

Questionnaire for the Public Consultation on the Open Internet and Net Neutrality in Europe

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September 30, 2010

Question 1: *Is there currently a problem of net neutrality and the openness of the internet in Europe? If so, illustrate with concrete examples. Where are the bottlenecks, if any? Is the problem such that it cannot be solved by the existing degree of competition in fixed and mobile access markets?*

Nowadays, internet telephony and video streaming are competitive alternatives for ordinary telephony and television. The ordinary systems are more reliable¹, but also more expensive than their internet counterparts.

Internet service providers, which nowadays are often also telephony and television providers, would like to provide telephony and television with the high reliability of the ordinary system, but at the same cost as its internet counterpart. A proposed solution is tiered internet, which is not possible with net neutrality, as the internet service providers have to decide what services can be accessed at what tier.

Instead of creating a tiered internet, internet service providers can also implement the already existing and more innovative solutions for this problem, like:

- Differentiated Services, which is part of the Internet Protocol;
- the Resource ReSerVation Protocol (RSVP)², which specifies a mechanism that can be used to request a specific Quality of Service.

The most important difference with tiered internet is that with these technologies the user decides what services are important, instead of the internet service provider.

Example 1 (High bandwidth versus high reliability). *Consider a scientist who is downloading a large dataset. As he is thinking how he is going to analyze it, some questions pop up. So he makes a phone call to his overseas colleague using his internet connection. As the scientist prefers a good telephone connection above a faster download, he asks³ the internet service provider and other intermediate links to prefer his telephone connection using one of the already available protocols.⁴*

Even though these protocols exist since 1997, not all internet service providers have implemented them. Hence internet service providers can use this for competition. If the scientist in the previous example downloads large datasets and makes phone calls on a daily basis, he would prefer to use an internet service provider that does implement these protocols.

*I am answering the questions from the questionnaire as a student who is concerned about the future of the internet and do not represent any organisation.

¹For telephony, this might no longer be true, as I experience that internet tends to be more reliable than telephony.

²See <http://tools.ietf.org/html/rfc4495>.

³It is actually the application he uses that asks.

⁴Downloading uses the transmission control protocol (TCP), which automatically reduces the bandwidth when congestion is detected. So this is not a good example. However it still holds for high bandwidth services that do not use TCP.

Another reason why tiered internet is preferred is that it allows internet service providers to enter contracts with companies providing services and thereby creating a larger income. This allows the internet service providers to reduce their subscription fees. This might seem profitable for the user, however these contracts create a vendor lock-in and artificial scarcity.⁵ These contracts will not lead to effective competition and innovation.

Example 2 (Creating a vendor lock-in). *If service X is used by most internet users, then internet service provider Y can enter a contract with the provider of service X for the exclusive rights to distribute this service. As the users of service X do not have any alternative, they are forced to use internet service provider Y.*

Example 3 (Creating artificial scarcity). *If the provider of service X does not want any competition, he can enter a contract with the internet service providers which grants it the exclusive right to provide service X to the subscribers of these internet service providers at the quality of service required by service X.*

From a users point of view, the disadvantages of tiered internet clearly outweighs the benefits. The benefits can already be obtained by implementing the already existing and more innovative protocols. However, with innovation comes risk. On the other hand, without risk there is no need for innovation.

Question 4: *To what extent is traffic management necessary from an operators' point of view? How is it carried out in practice? What technologies are used to carry out such traffic management?* The most common protocol used for communication on the internet, the transfer control protocol, automatically reduces the bandwidth it uses, when it detects traffic congestion. This is technology follows the end-to-end principle.

Question 5: *To what extent will net neutrality concerns be allayed by the provision of transparent information to end users, which distinguishes between managed services on the one hand and services offering access to the public internet on a 'best efforts' basis, on the other?* As transparency does not prevent vendor lock-ins and artificial scarcity, these concerns remain and are not allayed in any way.

Question 6: *Should the principles governing traffic management be the same for fixed and mobile networks?* Mobile networks should also follow the end-to-end principle. Users pay for the connection, not for how they use it. Since the provider's cost for providing this connection does not depend on the data transferred, there is no reason why the provider should discriminate based on that data.⁶ Payed telephone numbers are no different, except that the network provider now also acts as a mediator.

Question 7: *What other forms of prioritisation are taking place? Do content and application providers also try to prioritise their services? If so, how and how does this prioritisation affect other players in the value chain?* Internet service providers nowadays provide telephony and television at a package discount price. This forced providers of one of the services to also offer the other two.

Question 8: *In the case of managed services, should the same quality of service conditions and parameters be available to all content/application/online service providers which are in the same situation? May exclusive agreements between network operators and content/application/online service providers create problems for achieving that objective?* Exclusive agreements should not be allowed, because it leads to vendor lock-in and artificial scarcity. Neither should network operators be allowed to decide what 'same situation' means, as this provides a loophole for creating exclusive agreements.

⁵ Companies in general want to reduce risks as much as possible. Creating a vendor lock-in removes the risk introduced by competitors. Creating artificial scarcity removes the risk introduced by a free market economy.

⁶There is possibly one exception: emergency calls. These can be required by law to be prioritized.