesale data interconnection markets will help prevent the risks of neutrality violations in Internet access retail markets.

d.3) Increased transparency with respect to end users

6th direction (1st element)

ISPs must provide end users with clear, precise and relevant information on the services and applications that can be accessed through their data services, of the traffic management practices employed on their networks, the quality of service of these offers and their possible limitations. As a result, the terms “Internet” and “unlimited”, for instance, must only be used if they satisfy the terms defined in section II.a and ff.

Moreover, the Authority is committed to a system whereby ISPs will periodically publish quality of service indicators that are specific to their retail market data services.

- *Contractually-based transparency*

²⁰ Transformation of a file (picture, audio, etc.) by applying a code which generally consists of compression to reduce the size of the file.

The end users of electronic communications services have a stated right to information on pricing methods of the service, the technical terms of its supply, the terms and conditions for renewing their contract and on the terms for executing and cancelling their contract, pursuant to Section XI of the Consumer code (*Code de la consommation*), entitled “*electronic communications service contracts*”.

Article L121-83 of the Consumer code states that, “*any contract that a consumer enters into with an electronic communications service provider, as defined by Paragraph 6 of Article L. 32 of the Postal and electronic communications code must contain at least the following information:*

- a) *the provider’s name and address;*
- b) *the services provided, their level of quality and the time needed for their delivery;*
- c) *the retail tariffs charged and the means by which updated information on all of the tariffs and maintenance fees applied can be obtained;*
- d) *the compensation and reimbursement formulas applicable if the quality of service stipulated in the contract is not achieved; [...].”*

The Order of 16 March 2006 concerning electronic communications service contracts stipulates, more specifically that, “*to satisfy the obligation to provide information on the quality of the services being provided, as provided for in Paragraph b of Article L. 121-83 of the Consumer code, each electronic communications service contract must stipulate at least [...] the minimum guaranteed quality of service for each of the essential technical characteristics defined in the offer, such as access speed, capacity and any other characteristic that can be measured [...].”*

Furthermore, CPCE Article D. 98-12, entitled, “*rules concerning user information and protection,*” goes into more detail on the type of information that end users must be made aware of when subscribing to an electronic communications service. It stipulates in particular that, “*the operator will make information available to the public on [...] the general and contractual terms and conditions governing the supply of the service provided as part of its statement, which specifies: [...]*

- *the terms and conditions concerning quality of service;*
- *the price of its offers, including the tariff reduction formulas [...].”*

The new regulatory framework for Europe, which will soon be transposed into national law, provides for strengthened obligations with respect to transparency.

First, the scope of Articles 20 and 21 of the Universal Service Directive has been expanded to include all end users (consumers in the strictest sense of the word, i.e. natural persons as well as business users, in other words legal entities).

Second, these articles strengthen the information obligations to which electronic communications operators are subject in their service contracts, and when any change is made to the terms and conditions, after the customer has signed her contract. On the matter of network neutrality, this involves a transparency obligation with respect to:

- the conditions limiting access to services and applications or their use, when these conditions are authorised by virtue of national law, in accordance with Community law;
- all procedures implemented by the enterprise to measure and route traffic in such a way as to avoid loading or overloading one of the network's lines, and information on the way in which these procedures could affect quality of service;
- any restrictions that the provider imposes on the use of the terminal equipment it has supplied.

In light of these provisions which are geared to affording end users the greatest possible degree of transparency, for both fixed and mobile Internet access offers to develop, the information that ISPs must make available to end users needs to be specified, as does the way in which this information is to be provided so that it is understandable and enables end users to compare the services that are available to them.

First, however, in their contracts/general terms and conditions of sale for their retail data services, and particularly those governing Internet access and managed services, it seems crucial for ISPs to specify – which is not systematically the case today – clear, precise and relevant information on:

- all of the services, applications, software, websites and protocols that cannot be accessed via these retail offers (this concerns mobile networks in particular);
- the traffic management practices that operators are likely to use, when they may have a direct impact on the end users' experience, and specifying the circumstances under which they are likely to be applied;
- the identification of managed services, as defined above. The contracts must stipulate the specific terms attached to the supply of these services for end users (e.g. dedicated and priority bandwidth, shortest latency, etc.);
- the actual access rates available to end users that can be controlled by the operator, making a distinction with access rates attached to managed services, if applicable;
- fair use policies (see explanation below).

- *Terminology and conditions applicable to retail offers*

This last point warrants further explanation. For ISPs, fair use policies consist of setting – in the general terms and conditions of sale – “reasonable” limits on the use that end users can make of their access to a data service offering, notably flat rate ones. In practice, this can mean that, when an end user exceeds this “reasonable” consumption threshold, it could result in her having her access speed reduced, or she may be billed an overage charge on top of her flat fee. This type of practice already exists, particularly on mobile and cable networks, but it is generally applied in an opaque fashion.

It seems neither opportune nor relevant to forbid operators from engaging in this type of practice. To the extent that it appears that 5% to 10% of end users consume more

than half the bandwidth on electronic communications networks, it may be preferable in certain cases for ISPs to implement this type of system to ensure that the behaviour of a minority is not detrimental to the quality of service provided to the majority of end users. This type of system may even prove necessary, particularly in the case of access networks whose local loops are shared by several end users – which is notably the case with mobile and cable networks.

These practices nevertheless need to be supervised, to ensure that they do not constitute an impediment to the use of and innovation via the Internet, or a means for ISPs to avoid investing in increasing their networks' capacity. It is particularly important that these practices be transparent and as clear as possible to end users, particularly in terms of consumption caps, prior alert mechanisms and the consequences of exceeding set limits.

- As concerns caps on consumption, it seems necessary for them to be set by ISPs so that, in practice, they affect only a small percentage of end users. In the opposite case, it could lead to the vast majority of users “under-consuming” their data offers for fear of exceeding the threshold, or to preventing them from accessing certain new innovative services that consume a great deal of bandwidth.

The structural response that operators need to bring to the fact that most end users are consuming an increasing amount of bandwidth consists of investing in additional network capacity, particularly since the price of the technologies needed to do so is decreasing steadily. This means that the consumption cap is bound to vary over time, depending on end users' average and median consumption levels. Furthermore, this cap needs to be clear to end users: for example, information on what they can do with a precise quota would be welcome (x number of web pages can be viewed on average, x number of photos can be downloaded on average, etc.).

ISPs could also market a range of retail offers with different caps, so that virtually all users will be able to choose an offer whose cap exceeds their consumption. This type of selection already exists in the UK, for instance.

- On the matter of the alert mechanisms to be put into place, the minority of end users concerned by the possibility of exceeding the cap set for their offer must be sufficiently well informed ahead of time of the risk of going over their limit, to give them the opportunity to reduce their consumption if they so desire. For instance, an ISP could systematically send out an alert, notably via SMS, as soon as a customer reaches the 80% mark on their allowed consumption and, of course, again once they have exceeded their limit.

- The traffic management mechanisms employed by an ISP for an end user who has exceeded her limit must be proportionate and reasonable. Completely cutting off access to the data services that the user subscribes to appears to be a particularly unacceptable solution. In addition, the measures that are taken must be lifted within a maximum 30 days.

- Lastly, because “fair use” policies constitute in themselves a limit on access to data services, and particularly the Internet, they must not be able to be applied to what are said to be “unlimited” Internet access offers. In general, ISPs need to employ the terms “Internet” and “unlimited” with the greatest care, and in a relevant and

understandable fashion when describing the data services they are offering end users in the retail market.

6th direction (2nd element)

The Authority therefore recommends 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” (see above) may employ this terminology;**
- **the term “unlimited” cannot be used to describe service offerings that include “fair use” type limitations that restrict consumption over time.**

Although this gives operators, and notably mobile operators, the possibility of marketing offers that do not include access to all Internet sites, services and applications – which will be marketed using different terminology – it nevertheless remains that any restriction applied to these data offers, compared to an Internet access offer, must also comply with the general principles of relevance, proportionality, efficiency, transparency and non-discrimination presented in section II.b.2 of this document. In particular, 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.

- *Work underway*

6th direction (3rd element)

The Authority will complete its work, in tandem with the DGCCRF and consumer associations:

- **to define, with the leading ISPs and the associations that represent them, common best practices for “fair use” policies for situations when they are relevant;**
- **to have quality of service indicators that are specific to retail market data services published periodically, notably for “Internet access”, both fixed and mobile.**

As concerns the publication of QoS indicators, in Q1 2010 the Authority launched a study whose purpose is to identify indicators that are relevant from a consumer perspective. This approach could continue according to a process similar to the one which led the Authority to adopt its Decision No. 2008-1362 of 4 December 2008, on operators' publication of quality of service indicators for their fixed network solutions.

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Some of the directions listed in this section could be implemented within the existing legal framework, while others will require legislative or regulatory amendments.

Questions

No. 3) The Authority invites the players to comment on its general approach to the terms and conditions governing Internet access.

No. 4) The Authority invites the players to comment on the six proposed directions.

III - Other dimensions of neutrality

The purpose of this section is to identify and examine issues other than those that are tied directly to Internet access, and which are also likely to be affected by questions of network neutrality, and especially Net neutrality.

The issues surrounding neutrality are not confined to electronic communications markets, taken on their own. This has become all the more true in recent years, with the development of major Internet companies that are not electronic communications operators, at least not primarily. Whether in the area of search engines, online advertising or Internet-ready devices, some of these players are earning very substantial margins in newly formed and often very high growth markets. The question of sharing revenue with electronic communications operators has become a relevant one particularly because, first, operators do not always have a direct relationship with ISVs whose services occupy a significant portion of the bandwidth supplied by the networks and, second, they have very little negotiating power with the “Internet giants,” most of which are American.

To properly assess the issue of Internet and network neutrality as a whole, we need to look at how competition law makes it possible to address certain practices that could potentially violate this neutrality, but also to analyse the specific and general regulations that apply to the different types of content that is available via the Internet and other electronic communications networks. And, finally, given the global nature of the markets and of many of the players involved, the not only European but international dimension of the neutrality question naturally arises, particularly with respect to Internet governance.

a) Neutrality and competition

If, as was mentioned earlier, the existing regulatory framework in wholesale electronic communications markets in France has enabled the creation of effective and satisfactory competition in broadband and ultra-fast broadband retail markets, at least on fixed networks, competition issues in markets adjacent to electronic communications have been raised with the Competition Authority. The practices being employed in these adjacent markets are, in all case scenarios, likely to have an effect on the electronic communications sector, particularly if an SMP player – especially a vertically integrated one – leverages its market dominance, or in the case of an excessive number of exclusivity agreements signed.

Several procedures of this kind have been brought to the attention of the Competition Authority, whose opinions and decisions on the matter will furnish useful reminders of the ability of competition law to remedy the competition risks encountered in the markets in question, and which are likely to impinge on Internet and network neutrality.

a.1) Problems tied to exclusivity agreements

An analysis of the competitive impact of exclusivity agreements between different links in the economic value chain is a source of daily concern for competition authorities.

The Internet and electronic communications networks in general are no exceptions here. Examples can be found in the exclusivity deals signed by Orange and Apple for marketing the iPhone, and those between Canal+ and Orange for pay-TV services, both of which are likely to have an effect on electronic communications markets and both of which were the subject of recent decisions or opinions issued by the Competition Authority.

As an aside, it is worth underscoring the fact that the Competition Authority has issued a reminder on several occasions that exclusive distribution or sales agreements are not in themselves anti-competitive, even when they are made by companies that enjoy a dominant position or are vertically integrated. They can, for instance, be necessary to enabling a business area to be profitable, for instance to earn a return on investments that the company would not make if it did not enjoy that exclusivity. The Competition Authority therefore proceeds on a case-by-case basis: it performs a close examination of the concrete market circumstances when analysing exclusivity agreements.

In practice, by creating artificial barriers to entry, the price squeeze or foreclosure effect that exclusivity agreements could constitute depend on a number of factors, including the area and scope covered by the exclusivity deal, the share of demand involved, the duration or combination over time of the agreements, the terms of the contract's cancellation or renewal, the geographical distribution and the atomism of demand, the existence of a technical justification for exclusivity and the economic compensation given in exchange for this exclusivity.

On the other hand, if the goal of these agreements is to distort or restrict the competition dynamic in the market in question, the actual or potential foreclosure effect they cause, either directly or indirectly, constitutes an abuse of dominant position which is forbidden under Article L. 420-2 of the Commercial code.

First, on the matter of marketing the iPhone, Bouygues Telecom filed a complaint with the Competition Authority in September 2008 concerning the partnership deal negotiated between Apple and Orange, which made Orange the iPhone's sole network operator and wholesaler in France.

Given the very long period of exclusivity stipulated in the agreement, and its extension to future models of the iPhone, the Competition Authority ruled that the exclusivity that Orange had over the iPhone was apt to create a further element of rigidity in a sector already suffering from a lack of competition. It also pointed out that an exclusivity deal of this kind was likely to even further increase operator switching costs for mobile customers.

Believing that, under the terms of its negotiation, the exclusivity agreement was, at the time when the complaint was filed, likely to be prohibited by Community and national competition laws, and capable of constituting a serious and immediate threat

to competition in the mobile market and to consumers, the Competition Authority therefore decided to order protective measures that resulted in iPhone products no longer being marketed exclusively by Orange, but rather allowing them to be sold by any other operator wanting to design an offer based on this device. This ruling allowed, on the one hand, SFR and Bouygues Telecom to sign distribution contracts with Apple for the iPhone 3G and now the 3GS and, on the other, to lift the wholesaler exclusivity enjoyed by Orange.

On 12 January 2010, as part of the examination of the complaint filed by Bouygues Telecom, the Competition Authority accepted the commitments proposed by Apple and Orange on the matter of exclusivity, as a result of the application of the injunction issued as a protective measure, and made them into lasting obligations.

Second, in addition to its own voluntary pronouncements, the Competition Authority has been called upon over the past several years to rule on exclusivity practices in the television sector, notably by Orange and Canal+. The Competition Authority's forthcoming decisions on these matters will send out strong signals on the competition practices that are and are not acceptable for these services.

A preliminary response was already given as part of a task force that the Prime Minister assigned to Marie-Dominique Hagelsteen in late 2009. In its Opinion No. 09-A-42 of 7 July 2009 on exclusivity deals between electronic communications and content and service distribution activities, the Competition Authority expressed its desire to see the legislature set, as soon as possible, "*clear rules of conduct to, first, define very strict terms concerning the length of time – of a maximum one or two years – during which an exclusivity over the transport of and access to innovative services could be tolerated and, second, to enable a large enough opening to be created in the wholesale market for pay-TV channels, notably in the areas of sport and cinema*".

In the report submitted to the Prime Minister in late 2009, Marie-Dominique Hagelsteen expressed the view that, on the matter of exclusivity over transport, if the legislature were to intervene, it should confine itself to procedural provisions consisting of imposing a system of supervision on these exclusive transport practices, by requiring the operators involved to submit official notification to ARCEP. The task force believed it was necessary to implement veritable *ex ante* regulation of the wholesale pay-TV market, via the broadcasting authority, CSA.

Because television services (TV over ADSL or optical fibre, video on demand, catch-up TV) are most often marketed as managed services, the directions for these services which are listed in section II.c must naturally comply with the general rules of competition, and notably those concerning exclusivity practices.

a.2) Issues tied to “device neutrality”

Mobile handsets

During the conference hosted by the Authority on 13 April 2010 and the preliminary interviews it conducted, a number of players expressed their concerns over the practices surrounding mobile handsets, and particularly the ubiquity of walled

gardens that limit the list and kinds of applications that can be installed, the browsers that can be used and the sites that can be accessed, and this in a manner that is relatively independent of the operator.

Among the different distribution modes for mobile telephony, offers that combine a mobile service and a subsidised handset are the most common. This appears to be a reflection of the great importance that consumers give to the features of their handset which has become a personal object that provides access to a growing number of services (e-mail, Web browsing, mobile TV, etc.), but also to an array of complementary functionalities (camera, PDA, MP3 player, radio, etc.). As a result, the industry considers the mobile telephony market as a “device” or hardware market.

The mobile market, which has reached maturity in Europe, owes a great deal of its momentum to the speed at which the range of handsets is refreshed, the main incentive for end users being apparently to own a “more modern” device.

Smartphones constitute a strategic sub-market. They are the fruit of the convergence of mobile phones and PDAs (personal digital assistants) since the start of the 2000s, and offer a growing array of capabilities (Wi-Fi connectivity²¹, planner and address book, GPS, camera, video/MP3 player), where more conventional handsets offer only one or two and without the same ease of use, and associate them through a dedicated operating system.

This sub-market appears to be a strategic one for sustaining mobile operators' growth. With the emergence of 3G and the growing number of bundled solutions, operators are focused on having their customers upgrade their devices, notably by buying new mobile handsets, using customer loyalty mechanisms, and by consuming new services (Internet) which are often value-added ones: this is how smartphones, software applications and dedicated add-on services – such as location-based ones – are developing, all of which constitute a major competitive asset for this segment.

It should nevertheless be said that operators are working in some instances to promote common platforms that operate independently from the devices, which are in theory more open to all applications developers online – one example being the Wholesale Applications Community announced by 24 mobile operators at the Mobile World Congress in Barcelona in February 2010, and supported by the GSMA (Global System for Mobile communications Association).

An example that is more representative of the issues referred to here is the iPhone, which enjoys a special appeal (aesthetic features, ergonomics) with consumers. This can be measured just by looking at sales figures: 77% of the handsets sold with a flat rate at Christmastime in 2009 were iPhones – of which an estimated 50 million units have been sold worldwide.

But some websites cannot be accessed on the iPhone because it is not compatible with Flash technology. Although this inability to access certain sites is due to the handset and not to mobile operators' practices, the end result is still the fact that an

²¹ Wi-Fi is a wireless technology that makes it possible to connect several devices within a computer network.

end user cannot access all Internet services, even if his operator is providing him with an “Internet access” offer.

From a broader perspective, as underscored by the Competition Authority in its Decision No. 08-MC-01 of 17 December 2008 on the practices employed in the distribution of the iPhone, Apple’s dominant position, thanks to the popularity of the iPod and the iPhone, is a particular source of concern for a number of players. In addition to the competition issues raised, and the negative effects on end users, we can also wonder about Apple’s responsibility with respect to the applications hosted on the App Store.

This situation warrants a reminder of the key role that the Directive 1999/5/EC of 9 March 1999 on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity, also known as the R&TTE Directive. It imposes a set of obligations on operators (publication, etc.) concerning their interfaces, the purpose being to prevent them from distorting competition in the mobile handset market by limiting the interoperability of devices on the different national networks.

These obligations are aimed at preventing situations where an operator would be in a position to determine unilaterally its network’s standards for compatibility with devices, which would enable it to leverage its market power as a network operator to the adjacent handset market. This directive does not, however, include any stipulations aimed at preventing possible distortions in mobile telephony market competition created by handset manufacturers. It would be useful to address this point when reviewing this directive in future at the European level, or during the European public consultation on Internet and network neutrality.

Connected televisions

Recent developments in industry player strategies appear to call different companies’ existing business models into question, and particularly electronic communications operators who appear to have been left out of these agreements, even though the most attractive services delivered by connected televisions could well be those that consume a great deal of bandwidth on the network – most notably video-based services.

This is a major source of concern for operators, at a time when they are making substantial investments in infrastructure and particularly in optical fibre ultra-high speed systems. The agreements that currently exist between ISVs or broadcasters and television manufacturers, notably those that include exclusivity clauses, could prove incompatible with foreseeable investments in networks (as they are defined without operator involvement).

This is not a network neutrality issue, per se, but rather one of “device neutrality” which at the very least gives rise to questions over the openness of connectivity platforms that are accessible to the public.

Unveiled at the CES (Consumer Electronics Show) in Las Vegas in spring 2009, televisions that are connected to the Internet via Wi-Fi access or integrated Ethernet, and an HTML (HyperText Markup Language, which makes it possible to create web

pages) browser, appear to be developing rapidly, as was previously the case with Internet-ready game consoles.

This means that users will be able to access a great many services over the TV set: personal content, photos and blogs, content from sharing sites such as YouTube, video games, e-commerce, catch-up TV and VoD services, weather services, etc. Most manufacturers have chosen to use a system of “widgets”²² for accessing these services.

As a result, we have seen a growing number of agreements around these services between television manufacturers and players from the world of television since 2009: Sony-M6 Replay, Canal Play-TCL-Canal Play, LG-Orange, Panasonic-Eurosport, Samsung-TF1, etc.

These agreements come on top of those that have already been made or are being negotiated between television manufacturers and the major ISVs such as Yahoo, Google and Dailymotion. Of these three companies alone, Yahoo has signed agreements with Samsung, Sony, LG and Visio since 2008 for incorporating services that can be accessed through their connected televisions. At MIPTV 2010, Yahoo unveiled a service called “*Connected TV*” which, through a widget-based system installed on Samsung TV sets, allows users to access certain Internet services. Google is also gearing up for the launch of its Google TV service in summer 2010, in partnership with Sony, Intel and Logitech.

It also appears that these agreements contain exclusivity deals, at least temporary ones, which could in any event create competition issues, and especially lead to the creation of walled gardens that prevent access to certain digital content/applications/services that could be very prejudicial to end users.

This is a sensitive and urgent matter given that, starting next year, virtually all of the televisions available in shops are expected to be “connected televisions”.

a.3) State of competition in search engine and online advertising markets

In this complex Internet chain, any abuse of a proven dominant position in one of the markets that are linked to electronic communications markets could well affect the open and neutral nature of the Internet, and the quality of the user experience, as defined in this document, and for which all of the players – each at their own level – are at least partially responsible.

This explains why, during the ARCEP conference on 13 April 2010 and the interviews conducted by the Authority, a number of players expressed their concerns over the state of competition in the online advertising market and in the search engine market, citing in particular Google’s dominant position in both.

It will be especially interesting to see the stance taken by the Competition Authority on the state of competition in the online advertising market, in the opinion on this very

²² Small interactive applications that make it possible to display information (weather, stock market prices, etc.) or to perform small operations (calculator, dictionary, etc.)

matter that it is due to submit in the near future to the Minister responsible for the economy, industry and employment.

b) Neutrality and content

The regulation that applies to content travelling over electronic communications networks varies a great deal from service to service, and from country to country. One case in point is hate speech which, when expressed on a given network, will not face the same repercussions in France and the United States.

In the following paragraphs, we will outline the regime that applies specifically to audiovisual media services²³, and the one that applies to other content transiting over electronic communications networks and the Internet.

b.1) Regime that applies to audiovisual communication services

Audiovisual communication services make up a special category of content that can be accessed over (wireless or wireline) electronic communications networks due to the sector-specific regulation that applies to them, as per the amended Law of 30 September 1986 on freedom of communication.

As a result, a television or radio station that wants to be broadcast in France must first complete certain formalities with the broadcasting authority, CSA. These include a variety of procedures: signing an agreement then obtaining a frequency licence, in the case of a service to be broadcast over the terrestrial radio network, or signing an agreement or making a simple declaration in the case of a service to be delivered over another network. This second case applies to cable, satellite, ADSL, optical fibre and mobile telephony networks, as well as the Web (Internet TV and radio).

Among other things, CSA must ensure operators' compliance with the laws and regulations, and with their commitments and obligations, in other words the legal framework governing freedom of communication. CSA exercises its regulatory powers over all audiovisual media services, regardless of whether or not they are broadcast over a network that uses spectrum allocated by CSA, to ensure that fundamental principles are upheld, such as protecting human dignity and public order, in addition to combating discrimination in the area of audiovisual communication.

CSA also devotes efforts to ensuring that audiovisual media companies meet their obligations with respect to programmes, in terms of pluralism, the honesty of the information, broadcasting cinematographic and audiovisual works, TV channels' contribution to the development of cinematographic and audiovisual production, protecting children and adolescents, advertising, sponsorship, product placement and teleshopping, and defending and showcasing the French language.

Fulfilling these mandates as they pertain to television and radio services has constituted the broadcasting authority's core activity for several years.

²³ As defined by Article 2 of the amended Law of 30 September 1986.

More recently, the Law of 5 March 2009 on audiovisual media and the new public television service, which transposes the European Audiovisual Media Services Directive 2007/65/EC of 11 December 2007 (AVMSD) into national law, introduced the notion of on-demand audiovisual media services in the amended Law of 30 September 1986 on the freedom of communication, taking time-shifted media content that is available on the different networks into account, and particularly video on-demand and catch-up TV services. This law extends the scope of most of the broadcasting authority's powers to include AVMS. The majority of time-shift audiovisual media services are already managed services marketed by ISPs – a situation that is bound to become even more commonplace.

It was this state of affairs that led CSA to launch a public consultation in June 2009, whose purpose was to specify the regulatory elements that applied to these new audiovisual services. On 20 April 2010, CSA published an executive summary of the contributions to this consultation, in which it offers a number of guidelines for the regulation that should be put into place for AVMS.

To stimulate the development of audiovisual media services, CSA decided to allow catch-up TV services to offer sneak previews of programmes before they aired on television. It also expressed the view that the economic system governing (paid or free) catch-up TV solutions could be different from the one used by the channel to which they are attached.

Furthermore, AVMS give rise to specific questions over the protection of minors and a code of conduct for programmes. CSA will be adopting a deliberation on these services and on interactive applications in the near future.

Lastly, Proposition No. 14 of the "*Création et Internet*" (Creative works and the Internet) report produced by Patrick Zelnik, and submitted in January 2010 to the Minister responsible for culture and communications, proposes including on-demand audiovisual media services in the list of disputes that can be settled by CSA, after having received the opinion of ARCEP when necessary.

b.2) Regime that applies to all content

The regime described in paragraph b.1 applies only to audiovisual communication services, which now include television and radio (AVMS) and on-demand audiovisual media services. This does not mean that there are no rules governing other audiovisual services being produced by players other than audiovisual media companies, and notably by end users, and the other content transiting over networks. All of this content is subject to either general pre-existing laws that apply across the board, or to regimes that are specific to network and Internet-based activities. In addition, the Internet rights forum (*Forum des droits de l'internet*) set itself the task of encouraging co-regulation on the use of this content.

- *Common law systems applicable to online activities*

Online activities must naturally comply with the different branches of applicable laws. It is therefore the responsibility of each public or private sector player to take into account all existing national and international laws – which are aimed at meeting a

wide array of objectives, from protecting individual freedoms to promoting cultural diversity or ensuring the integrity of essential infrastructure.

To give an example, this is why, since the adoption of the Law of 21 June 2004 concerning confidence in the digital economy (*Loi pour la confiance dans l'économie numérique*), hereafter referred to as "LCEN", there is no longer any ambiguity over the fact that online publications, even if addressed to a very small audience, are subject to the Press Law of 29 July 1881, in the same way as any print or audiovisual medium, which punishes defamation.

Article 29 of this Law of 29 July 1881 concerning freedom of the press, indeed stipulates that, "*Any allegation or attribution of a fact that damages the honour or reputation of the person or entity to which the fact is attributed constitutes defamation. The publication, either direct or through the reproduction of this allegation or this attribution, is punishable, even if made in a dubitative form or if it targets a person or an entity that is not expressly named but which can be identified by the terms used in the incriminated speech, cries, threats, written or printed, bills or notices*".

- *Provisions specific to electronic communications networks and the Internet*

The development of the most diverse array of activities on the networks, whether commercial or non-commercial, has led to the implementation in France and in a number of other countries, and according to very disparate methods, of a number of legal and regulatory measures that apply specifically to this area.

Their chief objectives include combating child pornography, monitoring online gaming sites and protecting literary and artistic property rights²⁴.

As with the system that applies to audiovisual media services, the supervision of this content can be considered, "literally," as a violation of the principle of neutrality, but the legislature and the Constitutional Council expressed the view that it did not threaten any fundamental freedom and that it was in pursuit of essential and legitimate goals that are in the public interest.

- *Implementing these specific provisions*

The implementation of these provisions nevertheless requires that particular attention be paid, on the one hand, to respecting other fundamental rights such as the right to privacy and freedom of expression and, on the other, to ISPs' very limited scope of responsibility.

²⁴ Article L.331-13 of the Intellectual property code, amended by Law No. 2009-669 of 12 June 2009 stipulates that the "The High Authority: (...)

Para. 2 Has the responsibility of protecting works and objects [to which copyright or a right related to copyright is attached] from breaches of these rights committed on electronic communications networks used to provide communication services to the public online; (...)".

Article L.331-23 of the same code specifies that the High Authority "(...) will assess, among other things, the trials carried out in the area of packet inspection and filtering technologies by the designers of these technologies, the holders of the rights to protected works and objects and entities whose business is to provide a communication service to the public online. It will provide an account of the main developments observed in this area, notably in terms of the efficiency of such technologies, in its annual report, pursuant to Article L. 331-14."

First, some players are concerned by the prospect of seeing this type of measure – which is initially introduced to address specific, temporary needs – being then steadily expanded. In the digital universe, it is indeed no small affair to be assured that certain monitoring systems that are authorised for a specific need are not employed unduly to other ends. The CNIL had occasion to express this very concern in several of its recent opinions. In particular, DPI²⁵ techniques could prove a serious threat if adequate safeguards are not in place. These provisions must be implemented while taking into account the fact that each end user's connection to the Internet is recognised as being necessary, in current society, to ensuring their ability to exercise the fundamental right of freedom of expression²⁶.

Second, the Directive of 8 June 2000 concerning e-commerce, and the Law of 21 June 2004 concerning confidence in the digital economy, or LCEN, specify the different service providers' responsibilities with respect to the content travelling over their networks. Article 6.I.7 of LCEN thus states that ISPs have no obligation to monitor the information that they store or transmit.

c) Neutrality and international issues

There is no single, multi-purpose regulator of the Internet, which is understandable given the vast array of issues and areas of regulation that are potentially involved, starting with the many versions of the concept of neutrality itself. There is, however, no denying the major international dimension of all of these issues. It is clear that several of the questions that have been raised go beyond any national border since networks, and especially the Internet, are without frontiers.

One illustration of this lies in the difficulty that public authorities may have in applying a homogeneous legal framework to players operating similar businesses but in different countries. The problem of the territoriality of law is not a new one, but is particularly meaningful when it comes to services being offered on the Internet (TV channels broadcast on the Web, online advertising, etc.), and therefore require States to make an added effort to overcome the disparities in legal systems.

This example, along with others that arose during the interviews and the conference organised by the Authority, brought to the fore the need for greater global cooperation, and for European cooperation in particular for upholding and promoting common regulatory methods and standards concerning Internet and network neutrality.

²⁵ “*Deep Packet Inspection*”: an activity that consists of analysing the content (beyond the header) of a data packet (generally an IP packet), for network infrastructure hardware, to extract statistics, filter the content or detect intrusions, spam or any other type of predefined content.

²⁶ Cf. Decision of the French Constitutional Conseil (Decision No. 2009-580 DC of 10 June 2009) on the HADOPI graduated response mechanism, and more generally Article 1.3 of the revised Telecom Package Framework Directive: “(...) Any of these measures regarding end-users' access to or use of services and applications through electronic communications networks liable to restrict those fundamental rights or freedoms may only be imposed if they are appropriate, proportionate and necessary within a democratic society, and their implementation shall be subject to adequate procedural safeguards in conformity with the European Convention for the Protection of Human Rights and Fundamental Freedoms and general principles of Community law, including effective judicial review and due process. (...)”.

Here, an important landmark will be the public consultation that the European Commission is due to hold on the subject in June 2010. The responses will help in the production of the report that the Commission is to submit to the European Parliament and Council before the end of the year, on the concrete state of affairs in the different EU Member States, and on the possible need for additional European guidelines. Having already made an in-depth examination of this topic on a national scale, France must now take advantage of this opportunity to underscore the significance of this issue and to be actively involved in collective discussions. In addition to its involvement in the response drafted by European regulators through BEREC, the Authority therefore invites all French regulatory authorities to devote themselves to this topic so that a common and consistent viewpoint can be submitted to the Commission.

One of the elements of this contribution to the Commission consultation could consist of encouraging European institutions to take these questions of network and Internet neutrality into account in the different international negotiation bodies.

In general, we need to increase national and European influence over all matters concerned with the regulation and governance of the Internet which constitutes a global strategic shared asset.

The debate over network and Internet neutrality has led a great many players to question the democratic legitimacy of structures like ICANN (Internet Corporation for Assigned Names and Numbers) and the processes underpinning the Internet's operation. Of course, to a certain extent it is true that the current, essentially American management of scarce resources (IP addresses, root servers) or the management, for instance, of non-Latin languages in naming can be viewed as "non-neutral" with respect to end users (businesses, individuals), depending on their country of origin.

It is often by citing the delays or failure to take their particularities into account that some countries have justified creating autonomous systems for organising "their" Internet. These systems provide these States with a greater ability to block certain sites and content for political reasons, which constitutes a form of censorship that goes against the freedom of expression and universality of the Internet. More than 180 nations, which had come together at the World Summit on the Information Society, recognised the full applicability of Universal Declaration of Human Rights to the Internet, and particularly of Article 19 which establishes the freedom of expression and opinion.

Under these conditions, putting the defence of fundamental freedoms and human rights at the heart of Internet governance is one objective that French authorities can legitimately set for themselves. From a broader perspective, France can play a central role in steering all of these questions over how to organise a space where public and private interests intersect, particularly as it has a tradition of balanced regulation that combines the creation of a state of lasting competition and the pursuit of public interest objectives, which corresponds precisely to the Web's specific regulatory needs.

Strengthening the efforts that French public authorities devote to this issue is therefore fully justified, so that the Internet is not “governed” solely by English-speaking countries and players. The first step involves a better organisation of national public and private sector players’ involvement in Internet standardisation and management bodies²⁷, but also in the other entities devoted to the governance of electronic communications networks, and of the Internet in particular (notably the ITU), as well as in the research being done on the “Future Internet”. The French “presence” needs to be structured, so as to ensure a fruitful participation of public and private sector players in the inner sanctums of governance, including non-State entities.

This is a particularly pressing mission for public authorities in light of the questions being raised over the preservation of national interests and the promotion of their respective legal systems. The development of cloud computing, which involves the concentration and remote storage of data, is a significant example here. The appeal of these distributed applications systems is considerable, but a country’s massive transfer of its data outside its borders necessarily gives rise to the question of national digital sovereignty and the level of protection given to personal data.

It is in this context that we need to view the letter that data protection authorities from ten countries sent to the directors of Google, demanding that they comply with privacy protection laws, following the launch of *Buzz*, the company’s new social networking service.

Question:

No. 5) The Authority invites the players to comment on its analysis of the other dimensions of neutrality.

²⁷ e.g. IETF (“Internet Engineering Task Force”), IAB (“Internet Architecture Board”) or the W3C (“World Wide Web Consortium”).