Level 3 Communications comments on European Commission questionnaire for the public consultation on the open internet and net neutrality in Europe

30 September 2010

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Level 3 appreciates the opportunity by the European Commission to contribute to the debate on the open internet and net neutrality in Europe.

We believe that the European Commission has a role to play in assuring an open, dynamic, improving and ubiquitous broadband Internet for EU citizens. Innovation, advanced policies that encourage accelerated investment in broadband infrastructure and competition within all portions of the Internet market must be protected in order to ensure this ultimate goal on a European and on a global basis.

I. The open internet and the end-to-end principle

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?

The term “net neutrality” and respectively the term “openness of the internet” requires definition.

With respect to the traffic management of operators and its impact on the net freedom of citizens which is the primary focus of this questionnaire and the consultation document, we have not seen any problem of net neutrality in Europe yet. In fact, competition and the openness of the internet has led to innovation and continued market led product creation on all levels within the internet market with unlimited and unconstrained accessibility to content by citizens within the EU.

Question 2: How might problems arise in future? Could these emerge in other parts of the internet value chain? What would the causes be?

With increasing internet traffic, network congestion problems are inherent on different networks and for different players. Same as on roads, traffic congestion is a condition in internet networks that occurs as usage increases, and is characterized by slower speeds, longer transport times, and increased queueing of data packets. When traffic demand is high enough that the interaction between data packets slows the speed of the traffic stream, congestion will occur.

As demand approaches the capacity of a part of the network (or of the link between networks), extreme traffic congestion sets in unless it is managed in

a certain way either through investment in infrastructure, technical innovation in traffic management or regulation. The regulatory approach to traffic management should be limited to the situation where a certain market is not competitive enough to solve traffic congestion itself. This could occur in cases where the consumer does not have a choice for different players and qualities through unfair discrimination typically by an incumbent or dominant broadband access provider with retail relationship.

Question 3: Is the regulatory framework capable of dealing with the issues identified, including in relation to monitoring/assessment and subsequent enforcement?

Level 3 believes that the market is sufficiently capable of dealing with the current situation and that the current regulatory framework is capable of dealing with unfair discrimination in case it occurs.

We believe that the European Commission should avoid attempts to proscribe specific conduct through rulemaking, and instead should rely on setting forth broad principles to which industry participants can refer in order to guide their behaviour. Regulatory enforcement should therefore prefer ex post to ex ante regulation. “After the fact” evaluation of challenged behaviour – conducted on an expedited basis – is essential in today’s (and tomorrow’s) dynamic and innovative communication markets. Furthermore, light-touch regulation should focus on the Broadband Internet access network, and should not impact those elements of the end-to-end Broadband Internet infrastructure where competition is robust and consumers are sophisticated and informed (such as the Internet backbone and high-capacity connections to content and application providers).

II. Traffic management/discrimination

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?

I. Traffic management needs to be defined. In the sense of “traffic shaping” it is necessary to control network traffic in order to optimize or guarantee performance, improve latency, and/or increase usable bandwidth by delaying packets that meet certain criteria. Traffic shaping provides a means to control the volume of traffic being sent into a network in a specified period (bandwidth throttling), or the maximum rate at which the traffic is sent (rate limiting) to avoid congestion.

Through traffic shaping, network operators can maximize their infrastructure and the investment in the network by keeping cost down. Furthermore, the

network operator ensures that its commitments to customers are met and the consumer receives the desired and required service quality.

II. In practice, operators can use one of the following methodologies as already widely used in VPN or Peer-to-Peer connections:

1. Physical or virtual port speeds to limit the traffic into the network. Customer port speeds are set in such a way to ensure that the maximum traffic levels do not exceed the capacity of the network – each customer gets the capacity they pay for.

2. Layer 3 (IP) or Layer 2 (MPLS) Class of Service. Customers (or traffic types) can be assigned a class of service on the network to differentiate traffic and ensure high priority traffic is delivered more effectively. However, most operators (including Level 3) do not currently differentiate between customer internet traffic. Internet traffic is carried irrespective of the originator or the type of traffic.

3. Some operators will provide physical separation between the premium services and the internet traffic to ensure that there is no conflict of priorities.

III. The technologies used by most carriers to undertake the traffic methodologies described above are:

1. Physical separation of networks;
2. Virtual and physical port speeds to limit traffic input, including rate limiting and policing;
3. Class of Service (either IP or MPLS);
4. Differing levels of oversubscription.

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?

To make information on traffic management transparent and understandable to end users, the focus of information should be on the results of the respective broadband service and not on traffic management (eg. “average downloads been achieved”, “average time to download a file”).

Furthermore, the regulator has a role in establishing standards to measure the performance of Broadband Internet access services and in assuring that such performance information is provided to consumers in an effective, uniform and understandable format. Requiring all Broadband Internet access providers to publicly reveal accurate and standardized performance statistics will (a) provide consumers with information that is essential to make

purchasing decisions, and (b) encourage competition between Broadband Internet access providers to improve the performance characteristics of the service they provide.

Question 6: Should the principles governing traffic management be the same for fixed and mobile networks?

Beside the fact that each network has its own characteristics, the principles governing traffic management should not be different from a consumer perspective.

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?

According to our current knowledge, no other forms of prioritisation are taking place in Europe. However, content and application service providers, for example online gaming providers, show interest in the option to prioritise internet traffic in order to reduce latency and improve quality.

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?

Level 3 believes that the industry and the European Commission as well as the national governments and regulators must advance policies that encourage innovation, investment and competition within the broadband market. Exclusive agreements among network providers and content/application/online providers may raise concerns when it comes to unfair discrimination. For example, allowing last-mile access network owners, typically an incumbent or dominant provider, to create a “paid priority” data service leads to concerns, especially since most consumers have only a limited choice of wired broadband suppliers, and since contention for limited capacity seems inevitable because consumers’ demand for broadband is greater than the existing networks’ capacity.

Question 9: If the objective referred to in Question 8 is retained, are additional measures needed to achieve it? If so, should such measures have a voluntary nature (such as, for example, an industry code of conduct) or a regulatory one?

With reference to question 3, Level 3 believes that the European Commission should avoid attempts to proscribe specific conduct through rulemaking, and instead should rely on setting forth broad principles to which industry participants can refer in order to guide their behaviour. Regulatory enforcement should therefore prefer ex post to ex ante regulation.

III. Market structure

Question 10: Are the commercial arrangements that currently govern the provision of access to the internet adequate, in order to ensure that the internet remains open and that infrastructure investment is maintained? If not, how should they change?

We would generally confirm that the commercial arrangements that currently govern the provision of access to the internet are adequate.

IV. Consumers – quality of service

Question 11: What instances could trigger intervention by national regulatory authorities in setting minimum quality of service requirements on an undertaking or undertakings providing public communications services?

As long as unfair discrimination does not occur and ex post regulation is applicable, the setting of minimum quality of service requirements shall be avoided. If appropriate transparency standards are set to measure the performance of Broadband Internet access services and there is a competitive marketplace, then the imposition of a minimum quality of service should not be necessary as consumers can make informed decisions about which provider to use.

Question 12: How should quality of service requirements be determined, and how could they be monitored?

The regulator has a role in establishing transparency standards to measure the performance of Broadband Internet access services for consumers and in assuring that such performance information is provided to consumers in an effective, uniform and understandable format (eg. through currently used operator independent online tools). Requiring all Broadband Internet access providers to publicly reveal accurate and standardized performance statistics will (a) provide consumers with information that is essential to make purchasing decisions, and (b) encourage competition between Broadband

Internet access providers to improve the performance characteristics of the service they provide.

Verifying compliance with any required transparency obligation is difficult to discuss without knowing what the underlying transparency requirements are. In most instances, some form of provider certification, coupled with a right on the part of third parties to point out issues of noncompliance, have proven sufficient to enforce these types of obligations.

Question 13: In the case where NRAs find it necessary to intervene to impose minimum quality of service requirements, what form should they take, and to what extent should there be co-operation between NRAs to arrive at a common approach?

Market forces shall set the standards unless discrimination occurs and ex post regulation is unavoidable.

Question 14: What should transparency for consumers consist of? Should the standards currently applied be further improved?

To make information on traffic management transparent to end users the focus of information should be on the results of the respective broadband service and not on traffic management (eg. “average downloads been achieved”, “average time to download a file”).

V. <u>The political, cultural and social dimension</u>

Question 15: Besides the traffic management issues discussed above, are there any other concerns affecting freedom of expression, media pluralism and cultural diversity on the internet? If so, what further measures would be needed to safeguard those values?

Traffic management and discussions on basic rights based on the EU Charter of Fundamental Rights are discussions on different levels and should be handled separately.

However, the European Commission should define a European objective regarding Broadband Internet access, not in terms of mere bandwidth speed and other technical performance criteria, but rather as a *right of all European citizens* to participate in evolving online communities.

We should avoid the temptation to focus narrowly on bandwidth speeds and other performance characteristics without first articulating and agreeing upon a European objective. The statement of the “right” accorded to all European citizens provides a guidepost for initial performance criteria, as well as criteria to be applied during periodic review and revision of Broadband

Internet service characteristics. As online applications and content evolve over time, “effective participation” in online communities will require continuous improvement of Broadband Internet service performance characteristics.

Once agreement on the European objective is given, we need to turn to the details and define what level of Broadband Internet service is presently required for effective participation in online communities. Today, an affordable and universally available broadband Internet access service providing an effective downstream throughput of 1 Mbps to 2 Mbps and an effective upstream throughput of 250 kbps to 500 kbps is likely sufficient to meet initial goals.

The bandwidth speed and performance required for participation in online communities increases, at times quite rapidly, as visual and dynamic media replaces aural and static content. This rapid change defies any regime that attempts to define the sufficiency of Broadband Internet access service in static and unchanging technical terms. As a result, the European Commission should identify a process employed to update initial speed and performance service criteria as consumers’ use of Internet applications and content evolve.