

Hereby my response on the public consultation on the open Internet and net neutrality.

http://ec.europa.eu/information_society/policy/ecomm/library/public_consult/net_neutrality/index_en.htm

I notice that there does not seem to be a Danish language version of the document.

http://ec.europa.eu/information_society/policy/ecomm/library/public_consult/net_neutrality/index_da.htm

I think that the commission as a Danish official public entity and paid partly by Danish taxes is obliged to put all official documents to the public in Danish. My mastery of English is not perfect, and I hereby apologize for any errors in understanding or responding to the questionnaire.

I submit these comments as an ordinary Internet user, and my background is that I am down in some Internet history books as one of the 3 people starting the Internet in Europe (in EUnet), and having been involved in managing an ISP in the early days of internet (DKnet in Denmark 1983-1996) as well as having been the administrator of the TLD .dk in the same period. Furthermore I have been involved in writing a number of the Internet RFCs including editorship of RFC 1345 and 2130. I have been one of the main architects in IETF on Internet internationalisation, the ability to use the Internet in other languages than English, which probably is a key feature for the European Union.

Q 1:

I see a problem with many ISP's not allowing multicast for others than their own services. This gives a big disadvantage to television providers, including independent TV stations, and this is a hindrance to free speech.

An example in Denmark is the state public TV station Danmarks Radio. DR has something like unicast bandwidth for 1000 users. With multicast this bandwidth would allow unlimited number of users, and it would actually save bandwidth within each of the ISPs networks. Multicast would also allow small TV stations to send to an unlimited number of viewers. The same goes for radio stations.

I believe this bottleneck problem cannot be solved by the existing degree of competition. There has been a case recently with the Danish firm TDC and other ISPs, where TDC owns the copper, and other IPTV vendors need to pay for access to TDC's infrastructure. The dispute was not solved to the satisfaction of the other IPTV customer's wishes.

I also think this angle of other IPTV vendors access to each others networks is a false angle. I would like the issue to be each internet user's access to services from the TV stations directly. IPTV vendors may have a diminishing role in the future compared to direct IPTV access to the TV stations.

The issue with net neutrality is a very important one here, as it is estimated that video traffic will be the major traffic type in the future, if not already today.

Another problem is the closing of a number of IP ports by a number of ISPs, especially port 22 for ssh. Port 22 should always be allowed, as then you can be tunnelling all other traffic in an encrypted way over ssh.

I think the only way forward is to demand via European legislation to always allow these network services of multicast and TCP/IP port 22 traffic.

Q 2:

I see the problem with limiting multicast usage to be an even greater bottleneck in the future with HD TV coming. Today DR does not allow their HD channels over the Internet - while this would be perfectly possible for many network users in Denmark with today's technology using multicast. Disallowing multicast is simply prohibitive for the use of HD TV over the open internet.

Q 3:

I do not know if the regulatory framework is adequate to enforce net neutrality legislation in Europe, but I may have my doubts.

Especially a number of EU member counties forbids censure in their laws, or even their constitutions, but they censure things like terror related information or child pornography, or even some sites that writes about copyrighted material. One can only imagine how further down the road to censorship future legislators will go, ignoring basic human rights such as free speech. One way to go could be to enable the free speech, but then punish offenders once they have broken the law. You could call this a legal bottleneck on the future freedom of speech.

Another issue of bottlenecks in the future is that ISPs would prohibit subscribers to let other people use their networks, especially for wireless access. Or some laws prohibiting eg. communes to provide WAN access to tourists or the elderly citizens or the population at large. I would like to see Union legislation granting such services. If not, then the European Union could seriously lose grounds to other parts of the world competing for tourists, or other parts of the world making much better use, and providing much better lives and services for eg. their growing elderly population.

The Internet is becoming more and more important, and essential to modern society. The security of the society could be threatened eg. by private foreign ISPs in the hands of hostile governments. Legislative hindrance of public ownership to Internet infrastructure should be removed. Some public entities have been forbidden to make public Internet infrastructure in Denmark a number of times.

One could discuss whether the Internet infrastructure should be mainly owned by the public, like the public owns the infrastructure for railways, roads and water in some member states.

Q 4:

Some other ways to increase network productivity are:

- allowing multicast traffic
- using proxy servers

I think a good way forward to manage traffic is that each ISP is obliged to provide net neutrality, but that each customer is offered a default traffic priority profile, that could be customized, within the bandwidth limits paid for. I think the technology is already in place together with the bandwidth controlling of today.

Q 5:

I think there could be guaranteed levels of services, and the rest of the bandwidth could be used "best effort". In case there are priority problems, then the guaranteed traffic would have priority over the surplus traffic. I am not sure if this can be done with existing equipment, but the protocols are in place to implement it.

Q 6:

Yes I see no reason why the principles should be different. I think the profiles then could be different. In mobile networks the use of mesh technology could advocate a number of differences to profiles.

Q 7:

Yes, content and service providers could prioritize their services. Eg under heavy load and in emergency situations some light processing (without heavy graphics) could be helpful. Similarly text services could be prioritized over video.

Q 8 and 9:

I would like the net neutrality principle to apply. I don't know the finer details on how private agreements could affect that.

Q 10:

I think the current situation is adequate on the backbone level. The backbone providers should be obliged to carry multicast traffic, though. See comments above.

There is a tendency to monopolies at the infrastructure level, eg. in Denmark one company owns the old telephone copper lines. This is used to further promote their market position, and also to promote the market position in the TV distribution market. It seems like there is a tendency to consolidation here, including that all TV needs to be obtained via a TV distribution firm. I foresee a much less monopolized TV market - over the internet and the viewers paying directly to the TV stations. EU legislation should be made not to hinder such an evolution.

Q 11:

Customers should be able to complain about lacking or under-performing levels of services, and some compensation should be achievable, like when transport services like plane and train fail to perform within limits. Breach of Union requirements should have adequate damage payment or punitive sanctions.

Q 12:

There are many ways to monitor performance - the EU could provide tools or guidance for each common platform to monitor performance, this is in many cases not difficult nor expensive.

Q 13:

I would expect a common cooperation via standardization bodies or the EU to facilitate this.

Q 14:

I think guidance and availability of tools for customers would be adequate.

Q 15:

I have already discussed censorship and freedom of speech above.

WRT. net neutrality there is an issue about access to sites that have something to do with information which is restricted access, such as The Pirate Bay. This is a part of a bigger complex of the digital economy.

Digital goods are in the economic sense "free goods". That is, the opportunity cost of producing one more unit of the information is nil or very close to nil. Other examples of free goods are sea water and air. The opposite of free goods are scarce goods, and that is the main subject of the discipline economy, including the distribution of scarce goods. Digital goods like text, video, music, pictures and computer programs cost next to nothing to produce an extra copy of, and via the net the production and distribution of an extra copy is virtually the same process, and can also be the same process as the consumption of the good, eg. reading a web page, listening to music, or watching a video.

In fact the main cost of this process is the consumption, which takes human time, while the copy manufacturing and distribution process is done by machines, and the marginal cost in the mechanical process is very low and getting lower by time with cheaper and faster network computers and networks.

From an economic point the wealth of the society, in terms of utility experienced by the citizens would grow substantially if there would be free access to the digital goods, without this reproduction of digital goods costing the society noticeable resources. The politics on a grand scale for the society should thus be to make digital goods freely available.

The European Union could enhance the average number of goods available and consumed by its citizens to be much higher by allowing free access to these digital goods.

This is especially in the areas of culture and knowledge, issues that are high on the political European agenda, and also improving the productivity of the society significantly, when knowledge and digital production means will become free to private citizens.

Still the creators of the digital goods should be able to make a living on this. There are other ways than just using copyright legislation to obtain this goal. One is library royalties, others are state payment, and there are a number of other ways. The European Union should make extensive investigations on how to allow free copying of digital goods for their private citizens, while still making it attractive for creators to create new digital goods, or enhance existing digital goods.

The liberation could be done to some extent without breaching international treaties such as the Bern convention, by allowing private citizens under "fair use" rules to copy digital goods for their own private consumption. I believe Dutch law allows this now, and I know that this is allowed in Danish law for analog music and video.

European regulation should allow reference to material even if copyright owners are opposed to this, and furthermore grant European citizens the right to digitally copy digital goods under the Bern convention's "fair use" rules.

This would also avoid the growing disharmony between the laws, and the practice of many millions of European citizens violating current laws on this. If 20 % of the European citizens (a low estimate according to many surveys) are breaching the copyright laws, this would give about 100 million offenders in the EU. It is not sustainable to have laws that are so much out of sync with reality and incriminating so many in the society, so there need to be a change here.

Net neutrality regulations should not hinder the move towards free availability for private consumption of digital goods, eg. there should not be regulations against activities such as The Private Bay - in fact such information should be granted, as also argued above, for economic reasons.

Best regards
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