1. Introduction

Network neutrality is a fiercely debated topic, which first emerged in the United States (hereinafter: US) and subsequently spread to the rest of the world. Compared with its prominence in the US and eastern Asian countries, such as Japan, there is so far little resonance in Europe. Only recently the discussion is picking up, more precisely in the context of the review of the 2003 Regulatory Framework for electronic communications networks and services (the 2003 Regulatory Framework). At the end of 2007 the European Commission (hereafter: the Commission) finalized its position on network neutrality with its proposal for the amendment of the 2003 Regulatory Framework.

This paper examines the major network neutrality problems under the European legal framework. The following part sets forth a brief introduction of the debate on network neutrality, focusing on the cause of the debate and significant network neutrality problems. Subsequently, we seek to identify and introduce the possible European legal responses to network neutrality problem, more specifically with regards to EC competition law, the 2003 Regulatory Framework and the Commission’s recent...
proposal on network neutrality regulation. The fourth part of this paper brings the network neutrality problems under the relevant European law to examine whether the European legal framework can sufficiently prevent network neutrality problems. After discovering that some problems in relation to network neutrality are beyond the reach of the European legal framework, the fifth part analyses whether and how we should manage those problems in Europe. Some conclusions will be given in the final part.

2. What is Network Neutrality?

Although network neutrality has been defined in many ways that emphasize different goals\(^5\), at the heart of the debate lies the question of whether or not the Internet should be open, neutral and accessible to all.\(^6\) In particular, a central component of the network neutrality debate concerns network operators\(^7\) that, based on their market power, discriminate against particular Internet content providers\(^8\) or certain types of legitimate data flow\(^9\),\(^10\).

2.1 The cause of the debate

When looking at the network neutrality debate, the first question that comes to mind is why this issue was raised only recently rather than at the beginning of the Internet. The answer to this question can be traced back to the architecture of the Internet.

The Internet’s original design is based on the so-called “end-to-end principle” as a way to maximise the efficiency and minimise the cost of the network. Based on this end-to-end principle each data flow on the Internet is transmitted with best effort. When the Internet users offer traffic load in excess of the routing and transmission capacities of the network, each data flow must be passed on a first-come-first-serve basis.\(^11\) While the Internet’s current design performs quite satisfactorily for delay-insensitive Internet applications, such as web browsing and email, it does not provide the quality of service (QoS) that is envisaged by many applications today. The end-to-end principle, as it is currently implemented, does not provide functionality that could guarantee the desired QoS for time-sensitive applications, such as Voice over Internet Protocol (VoIP), streaming video, online video gaming etc.\(^12\)

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\(^6\) See, Save the Internet, “Your Internet: Open or Closed”, 2008, available at: [http://www.savetheinternet.com/blog/2008/02/16/your-internet-open-or-closed](http://www.savetheinternet.com/blog/2008/02/16/your-internet-open-or-closed).

\(^7\) Network operators refer to operators that provide Internet access and data transmission services to their customers including Internet end-users and Internet content providers.

\(^8\) Internet content providers refer to all operators providing Internet content, applications and services.

\(^9\) Illegal data flow, violating for example human rights, copyrights, etc, is not involved in the network neutrality concern.


Since the beginning of the 1990s, engineers have started to develop new technologies relating to “traffic prioritisation” (or “traffic shaping”, “access-tiering”), in order to allow the Internet to support the required QoS. This new technology provides network operators with the ability to “prioritise” or “shape” traffic at the router level by installing software/hardware that can detect the identities of the sender/receiver of a data flow and/or its content and type. Then it allows network operators extensive flexibility in determining the way how packets and traffic send or receive on a given network. In case of congestion, network operators can transfer data with higher priority better and faster than data with lower priority. This new technology would thus guarantee the appropriate QoS.

However, while this new technology supports QoS, it also triggers concerns of discrimination, the common component of network neutrality problems. Because traffic prioritisation provides network operators with the ability to control data flows coming onto the networks as well as to distinguish types of traffic and handle them differently, it also offers them the possibility to block, degrade or prioritise the data transmission service for particular Internet content providers or certain types of data. The “technical code”, i.e. the end-to-end principle, that does not allow network operators to discriminate against their customers will be challenged by traffic prioritisation. Hence the debate on network neutrality emerged. Within this debate, network neutrality proponents express the concern that network operators could stifle innovation and competition at the edge of the network, i.e. markets for Internet contents, by determining which Internet content can be delivered or be delivered better; by contrast, the opponents consider that traffic prioritisation will create incentives for new market entry and investment for the next generation of networks.

2.2 Network neutrality problems

It is not the ambition of this paper to judge which side of the debate is correct, but rather to examine whether the problems raised by the proponents of network neutrality could be solved through the European legal framework. In order to do so, we must first identify the most significant problems articulated by network neutrality proponents. However, due to the lack of a consistent definition of network neutrality among scholars (which demonstrates both the ambiguous scope of the issues involved as well as the lack of consensus about network neutrality problems and effective solutions), this is not an easy task. In order to facilitate the subsequent analysis, we will elaborate on legislative proposals on network neutrality in the US in order to identify the major network neutrality problems.

By late 2005, network neutrality regulations were included in several US Congressional draft bills, as a part of ongoing proposals to reform the US Telecommunications Act of 1996. At the moment of this writing, there have been six attempts to legislate network neutrality in the United States. However, each of the first five attempts failed and only the last and sixth bill, i.e. the Internet Freedom and

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Preservation Act\textsuperscript{17}, is currently still under review by the relevant legislative bodies. In essence the Internet Freedom and Preservation Act seeks to prohibit the following practices:

1. network operators \textit{blocking} the ability of particular Internet content providers to use broadband services;

2. network operators \textit{degrading} the ability of particular Internet content providers to use broadband services;

3. network operators imposing restrictions with regards to attaching certain devices or as to which applications may be used on their networks; and

4. network operators providing \textit{prioritisation} only to particular Internet content providers\textsuperscript{18}.

Several conflicts that occurred both in the US and in Europe demonstrate that network neutrality is not, as some literature alleges, “a solution in search of a problem”.\textsuperscript{19} In Madison River, a US telephone company blocked the ability of its DSL customers to use VoIP services.\textsuperscript{20} In another case Comcast Corporation, a US network operator, was sued for preventing bittorrent users from seeding files.\textsuperscript{21} In Europe, some network operators were reported to block VoIP and peer-to-peer systems.\textsuperscript{22} Similarly, the removal by some UK mobile operators of VoIP functionality from Nokia N95 handsets last year, triggered concern.\textsuperscript{23} Prioritisation, which implies a higher level of traffic shaping than blockage or degradation\textsuperscript{24}, has not yet been fully installed by network operators. Nevertheless, PlusNet, a UK-based network operator, has already started selling prioritisation services for different types of Internet applications.\textsuperscript{25} Last but not the least, several network operators have expressed their intentions to discriminate against Internet content providers.\textsuperscript{26}

3. Possible European Responses to Network Neutrality

\textsuperscript{17} The full text of Internet Freedom and Preservation Act is available at: \url{http://www.publicknowledge.org/pdf/s215-110-20070109.pdf}.

\textsuperscript{18} The Internet Freedom and Preservation Act requires that prioritisation should be provided free of charge. However, there is no consensus among network neutrality proponents that prioritisation should be provided free of charge. In this paper the issue whether prioritisation should be provided free of charge or not keeps open here.


\textsuperscript{24} Technically speaking, it is more difficult to prioritise a particular data flow than to delay or to block it. See, OECD (2007), \textit{supra} note 12.

\textsuperscript{25} The details of prioritised services provided by PlusNet are available at: \url{http://www.plus.net/support/broadband/quality_broadband/traffic_prioritisation.shtml}.

\textsuperscript{26} See, Save the Internet, "What they've got planned", available at: \url{http://www.savetheinternet.com/=threat/#abuse}.
The network neutrality problems highlighted above indicate that the core of the network neutrality debate circles around discrimination, in particular discrimination of network operators against Internet content providers and individual Internet users. We identify two fields within the current European legal framework which might be apt to deal with this discrimination. On the one hand there is sector-specific regulation such as the 2003 Regulatory Framework, and on the other hand there is relevant industry-wide regulation, in particular EC competition law. The last section of this part will present an introduction to the Commission’s recent proposals on network neutrality.

3.1 Sector-specific regulation: the 2003 Regulatory Framework

The 2003 Regulatory Framework was adopted in 2002 and came into force in 2003. With regard to the restrictions on market behaviours of broadband network operators, this framework provides in general three mechanisms for regulators.

The first mechanism, also the most important, is the so-called significant market power (SMP) regime. According to this regime, in order to regulate network operators, the National Regulatory Authorities (NRAs) must first define relevant markets for the particular electronic communications networks or services. After defining a relevant market, NRAs must conduct a market analysis to find out whether there are one or more undertakings which enjoy(s) SMP, which is equivalent to the notion of “dominance” under Article 82 of the EC Treaty, on the market so defined. In case that no undertaking is found to have SMP there should be no regulation at all on that market. If the NRA concludes that there is in fact SMP, it must impose obligations only on those undertaking(s) having SMP. The possible obligations that can be imposed on SMP undertakings include transparency, non-discrimination, accounting separation, imperative access and price control. It should be noted that within the Commission’s proposals for amending the Access Directive, NRAs could also impose a new obligation of functional separation.

Under the second mechanism NRAs can regulate network operators regardless of the existence of SMP in predefined circumstances. According to Article 5 of Access Directive, NRAs are able to impose (a) to the extent that is necessary to ensure end-to-end connectivity, obligations on undertakings that control access to end-users, including in justified cases the obligation to interconnect their networks where this is not already the case and (b) to the extent that is necessary to ensure accessibility for end-users to digital radio and television broadcasting services specified by the

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Member State, obligations on operators to provide access to the other facilities on fair, reasonable and non-discriminatory terms.

The third mechanism concerns the so-called “universal service obligations” that require certain types of electronic communications services to be available for all end-users. For the time being, broadband Internet service is not included in the list of European universal service obligations. Therefore, the current Universal Service Directive is of little help in resolving problems related to network neutrality.

Before starting our analysis, it is important to underline that not all services delivered through the Internet fall within the scope of application of the 2003 Regulatory Framework. Besides electronic communications networks, the 2003 Regulatory Framework covers “electronic communications services” that are defined by Art. 2 (c) of the Framework Directive as:

“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”.

Hence, such services do not include “services providing, or exercising editorial control over, content”, nor “information society services”. However, network neutrality potentially concerns all the data flows transmitted over the Internet, including flows generated by content providers. Therefore, the 2003 Regulatory Framework will not be able to govern all the network neutrality problems, in particular those related to “services providing, or exercising editorial control over, content” and “information society services”.

3.2 EC competition law

Discriminatory behaviour of network operators, distorting competition with and amongst Internet content providers, may trigger the application of EC antitrust law, which consists of two basic rules.

The most relevant rule for our analysis can be found in Article 82 EC Treaty and prohibits the abuse of dominant positions. This provision imposes a special responsibility on dominant undertakings so that they are not allowed to impair genuine undistorted competition by - for example - predatory pricing, tying, limiting production or applying dissimilar conditions to equivalent transactions. As far as discrimination is concerned, Article 82 EC Treaty in general does not permit network operators that are in a dominant position to discriminate in an anti-competitive manner without objective justifications among Internet content providers in similar circumstances.

Article 81 EC Treaty targets distortions of competition which result from agreements or similar practices (collusion) either between undertakings at the same level of the production chain (horizontally), or between undertakings at different levels of the production chain (vertically). It prohibits “agreements”, “decisions” and “concerted practices” between undertakings which have as their object or effect the prevention, restriction, or distortion of competition within the common market. Examples of ‘hardcore’ restrictions prohibited by Article 81 EC Treaty include price fixing, limiting output and market allocation.\(^{32}\)

3.3 The Commission’s proposals on network neutrality

At the end of 2007, the Commission articulated its position on network neutrality within its proposals to amend the Universal Service Directive. Considering that these proposals might very well lead to the next generation of the Regulatory Framework, this paper will present a brief introduction of the Commission’s position.\(^{33}\) In brief, the Commission considers that the existing rules in EC law can sufficiently deal with network neutrality problems except the problems in relation to degradation.\(^{34}\) In order to tackle those problems relating to degradation the Commission proposes two amendments to the Universal Service Directive that should both contribute to keeping the Internet neutral:\(^{35}\)

(1) Member States can impose on network operators a new obligation of transparency, which requires that customers should be clearly informed in advance of the conclusion of a contract and regularly thereafter of any limitations imposed by the provider on their ability to access or distribute lawful content or run any lawful applications and services of their choices (Article 20.5);

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\(^{32}\) Some scholars believe that Article 81 EC Treaty is of little or no relevance in the debate on network neutrality, as problems are only likely to arise with regard to dominant network operators (whose behaviour can be constrained by Article 82). Non-dominant operators, they believe, will not engage in discriminatory behaviour thanks to the competition pressure from larger network operators. However, it may raise concerns from a network neutrality perspective when network operators without market power refuse to supply prioritisation to some Internet content providers because they have entered into exclusive supply contracts with others. In those cases Article 81 EC Treaty may be used to scrutinise such exclusive agreements.

\(^{33}\) The Commission’s proposal is now being reviewed by the European Parliament and the European Council and it currently has no binding effect.


(2) the Commission may adopt technical implementing measures concerning *minimum quality of service* requirements to be set by the national regulatory authority on network operators in order to prevent degradation of service and slowing traffic over networks (Article 22.3).

4. Examining Network Neutrality Problems in Light of European Responses

This part examines whether the sector-specific rules on the one hand and competition rules on the other hand can sufficiently deal with the four aforementioned network neutrality problems. We will start by analysing the current Regulatory Framework, then examine competition rules and finally take a closer look at the Commission proposals.

4.1 The 2003 Regulatory Framework

In order to impose any obligation on network operators, regulatory authorities must in first instance define relevant market(s). Furthermore, in order to define a relevant market, NRAs have to take utmost account of the Commission’s recommendation on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation (hereafter: the Recommendation). Within this Recommendation the Commission lists 7 relevant markets that should be subject to *ex ante* regulation unless SMP is not found to exist at a later stage. Consequently, we must first analyze whether the relevant market for network neutrality problems are included in the list of the 7 recommended markets.

It should be noted that it is not the common practice in the Internet industry that Internet content providers build their own networks to provide services to end-users. Usually network operators act as intermediaries, taking care of broadband access and data transmission between Internet content providers and end-users. Consequently, in order for Internet content providers to offer services to end-users, they need to make their own arrangements with network operators regarding services of broadband access and data transmission. Furthermore, if the Internet content providers and the end-users are not within the same broadband network, wholesale broadband transit service between different network operators is also necessary. Moreover, since

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38 Google built a wireless broadband network in San Francisco in 2003. Network neutrality opponents consider that this is evidence that discrimination of network operators can incentivise Internet content providers entering markets for Internet infrastructures, thereby promoting consumer welfares. However, Google clearly announced that it had no intention to enter infrastructure market.

39 Some network neutrality proponents consider launching the new technology of traffic prioritisation will generate segmented standards among different networks and thus problems of interconnection. However, the interconnection problems on markets for broadband transit can be dealt with under
network operators and Internet content providers operate at different levels of the service chain, the markets for the deal between network operators and their customers, i.e. Internet content providers and end-users, are in general retail markets. Consequently, there are four groups of parties and two types of markets involved in the entire transaction, as described by the following Figure 1.

**Figure 1: Relevant markets related to network neutrality**

The major network neutrality problems concern the discrimination by network operators against Internet content providers and end-users. In other words, only retail broadband markets are relevant for that type of network neutrality problems. However, the retail broadband market is not within the 7 recommended markets. Even within the earlier edition of the Commission’s recommendation on relevant markets (where the Commission gives a list of 18 recommended markets), there was no mention of the retail broadband market. One might argue that according to the Commission’s Recommendation the NRAs are still entitled to define relevant markets beyond those listed in the Recommendation. Nevertheless, there are practical difficulties to include retail broadband markets into *ex ante* regulation. Reasons are twofold. First, the Commission imposes a very high burden of proof on NRAs to define new relevant markets other than those included in the Recommendation, as evidenced by the fact that there are very few additional relevant markets defined by NRAs. Secondly, in practice no retail broadband markets were ever defined by NRAs according to the Commission decisions under Article 7 of framework directive. In addition,

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Article 5 of access directive which is dedicated to promoting access and interconnection between networks regardless of existence of SMP.


41 See, the Recommendation, *supra* note 37.

42 The overview of all those decisions is available at: [http://circa.europa.eu/Public/irc/infsoc/ectf/library/?l=overview_comission&vm=detailed&sb=Date_d](http://circa.europa.eu/Public/irc/infsoc/ectf/library/?l=overview_comission&vm=detailed&sb=Date_d).
according to the recent *Wanadoo* case⁴³, market activities in retail broadband market are rather subject to EC Competition law.

To conclude, since the retail broadband market is not subject to ex ante regulation, the 2003 Regulatory Framework does not actually govern the majority of network neutrality problems. Subsequently we will analyse the applicability of the general competition rules to network neutrality problems.

### 4.2 EC competition law

#### 4.2.1 Blockage

Blockage refers to the case where network operators refuse to carry data from particular Internet content providers on their networks. Blockage should not be an issue unless the blocked Internet content providers cannot switch to other network operators either because there are no alternative network operators or because switching cost are preventive.⁴⁴ Where there are no sufficient alternative network operators or preventive switching costs existing on the relevant market, it also means that the network operators that block Internet content providers have dominant positions.

Putting it into the EC competition law terms, blockage is within the category of “refusals to supply or deal”. Refusals to supply or deal are “exclusionary” abuses, in that the dominant undertaking’s behaviours denies the other party the tools it needs to compete on the market. Nevertheless, Article 82 of the EC Treaty does not impose a general obligation on dominant undertakings to serve all possible customers. Only in exceptional circumstances are dominant undertakings obliged to serve all possible customers. This principle has been developed in case law, and is referred to as the “essential facilities doctrine”. Although the definition of an “essential facility” is fraught with difficulty, the central idea is that it is something owned or controlled by a dominant undertaking which other undertakings need to access in order to provide products or services to customers.⁴⁵ In *Bronner* case⁴⁶, the European Court of Justice (hereinafter: ECJ) specified the conditions for applying the “essential facilities doctrine”, which are (1) “the company must be dominant in the supply of the product or services in question; (2) for access to be ordered, the refusal to contract must be likely to eliminate all competition on the part of the company requesting it; (3) access must be indispensable, i.e. there is only one source of the product or service and there is no actual or potential substitute; (4) the refusal must be incapable of being objectively justified”.⁴⁷

As we mentioned earlier, blockage problems will only arise if no alternative network operators exist or in case of restrictive switching costs. Therefore, under this scenario

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the first and third conditions are automatically fulfilled. As far as the second condition is concerned, it is commonsense that without Internet access provided by at least one network operator, it is impossible for any Internet content provider to provide services to end-users. Therefore, a simple blockage in this scenario makes it impossible for the blocked Internet content providers to exercise any competition on the relevant markets. Hence the second condition is also satisfied. Seeing as the first three conditions are met, the blocking network operators must bear the burden of proof of demonstrating that the refusal can be justified objectively, the fourth condition. This is however a very heavy burden. Consequently, the victims of blockage have a real chance to see the blockage lifted on the basis of the essential facility doctrine.

4.2.2 Degradation

Degradation in the context of the network neutrality debate refers to the situation where network operators intentionally delay data flows from particular Internet content providers. Again degradation can hardly be sustained in effectively competitive markets; otherwise degraded Internet content providers will simply switch to other network operators. Nevertheless, two scenarios can be imagined where network operators may wish to degrade data transmission services for certain customers. First, network operators with market power might aim at leveraging their market powers onto the Internet content markets and accordingly wish to disfavour unaffiliated Internet content providers by degrading the latter’s data transmission capabilities. Secondly, in order to launch the new technology of prioritisation, network operators, instead of building new infrastructure, reconstruct their current infrastructures without increasing the capacity of their networks. In this case prioritising some customers necessarily implies a general degradation of other non-prioritised customers.

The first scenario is an easy case for Article 82 of the EC Treaty that prohibits dominant undertakings “applying dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage”. In this scenario, network operators degrade services of unaffiliated Internet content providers in order to favour affiliated ones. Consequently, as long as degraded Internet content providers can prove the transactions concerned are “equivalent”, not necessarily “identical”, they can resume similar treatment of data transmission services as affiliated Internet content providers based on Article 82 of the EC Treaty.

The second scenario is more complicated. In this scenario network operators degrade all the non-prioritised data transmission services in order to provide prioritisation based on their current infrastructure. It should be noted that Article 82 of the EC Treaty only prohibits discrimination taking place in the same relevant markets. Dissimilar treatments among different relevant markets are not subject to Article 82 of

the EC Treaty. Therefore, in order to demonstrate that they were discriminated, degraded Internet content providers must prove that there is at least one Internet content provider on the same relevant market that is treated more favourably. However, it is unsure whether in this scenario the non-prioritised services and the prioritised services are within the same relevant market. Considering the different characteristics of non-prioritised and prioritised services⁵², they are probably not on the same relevant market. Supposing they are not within the same relevant market, there is in fact no discrimination against non-prioritised Internet content providers because on the non-prioritised market all Internet content providers are degraded. Therefore, although Article 82 of the EC Treaty can prohibit the discriminatory degradation in the first scenario, it is inept to deal with the general degradation in the second scenario.

Considering a general degradation is the case of limiting output, one may further argue that the second scenario is possibly governed by another part of Article 82 of the EC Treaty that in particular prohibits limiting production to the prejudice of customers. However, “there is as yet little case law on abuse of a dominant position by restricting output.”⁵³ It is not certain that degraded non-prioritised customers can reclaim their previous data transmission services based on this provision. Therefore, Article 82 of the EC Treaty may be not a good means to deal with the general degradation in the second scenario.

4.2.3 Restrictions on attached devices or applications

Network operators might restrict their customer’s ability to attach certain devices, e.g. gaming consoles, Internet phones and Wi-Fi routers, or from running specific Internet applications, such as peer-to-peer file sharing networks and VoIP software for purposes of capacity management. They might abuse this right by simply blocking users without justifications.⁵⁴ Therefore, network neutrality proponents propose to limit the ability of network operators to set up restrictions on attached devices or applications. However, there are no special rules within EC competition law that can achieve this purpose. Network operators are not forbidden from initiating restrictions on the services they provide to customers.

4.2.4 Prioritisation

Prioritisation means that network operators provide guaranteed data transmission services to customers so that in case of congestion prioritised data flow can still be delivered regardless of congestion. The main issue, at least from a competition perspective, emerges when network operators after installing prioritisation reserve the prioritised services only to a limited number of customers.⁵⁵ This may for instance

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⁵² Since delay-sensitive Internet applications have more urgent demands for QoS than delay-insensitive ones, non-prioritised services that do not support QoS may have different groups of customers from prioritised services that guarantee QoS. Therefore, from the view of demand side those two services are not on the same relevant service market.


⁵⁴ This section does not cover cases where network operators, in order to discriminate among Internet content providers, prevent end-users from attaching certain devices or certain applications operated by those Internet content providers; these cases are discussed in the previous section of “Blockage”.

occur when network operators agree to exclusive supply contracts regarding prioritisation with favoured Internet content providers. In the following, two scenarios will be analysed: first, whether dominant network operators may legitimately refuse the provision of prioritisation under Article 82 of the EC Treaty; second, whether the exclusive supply contracts between network operators without market power and Internet content providers are compatible with Article 81 of the EC Treaty.

4.2.4.1 Refusal to supply access by dominant undertakings

It should be emphasized once more that the European courts never took the position that all dominant undertakings have an absolute duty to supply their services to all those who request them. Only in exceptional circumstances is there an obligation on dominant undertakings to do so, i.e. under the “essential facility doctrine”. The problem concerning prioritisation is also a case of refusal to supply in the sense that network operators deny some of their customer to access to prioritised services. Nevertheless, it is different from the problem of blockage analysed in the previous section. Blockage concerns the ability to access the Internet as such: without which it is impossible to provide services through the Internet. In the case of denying prioritisation however, what is at stake is the ability to have access to prioritised services. Without such prioritised services Internet content providers can still provide services through the Internet, however they may be considerably disadvantaged when doing so. Departing from these considerations, we will now proceed to analyse whether the essential facility doctrine can apply to this case.

The second condition of the “essential facilities doctrine” provides that, in order to qualify a facility as essential, the refusal to supply must be likely to eliminate all competition on the part of the company requesting it. The ECJ takes a very restrictive approach when evaluating whether a refusal to supply “eliminates all competition”. For instance, in the Bronner case, one of the reasons that the ECJ rejected the applicant’s request to access to the newspaper home-delivery scheme of the dominant undertaking at issue was that “other methods of distributing daily newspaper, such as by post and through sale in shops and at kiosks, even though they may be less advantageous for the distribution of certain newspaper, exist and are used by the publisher of those daily newspaper”.56 Coming back to our case of denial of access to prioritisation, the same argument may also apply in the sense that there are also other methods, i.e. non-prioritised data transmission services, available for unaffiliated Internet content providers, even though they may be at some disadvantage. Consequently, the second condition of the “essential facilities doctrine” is not met and hence it does not apply to the case of denial of access to prioritisation.

In sum, according to the EC competition law regime, dominant network operators may legitimately grant access to prioritised data transmission services to their favoured Internet content providers.

4.2.4.2 Exclusive supply agreements

Another issue related to prioritisation is whether the exclusive supply contracts about prioritised services between network operators without market power and Internet content providers are compatible with Article 81 of the EC Treaty.

56 See, Case Bronner, para 43, supra note 46.
We will start by analysing whether this exclusive supply of prioritisation can get “block exemption” under Article 81(3) of the EC Treaty. Since network operators and Internet content providers are at different levels of the service chain to realise Internet services for end-users, the agreements concluded between them are vertical, rather than horizontal. The applicable rule to “block exemption” of vertical agreements is Commission Regulation No. 2790/1999[^57] (hereafter: the Regulation). According to Article 1(c) of the Regulation, an exclusive supply obligation means “any direct or indirect obligation causing the supplier to see the goods or services specified in the agreement only to one buyer inside the Community for the purpose of a specific use or for resale”, which covers the exclusive supply contracts of prioritisation. Exclusive supply agreements can be exempted on the condition that the market share held by the buyer does not exceed 30% of the relevant market on which it purchases the prioritised service.[^58] Applying to this case, block exemption can be obtained provided Internet content providers that purchase the prioritisation do not hold market shares of more than 30% on the relevant markets for Internet contents they provide to customers. Last but not the least, although in principle the block exemption applies without time limitation, if the buyer is expressly subject to a non-compete clause, the non-compete obligation must not exceed five years.[^59] To conclude, the exclusive supply contract with the duration of less than five year with Internet content providers of which the market share is less than 30% can be exempted.

In second instance the exclusive supply agreement beyond the scope of block exemption of the Regulation must be examined under Article 81(1) of the EC Treaty. In principle the EC competition law takes a milder attitude towards vertical restrictions. In the Delimitis case[^60], the ECJ stated that in determining the effect of exclusive supply agreements it is first necessary to define the relevant market and then ascertain whether there is a concrete possibility for new competitors to entry that market. If analysis shows that there is no denial of access to the market, the agreement concerned cannot be found to restrict competition. Considering that the network operators have small market shares in this scenario, the exclusive supply agreements can hardly be said to foreclose market entry because of inter-brand competition among different network operators. Furthermore, exclusive supply agreements may give alternative network operator at issue incentive to roll out new infrastructures[^61], which is an important policy objective of the electronic communications regulation. Consequently, those exclusive supply agreements are very likely to be compatible with Article 81(1) of the EC Treaty.

In conclusion, Article 81 of the EC Treaty generally does not prohibit network operators from concluding agreements of exclusive supply of prioritised data transmission services with particular Internet content providers.

### 4.2.5 Interim conclusions on the applicability of competition rules

[^58]: Ibid, Article 3(2).
[^59]: Ibid, Article 5.
EC competition law is sufficient to deal with two network neutrality problems, namely the situations (1) where network operators block particular Internet content providers from accessing the Internet as a whole and (2) where network operators intentionally degrade unaffiliated Internet content providers.

Nevertheless, EC competition law may be not adequate to deal with the following hypotheses (1) network operators degrading all the non-prioritised service in order to launch prioritised services; (2) network operators setting up unjustified restrictions on end-users attaching some devices or running some applications; and (3) network operators refusing unaffiliated Internet content providers to access prioritised services. The following section examines whether the Commission proposals to amend the 2003 Regulatory Framework could remedy the residual problems that cannot be dealt with under existing EC regulation and competition law.

4.3 The Commission proposals

4.3.1 General/systematic Degradation

In its Impact Assessment, the Commission notes that the current regulatory framework does not provide the tools to solve the problem of general degradation (i.e. when network operators reserve systematically degrade the entire non-prioritised data transmission services, in order to promote / enlarge the scope of their prioritised data transmission services); “the problem also remains that the current Regulatory Framework does not provide NRAs with the means to intervene were the quality of service for transmission in an IP-based communications environment to be degraded to unacceptably low levels, thereby frustrating the delivery of services from third parties” .62 In order to tackle this problem the Commission proposes to amend Article 22 of the Universal Service Directive so that the Commission and NRA’s would have the power to set minimum quality levels for network transmission services for end-users that could be imposed on undertaking providing public communications networks. If this provision would be adopted, network operators would be forbidden from systematically degrading non-prioritised data transmission services to unacceptably low levels.

4.3.2 Restrictions on attached devices or applications

Another remaining problem that in our view cannot be tackled under existing rules, is that network operators may set up unjustified restrictions on attached devices or applications on their networks to the detriment of their customers. This is also observed by the Commission. A solution is envisaged within the proposal for amending Article 20, al. 5, of the Universal Service Directive that imposes on network operators “obligations of transparency” to inform their customers of limitations to access or distribute lawful content or run any lawful applications and services of their choice. Increasing transparency is considered to be a good safeguard to ensure that network operators do not distort competition and to ensure that broadband markets remain or become competitive.63

4.3.3 Prioritisation

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62 See, Impact Assessment, pp 92, supra note 35.
Denial of access to prioritisation services is difficult, if not impossible, to catch under existing EC rules (both sector regulation and competition law). Moreover, the Commission’s legislative proposals do not change this situation. On the one hand, broadband internet access is still not proposed to be included in the universal service package— the Commission’s proposal of November 2007 being limited to clarifying that the connection at a fixed location (which should be guaranteed as part of the universal service obligations) “shall be capable of supporting voice facsimile and data communications, at data rates that are sufficient to permit functional Internet access, taking into account prevailing technologies used by the majority of subscribers and technological feasibility” (Art. 4, al. 2) – but even if broadband internet access would become part of USO, it is unlikely that prioritised data transmission services would be considered a functionality linked to it (as it is unlikely to be considered a prevailing technology used by the majority of subscribers in the short term). On the other hand, in the light of the content/network divide underpinning the regulatory framework for electronic communications, it remains unclear NRAs can impose, at the request of Internet content providers or end-users, access obligations in relation to prioritisation services either based on the SMP regime or on Article 5 of the Access Directive. Hence, the problems concerning prioritisation largely remain. The following paragraphs therefore suggest some ideas about whether and how to regulate prioritisation.

5. How to Deal with Prioritisation

5.1 The Commission’s position

Prioritisation is a double-edged sword in the sense that it can be used to improve QoS on the network whereas it can also be potentially employed in an anti-competitive manner to block or disadvantage competing services. Despite this, the Commission reads prioritisation more under the economic term of product differentiation and concludes that it “is generally considered to be beneficial for the market (particularly in industries with large fixed and sunk costs) so long as users have choice to access the transmission capacities and the services they want.” Moreover, the Commission also thinks that “[a]llowing broadband operators to differentiate their products may make market entry of Internet content providers more likely, thereby leading to a less concentrated industry structure and more consumer choice.”

Can EC law ensure “users have choice to access the transmission capacities and service they want”? The Commission’s logic for its positive answer is bifurcated. The Commission considers that on the one hand, the current EC law can prevent network operators who are in a dominant position from discriminating in an anti-competitive manner against their customers in similar circumstances. On the other

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65 Mentioned supra, footnote 39. Note that no significant amendments are proposed by the Commission to this Article 5 Access Directive.
66 See, Impact Assessment, pp 91, supra note 35.
67 Ibid.
hand, as long as genuine competition exists on the relevant market, if a network operator denies an Internet content provider to access prioritisation, the affected consumer can in principle switch to alternative network operators. Furthermore, even if a certain relevant market for broadband is not competitive, alternative network operators can enter that market pursuant to \textit{ex ante} access obligations imposed on the dominant operator and then provide broadband services to the affected Internet content providers. Subsequently, the Commission concludes that \textit{“[f]he competitive market together with the current provisions on access and interconnection, should therefore be sufficient to protect ‘net freedoms’ and to offer suitably open environment for both European consumers and service providers”}.\textsuperscript{69}

5.2 Analysis of the Commission’s position

Although it is hard to assess the welfare effects of prioritisation\textsuperscript{70}, we tend to agree with the Commission about its conclusion on the technical benefits of prioritisation. According to a report from NGNI (Next Generation Network Initiative, a project sponsored by the Commission), prioritisation is considered as the best way to meet the demand of QoS.\textsuperscript{71} The current Internet data transmission, which is based on the “end-to-end” principle, does not support QoS. Nevertheless, delay-sensitive Internet contents that fear being disturbed by non-guaranteed data transmission services, such as VoIP, streaming video and so on, call for guaranteed data transmission, i.e. QoS. Besides prioritisation, there is an alternative way to satisfy the demand of QoS. This approach is that network operators always over-provide the capacity of their networks so that all Internet content can be transmitted without experiencing delay. An obvious advantage of this approach is that it does not affect the “end-to-end” principle. At a first glance this idea looks attractive by the reason of the decreasing costs of physical facilities of the broadband infrastructure, especially at the backbone level. However, there are still two difficulties with this strategy. First, congestion of data transmission may not always arise from limited capacity. It may also come from the chokepoints somewhere among networks, which is very unpredictable and not necessarily related to capacity.\textsuperscript{72} Second, capacity at the “local loop”, or the “last mile”, is generally limited and increasing capacity at local level is much more expensive than at the backbone level. Consequently, a more feasible solution (at least in the short term) to QoS is prioritisation.

However, we cannot completely assent to the Commission’s legal analysis of the problems concerning prioritisation. First, according to our analysis, EC competition law cannot in all circumstances prevent network operators from offering prioritised data transmission services exclusively to their favoured Internet content providers. Neither can the 2003 Regulatory Framework be a direct legal basis for Internet content providers to demand access. Therefore, we do not agree with the Commission’s conclusion that the current EC rules can prevent network operators from discriminating with regard to prioritisation.

\textsuperscript{69} \textit{Ibid}, p 92.
\textsuperscript{70} As was already noted by Chirico et al., existing economic literature shows no consensus on the issue; F. Chirico, I. v. d. Haar and P. Larouche, "Network Neutrality in the EU" (2007) TILEC Discussion Paper No. 2007-030, p 50, available at: \url{http://ssrn.com/abstract=1018326}.
Second, although genuine competition can make markets self-functioning, two problems remain with the Commission’s analysis. On the one hand, the Commission believes that genuine competition should be sufficient to deal with any market failure with regard to prioritisation. However, there may be the case where all network operators, in order to maximize benefits, make their prioritisation exclusive only to favoured Internet content providers. Supposing this becomes true, there must always be some Internet content providers that cannot switch to another network operator. It should be noted that in this case there are no legal instruments at the disposal of European or national authorities to force those network operators to deliver prioritised services to refused Internet content providers.

On the other hand, the Commission says that in non-competitive markets Internet content providers whose requests to access prioritisation are denied by network operators can ask alternative network operators to provide prioritisation based on access obligations. Nevertheless, the problem remaining is how soon other alternative network operators can actually act, thereby meeting the demand of affected Internet content providers. In case of high switching costs for the affected Internet content providers or high entry barriers for potential alternative network operators at stake, affected Internet content providers still have to bear the risk of not having access to prioritisation services, at least, for some time. Therefore, this “indirect” solution is not satisfactory in the short run.

5.3 Ideas on prioritisation regulation

Within the intense debate on network neutrality, the proponents and the opponents of prioritisation or access-tiering provide arguments of almost equal weight. It is rather difficult to take a position in favour of or against network neutrality solely based on those scholarships. Furthermore, prioritisation, being a promising emerging technology for supporting QoS, has not yet been fully exploited by industries (only one network operator launched prioritisation in Europe; supra); besides, our remarks to the Commission’s analysis are only based on hypothetical circumstances (there are so far no cases arising from prioritisation in reality). Hence, it still remains to be seen whether prioritisation is harmful or beneficial to the society in the end. In that regard it is suggested to take a prudent approach on prioritisation regulation. On the other hand, we consider that taking an entirely hands-off approach may be quite risky since prioritisation may possibly affect the competition among Internet content providers. Consequently, it is better to impose only “minimum” regulation on prioritisation while allowing it to develop under the rules of the market.

In order to achieve such minimum regulation, we mainly propose an obligation for transparency in relation to prioritisation, requiring network operators to make public specified information, such as accounting information, technical specifications, network characteristics, terms and conditions for supply and use, and prices. Our concerns are twofold. First, in practice it is difficult for an average end-user, sometimes even for real technicians, to discover whether a faster / slower data

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73 According to the Commission’s Recommendation on relevant markets, markets for local loop unbundling and broadband access are still characterised by high entry barriers and lack of dynamic competition; and therefore they should continue to be subject to ex ante regulation. See, the Recommendation, pp 33-34, supra note 37.

transmission comes from spare / scarce capacity of the networks or is the result of prioritisation. Hence, transparency concerning technical information of the prioritised data transmission services provided by network operators is important to detect anti-competitive behaviour. Second, the price of prioritisation is also a sensitive issue. It would be detrimental for society as a whole if allowing network operators to price customers differently for access, if this would lead to a new form of digital divide (in this case referring to the information gap between people with prioritisation and ones without it).\(^75\) As it is too soon to predict whether such a scenario could materialise, it would be disproportionate to impose price regulation on network operators at this stage, or even prohibit prioritisation at all. Requiring network operators to publish their tariffs in relation to prioritisation may be a first legitimate step, however. This could be done by explicitly extending the scope of transparency obligations under Article 21 of the Universal Service Directive, i.e. “transparency and publication of information”, to the area of prioritised data transmission services. This would allow regulatory authorities and the public to keep eyes on the development of prioritisation, and to collect more pertinent information in order to acquire an in-depth view on prioritisation. When more and more network operators start offering prioritisation in the future, the Commission should, together with the NRAs, make an impact assessment on prioritisation and decide whether more stringent regulation is appropriate and/or required.

6. Conclusions

The new technology of prioritisation, though not completely exploited by network operators, has the potential to challenge the long-standing technical principle of the Internet, i.e. the end-to-end principle, which is considered as the accelerator of the robust growth of the Internet at its edge for decades. While having technical advantages to support QoS, this new technology can possibly allow network operators to discriminate against Internet content providers. In order to prevent possible abuse of this new technology to the detriment of consumers, scholars initiated the public debate on maintaining “the Internet” neutral.

In this paper we have examined the applicability of the current EC communications regulatory framework and EC competition rules to the most common forms of anti-competitive behaviour in relation to net neutrality. We have also looked at the Commission’s proposals for amending the 2003 regulatory framework, which were published on November, 13, 2007. Our conclusion was that (1) it is difficult, if not impossible, to tackle the studied problems under the 2003 regulatory framework, first because the retail broadband market is not listed as a market susceptible to \textit{ex ante} regulation and second, because the electronic communications regulation in principle only deals with transmission issues and not with the relation between network operators and content providers; (2) also the EC competition rules are only able to resolve part of the network neutrality problems, including blockage, degradation (in some circumstances) and restrictions on devices or applications; (3) the remaining problems will not even be fully resolved under the modified regulatory framework for electronic communications when taking into account the limited scope of the Commission’s proposals in the area of net neutrality. Network operators will be able

to offer prioritised services to their favoured Internet content providers and to deny the requests of access by others, without breaching any European rule.

We have therefore suggested to explicitly extent the transparency obligation in Article 21 Universal Service Obligation to prioritisation services. Considering that prioritisation is only an emerging technology and that no severe problems have arisen from it so far, such ‘minimum regulation’ is appropriate for the time being. However, we suggest that both the Commission and NRAs follow the evolutions closely and resume the discussion on prioritisation when the technology/service has taken up.

References:

