Public consultation on specific aspects of transparency, traffic management and switching in an Open Internet

Questionnaire

General information

**Question 1:**
I answer as:

- single choice reply -(compulsory)

h) Other

Please specify: -open reply-(compulsory)

Civil rights organisation

**Question 2:**

a) Please provide the full name and a brief description of your organisation and describe your interest in open Internet issues.

-open reply-(compulsory)

Digitale Gesellschaft e.V. is a not for profit, non-governmental organisation. It's goal is to defend and promote civil rights in the digital environment, such as freedom of speech, privacy and data protection. The organisation is focuses on civil society campaigns in order to promote and defend human rights in the Internet era.

b) If your organisation is registered in the Transparency Register, please indicate your Register ID number.

-open reply-(optional)

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c) Please provide the postal and e-mail address of your organisation and, if you wish, the name of a contact person (including telephone number and e-mail address) for any questions on your contribution.

-open reply-(compulsory)

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d) In which Member State(s) are you established and where do you perform your activity?

-open reply-(compulsory)

Germany

Does your answer to this question contain confidential information?

-single choice reply-(compulsory)

No

1. Traffic management

1.1. Traffic management and differentiation

**Question 3:**
Please explain briefly which traffic management techniques are usually applied by network operators or ISPs and how they are technica implemented.

-open reply-(optional)

The opening paragraph of “1. Traffic Management” is biased. The assumption that “traffic management” is “a wide range of technical practices” is incorrect and so is the conclusion that they can all be treated as if they were just one phenomenon and therefore “a” legitimate tool. Anyone who sincerely believes that anti-competitive traffic management is functionally identical to undertaking an urgent security measure is, in our view, incompetent to run a consultation on the tropic of network neutrality. The TCP has traditionally been responsible for managing end-to-end connections across the networks. As demonstrated by BEREC’s investigations and subsequent report (BoR 12 30), the netneutralitymap.org and the respectmynet.eu platform, European ISPs are frequently departing from the traditional congestion control and are breaching net neutrality everywhere in Europe: they implement blocking, degrading and the throttling of services, applications and content.
Question 4:
Congestion management is one of the reasons for applying traffic management measures.

a) Please describe briefly how congestion management normally works.

The most important feature of the internet's architecture is its reliance on Transmission Control Protocol's (TCP) "flow-rate" fairness. The TCP has traditionally been responsible for managing end-to-end connections across the networks. Since the very beginnings of the internet and until today, the TCP remains one of the most important congestion management mechanisms. Nowadays, diverse traffic management techniques have developed, such as volume capping, usage-based pricing, application-agnostic, application-specific management, and Deep Packet Inspection. All these techniques represent significant deviations from TCP fairness in terms of how resources are allocated during periods of congestion. The use of some of these techniques raises serious concerns about the potential for abuse of market power, for threats to privacy and the openness and neutrality of the internet.

b) If possible, please provide a definition and examples of genuine congestion management measures, i.e. measures which are necessary to avoid or tackle network congestion, as opposed to measures which may be called congestion management but actually pursue other purposes.

Legitimate network management may take the form of blocking content harmful to the network, such as viruses and denial of service attacks. Legitimate network management is limited to the purposes of maintaining the technical quality of the network, preventing abuse, compliance with legal requirements, and acting in accordance with users' wishes. Measures that actually pursue other purposes are for example the blocking and throttling for anti-competitive reasons. Operators are increasingly (vertically) integrated, also offering television, telephony and internet (content) services. They consequently have a motive to block or degrade internet traffic which directly competes with the services they are offering. In addition, operators have an incentive to block indirect competition, for example by charging money from one service provider, promising to degrade the traffic of a downstream competitor. Traffic management measures that actually pursue other purposes should be clearly prohibited since they are socially harmful and undermining European citizens' fundamental rights.

Question 5:
Please provide your views on the following ways/situations where traffic management may be applied by ISPs.

Are traffic management measures:

a) applied to deliver managed services (e.g. to ensure a guaranteed quality of service for a specific content/applications)

The priorisation of data packets of specific applications implies the discrimination of others. However, the equal treatment of data packets has allowed numerous start ups and companies to be created in the field of content delivery.

b) taking into account the sensitivity of the service to delay or packet loss

Due to the heterogeneous nature of networks, it is recommended that end devices deal with the questions of delay or packet loss. In general, a critical view must be taken of attempts to increase the complexity of networks beyond already established techniques.

c) used to implement or manage compliance with the explicit contractual restrictions (e.g. on P2P or VoIP) of the Internet access product accepted by the user

Due to the heterogeneous nature of networks, it is recommended that end devices deal with the questions of delay or packet loss. In general, a critical view must be taken of attempts to increase the complexity of networks beyond already established techniques.
Even with the acceptance by the user, such practices remain a clear violation of the open and neutral internet. Access restrictions on the basis of such contractual restrictions are unfortunately frequent throughout Europe, since the USD does not explicitly prohibit such contract terms.

d) targeting types/classes of traffic contributing most to congestion

- single choice reply- (optional)  problematic

Please explain your response
- open reply- (compulsory)

In an open internet, citizens should at all times be able to independently choose which applications they want to use and what size of bandwidth they want to have access to - without interference from network providers and without discrimination according to source, destination, content, type of content, service and application. The internet's high capacity to contribute to innovation and growth is based on the non-discrimination and non-differentiation between different types of traffic.

e) targeting heavy users whose use is excessive to the extent that it impacts on other users

- single choice reply- (optional)  problematic

Please explain your response
- open reply- (compulsory)

The internet's high capacity to contribute to innovation and growth is based on the non-discrimination of the participants. The economic differentiation of extensive use is generally applied by offering different access volumes and not within the networks. Users interested in using bandwidth intensive services would then simply need to buy more bandwidth – and not permission to use a given application. Service providers that want to impose service-agnostic volume limits are already free to do so. Traditionally, this has for example allowed fast-growing companies with only a limited number of contractual partner to negotiate. It should however be noted that in practice operator often take action against end-users that use up the data volume promised in the advertisement.

f) applied during busy times and places, when and where congestion occurs

- single choice reply- (optional)  problematic

Please explain your response
- open reply- (compulsory)

ISP should be able to offer full access to the Internet and ensure sufficient bandwidth even during peak times, without discriminating against any specific applications, services or content.

g) affecting all applications/content providers in the same way (application-agnostic)

- single choice reply- (optional)  appropriate

Please explain your response
- open reply- (compulsory)

As long as there is no differentiation between data packets according to sender, recipient or content, application-agnostic traffic management can be considered appropriate.

h) affecting (similar) applications/content providers of the same category in the same way

- single choice reply- (optional)  problematic

Please explain your response
- open reply- (compulsory)

This so-called "like treatment" is problematic since stifles innovation. Discrimination among categories of applications will often harm applications in the categories that receive the "worse" treatment, even if the different categories are not alike. Moreover, such treatment negatively affects several of the factors that have fostered application innovation in the past. It removes the application-blindness of the network and gives operators discretion to decide which applications are of the same category. As a consequence this would allow operators to distort competition among applications or categories of applications/content providers. the differentiation between applications/content providers of the same category in the same way should therefore be equally banned.

i) used, without other grounds, against services competing with the ISP’s own services

- single choice reply- (optional)  problematic
As the Commission should know, and as explained above, discriminatory measures for anti-competitive purposes are highly problematic and should obviously be prohibited.

j) implemented at the full discretion of the ISP - single choice reply - (optional)

Please explain your response

- open reply - (compulsory)

ISP's have the means and the motive to exercise far-reaching control over the internet traffic they transport - they already do so transparently and intransparently all over Europe. They also have the technology to make a distinction between various types of traffic which is becoming increasingly sophisticated, thus giving operators the means to throttle and block internet traffic, often in ways which are very difficult to detect.

k) other differentiation criteria (please specify)

- open reply - (optional)

Please explain your response.

- open reply - (compulsory)

As demonstrated by BEREC's investigations and subsequent report (BoR 12 30), the respectmynet.eu platform, the results from the Glasnost tests (http://netneutralitymap.org/): European network operators are indeed implementing blocking, degrading and the throttling of services, applications and content. This clearly shows that we need further regulatory measures in order to ensure the open and neutral internet in Europe.

Does your answer to this question (a, b, c, d, e, f, g, h, i, j or k) contain confidential information? - single choice reply - (compulsory) No

Question 6:

The use of managed services may affect the Internet access service in some cases, due to the sharing of access resources.

a) Please explain the impact of managed services on the standard Internet access service ("best effort") in terms of available bandwidth and quality of service.

- open reply - (optional)

The impact of managed services on shared resources is unforeseen by definition. It adds hidden and heterogeneous complexity far beyond usual well established congestion control mechanisms. These mechanisms are published and documented as open standards. An open and non-discriminatory standardisation process takes well care of factoring in interests of all stakeholders while allowing implementation by anyone. A continuous process of development of new open Internet standards elegantly helps addressing latency, bandwidth and quality service issues in an agile way. A good example for this is SPDY, just to name one. See http://tools.ietf.org/html/draft-mbelshe-httpbis-spdy-00 and http://dev.chromium.org/spdy/spdy-whitepaper for details. Addressing the problem not by adding non-transparent contractual overhead but from a technical point of view by means of open Internet standards promotes innovation and a strictly non-discriminatory solution.

b) Please explain whether it is possible to offer separate capacity for managed services and the standard Internet access service. If yes, please provide information on the circumstances (costs, technologies) of separating them.

- open reply - (optional)

Does your answer to this question (a or b) contain confidential information? - single choice reply - (compulsory) No

Question 7:

a) Please give examples of "new business models" which could be developed on the basis of managed services by

(i) Network operators/ISPs:

- open reply - (optional)
Content providers (on the basis of agreements with ISPs):

(ii) Content providers (on the basis of agreements with ISPs):

- open reply - (optional)

b) How important are these innovative business models likely to become in the next three years? Please substantiate your view by means of available forecasts or studies.

- open reply - (optional)

c) What would be the expected benefits in terms of innovation and investment through new businesses (content or applications) benefitting from guaranteed levels of quality of delivery through managed services?

- open reply - (optional)

Does your answer to this question (a, b or c) contain confidential information? 

- single choice reply - (compulsory)

No

Question 8:

What are likely positive and negative effects of certain traffic management practices on the Internet ecosystem, in particular on innovation and investment, by (i) network operators/ISPs and (ii) content providers? Please explain your view and, if appropriate, distinguish between different traffic management practices.

- open reply - (optional)

The end-to-end principle is one of the most important design principles of the internet's architecture. This principle has allowed all participants to access equally all applications, services and content of their choice and has therefore proved to be essential for innovation, competition and human rights. By contrast, a network which places a significant amount of application-specific functionality in the network's core, places primarily the network owners and internet access providers in a position to innovate, instead of its many users. In a restricted online network environment, this market will be decimated.

Does your answer to this question contain confidential information? 

- single choice reply - (compulsory)

No

1.2 Traffic management and privacy issues

Question 9:

It appears that the implementation of traffic management measures requires ISPs to analyse certain information about individual data packets, for instance by deep packet inspection (DPI) techniques. Please explain which type of information needs to be read by ISPs to implement the different traffic management measures. In which layer can this information normally be found?

- open reply - (optional)

The fact that the Digital Agenda's services need to ask such a question is rather worrying. However, we can summarise briefly: Internet routers generally only analyse Layer 3 data to determine which network path a packet gets relayed down to. This layer handles the logical addressing and routing of data, based on soft-defined addresses. Internet Protocol headers are the Layer 3 data in a packet. The layer that is mainly used in deep packet inspection techniques to differentiate between applications, and therefore to discriminate, is Layer 7, the Application Layer. However, it should be noted that it is also possible that such inspection techniques also use the IP-Layer in order to recognise patterns for congestion management, such as Skype or BitTorrent (See for instance: Peter Renals and Grant A. Jacoby. 2009. Blocking Skype through Deep Packet Inspection. Paper read at 42nd International Conference on System Sciences, Hawaii).

Does your answer to this question contain confidential information? 

- single choice reply - (compulsory)

No

Question 10:

a) Are there any privacy risks arising from the use of DPI for traffic management purposes, and, if so, what are the implications for transparency and consumer protection?

- open reply - (optional)

We suggest that you read the European Data Protection Supervisor (EDPS) opinion on net neutrality, in which he warns that deep packet
inspection techniques «based on IP headers and more particularly those based on packet inspection involve the monitoring and filtering of these data and have serious implications in terms of privacy and data protection. They can also be in conflict with the right to confidentiality of communications. ” Moreover, he states that “looking into individuals' communications has, in itself, serious privacy and data protection implications.”


b) Are there alternative techniques for traffic management that do not involve deep packet inspection? Please provide examples and explain your response. Please compare those alternative techniques with deep packet inspection, in particular in terms of their effectiveness, potential impact on privacy and costs for operators.

-DPI is not needed for traffic management - Please see our answer to questions 3 and 4.

Does your answer to this question (a or b) contain confidential information? -single choice reply-(compulsory) No

Question 11:
Where the user's consent is required for traffic management measures, particularly where such measures might entail access to and analysis of certain personal data by ISPs, please explain how (e.g. in which format) this consent should be sought by the ISP, what prior information needs to be provided by the ISP to the user, and how the user consent should be given, in order to optimise user awareness and user convenience.

-DPI is not needed for traffic management - Please see our answer to questions 3 and 4.

Does your answer to this question contain confidential information? -single choice reply-(compulsory) No

2. Transparency and switching (consumer choice)

2.1 Transparency and general characteristics of the Internet access offer

Question 12:
In order to allow consumers to make informed choices, on the basis of clear, meaningful, and comparable information, which elements should be communicated to consumers?

- Elements related to traffic management practices:
  a) Contractual restrictions (blocking, throttling, other restrictions on application use)
- single choice reply -(optional)

Please provide reasons for your answer:
-open reply -(optional)

This question is illegitimate since its assumptions are biased.

b) Traffic management policy applied to prioritise certain traffic in specific circumstances
- single choice reply -(optional)

Please provide reasons for your answer:
-open reply -(optional)

This is too vague to provide a meaningful answer.

c) Whether and to what extent managed services may affect the quality of the best effort Internet (e.g. the possibility of the Internet connection being affected when watching IP-TV or when using other managed services)
- multiple choices reply -(optional)
Please provide reasons for your answer:
-open reply-(optional)

This question is illegitimate since its assumptions are biased.

d) Other restrictions, please specify:
-open reply-(optional)

e) Data allowances (caps), download limits
-single choice reply-(optional)

Please provide reasons for your answer:
-open reply-(optional)

f) What these data allowances enable customers to do in practice (download x hours of video; upload y photos etc.)
-single choice reply-(optional)

Please provide reasons for your answer:
-open reply-(optional)

This question is absurd. Consumers will not read through thousands of pages of terms of service listing allowances for each and every service and application.

**Elements related to speed and quality:**

a) Average speed, typical speed ranges and speed at peak times (upload and download)
-multiple choices reply-(optional)

Please provide reasons for your answer:
-open reply-(optional)

b) Respect of guaranteed minimum speed (if applicable)
-multiple choices reply-(optional)

Please provide reasons for your answer:
-open reply-(optional)

c) What these speeds allow customers to do in practice (video-streaming, audio-download, video-conferences etc.)
-single choice reply-(optional)

Please provide reasons for your answer:
-open reply-(optional)

d) Latency/network responsiveness (a measure of traffic delay) and which services would be affected thereby (e.g. certain applications such as IP-TV or videoconferencing would be more seriously impacted by higher traffic delays in the network of the provider)
-multiple choices reply-(optional)

Please provide reasons for your answer:
-open reply-(optional)

e) Jitter (a measure of the variability over time of latency) and which services would be affected thereby (e.g. echoing in VoIP calls)
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<tr>
<th>Question 12</th>
<th>Please provide reasons for your answer:</th>
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<td>f) Packet loss rate (share of packets lost in the network) and which services would be affected thereby (e.g. VoIP)</td>
<td>-multiple choices reply-(optional)</td>
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<tr>
<td>g) Reliability of the service (network accessibility and retainability), i.e. measure for successful start and completion of data sessions</td>
<td>-multiple choices reply-(optional)</td>
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<tr>
<td>h) Quality parameters for (mobile) voice telephony (call setup success rate, dropped calls, speech quality, other)</td>
<td>-multiple choices reply-(optional)</td>
</tr>
<tr>
<td>i) Other, please specify:</td>
<td>-open reply-(optional)</td>
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In a neutral and open internet, citizens have the ability to use these rights without discrimination according to source, destination, content, type of content, service and application. These rights mean that operators are prohibited to prioritise, block, throttle or discriminate against certain kinds of data, content, services, applications or devices. It also means that clear, meaningful, and comparable information to customers is only necessary where traffic management beyond the traditionally established measures as described above are used in exceptional circumstances.

Does your answer to question 12 (or to any of its sub-questions) contain confidential information? -single choice reply-(compulsory)

No

Question 13:
Some ISPs currently apply 'fair use policies', which give them wide discretion to apply restrictions on traffic generated by users whose usage they consider excessive. Do you consider that, in case of contractual restrictions of data consumption, quantified data allowances (e.g. monthly caps of x MB or GB) are more transparent for consumers than discretionary fair use clauses?

-single choice reply-(optional)

Yes

Please provide reasons for your answer.
-open reply-(compulsory)

Yes, this would be more transparent.

Does your answer to this question contain confidential information? -single choice reply-(compulsory)

No

Question 14:
a) When should the elements of information referred to in question 12 be provided to the consumer by the ISP? | before signing the contract - regularly updated during
Question 15:
What would be the (additional) costs for ISPs to (i) collect the various data mentioned in the table in question 12 (e.g. measuring of average speed, jitter, delay etc.) and (ii) communicate the information to their customers. Please provide an estimate of the above costs for your own company or an ISP of your choice explaining your assumptions and methodology, and details about the technical tools used to collect the various data. If possible, please provide a breakdown of the costs.

Does your answer to this question contain confidential information? -single choice reply-(compulsory) No

Question 16:
a) In order to promote transparency and consumer choice, do you consider it necessary that comparable data on the Internet access provided by ISPs is collected and published by NRAs or another independent organisation?

- single choice reply-(optional)

Please explain your response.
- open reply-(compulsory)

Yes, this would promote transparency and consumer choice.

Do you think this information should be broken down by geographic areas or different data plans? -open reply-(optional)

b) What are the advantages and corresponding costs of this data collection and publication being undertaken by NRAs or by another type of organisation (please specify which one). Please provide an estimate at EU-level or for an EU Member State of your choice.

Does your answer to this question (a or b) contain confidential information? -single choice reply-(compulsory) No

Question 17:
a) Do you consider it necessary to regulate the labelling as "Internet access" of subscriptions that restrict access to some Internet services, content or applications?

- single choice reply-(optional)

Please reason your answer. -open reply-(compulsory)

Restricted access to selected applications, services and content should never be labelled "Internet access".

b) If yes, which restrictions would be acceptable before a subscription could no longer be marketed, without qualification, as an "Internet access" product?

- open reply-(optional)
c) What would be the consequences (including the cost) for ISPs if they were not allowed to market as ‘Internet access’ an offer with certain restrictions, or if such marketing was subject to mandatory qualification? Please provide quantification for your own company or a ISP of your choice explaining your assumptions and methodology.
- open reply - (optional)

Does your answer to this question (a, b or c) contain confidential information? - single choice reply - (compulsory) No

2.2 Switching

Question 18:

a) Please explain what barriers to switching ISPs still exist (if any) and how they can be overcome. Please mention in your reply all direct and indirect factors dissuading consumers from switching (e.g. obstacles linked to the terminal equipment, burden of proof regarding a possible breach of contract, etc.)
- open reply - (optional)

b) How should an ISP inform consumers of changes to their packages?
- open reply - (optional)

c) What actions by an ISP would constitute a breach of contract or modifications to the contractual conditions which would enable a consumer to be released from a contract?
- open reply - (optional)

d) Should customers be able to easily opt out from certain contractual restrictions (up to a completely unrestricted offer) by the same operator?
- single choice reply - (optional)

Please explain your response.
- open reply - (optional)

e) Do you think that a customer should be allowed to switch to another operator within a reduced contract termination period in case his/her current operator does not at all offer an unrestricted Internet access product or does not allow switching to such unrestricted offer?
- single choice reply - (optional)

Does your answer to this question (a, b, c, d or e) contain confidential information? - single choice reply - (compulsory) No

Question 19:

While there may be valid (technical) reasons why consumers do not always get the advertised service speed or quality, should there be a limit on the discrepancy between advertised and actual service parameters (e.g. speed)?
- single choice reply - (optional)

Does your answer to this question contain confidential information? - single choice reply - (compulsory) No

Question 20:
Pursuant to Article 30 (6) of the Universal Service Directive conditions and procedures for contract termination shall not act as a disincentive against changing service providers. How could changing of operators be facilitated? Please provide examples and explain...
### Question 21:
How could the transparency of bundles (packages including telephony, Internet, TV) be improved for consumers and how could switching be facilitated in the presence of bundles?

Does your answer to this question contain confidential information? **No**

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### Question 22:

a) How important would be the benefits for end-users of improved transparency and facilitated switching?

b) What would be the expected benefits in terms of innovation by new businesses (content or applications) as a consequence of improved consumer choice and increased competition between ISPs?

Does your answer to this question (a or b) contain confidential information? **No**

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### Question 23:
Would the facilitation of switching for consumers trigger any (administrative) costs for ISPs?

Does your answer to this question contain confidential information? **No**

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### 3. IP interconnection issues

### Question 24:

a) In your view, are there any problems regarding IP interconnection arrangements (between network operators, ISPs, transit providers and/or content providers) that could have an impact on the quality of the best effort Internet?

Please explain your response. **optional**

b) Are there any specific issues related to the vertical integration of ISPs and transit providers?

Please explain your response. **optional**

Does your answer to this question contain confidential information? **No**

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### Question 25:
Direct peering, Content Delivery Networks (CDN) or Quality of Service Interconnection (between ISPs and content providers) are being
developed to propose an enhanced quality of service for content providers and end users.

a) What role can they play in reducing the risk of network congestion?
- open reply- (optional)

b) What opportunities and threats do they constitute for:
   (i) ISPs,
   (ii) content providers,
   (iii) transit providers and
   (iv) end users?
- open reply- (optional)

c) Are there any barriers of a regulatory, technical or business nature that prevent market players other than ISPs from playing a more important role in reducing the risk of network congestion?
- single choice reply- (optional)

Does your answer to this question (a, b or c) contain confidential information? - single choice reply- (compulsory) No

4. Process

Question 26:
a) Do you consider that intervention by public authorities is necessary at this stage?
- single choice reply- (optional)

If so, what would be the appropriate level of such intervention? - open reply- (optional)

EU-wide net neutrality legislation.

b) What would be the consequences of divergent interventions by public authorities in the EU Member States?
- open reply- (optional)

Does your answer to this question (a or b) contain confidential information? - single choice reply- (compulsory) No

Question 27:
a) Have you made use of the dispute resolution powers under the Framework Directive[1] in relation to a dispute about traffic management practices?

[1] See in particular Article 20 of Directive 2002/21/EC (Framework Directive) which allows either party to request a binding decision by the NRA to resolve a dispute within the shortest possible time frame and normally within four months.
- single choice reply- (optional)

b) Have you also made use of these dispute resolution powers also in relation to disputes between an ISP and a content provider?
- single choice reply- (optional)

c) If you have made use, please explain under which circumstances. If you have not made use, please explain whether you consider that these dispute resolution powers would be an appropriate tool for such Internet traffic management disputes?
- open reply- (optional)

Does your answer to this question (a, b or c) contain confidential information? - single choice reply- (compulsory) No
**Question 28:**
Do you consider that regulators should monitor interconnection agreements between providers? *-single choice reply-* (optional)

Please explain your view.
-*open reply-* (optional)

Does your answer to this question contain confidential information? *-single choice reply-* (compulsory)

**Question 29:**
Under article 22(3) USD NRAs have the power to set minimum quality of service requirements on undertakings providing public communications networks. In a scenario where in a given Member State no unrestricted offer is available (for instance because all operators actually block VoIP), do you consider that the "minimum quality of service tool" should be applied by the NRA to require operators to provide certain unrestricted offers? *-single choice reply-* (optional)

Please explain your response.
-*open reply-* (compulsory)

This scenario should not occur in the first place.

Does your answer to this question contain confidential information? *-single choice reply-* (compulsory)