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Com Hem response to the Commission's public consultation on the Open Internet and Net Neutrality in Europe

1. Introduction

Com Hem is one of Sweden's leading distributors of TV, broadband and fixed telephony. About 40 percent of the Swedish households are connected to Com Hem's network and have access to Sweden's widest range of TV channels, HDTV, On Demand and high quality and complete services for broadband and fixed lines. Today, Com Hem's high speed broadband services with a speed up to 100 Mbit/s cover over 30 percent of Sweden's households. Thus, Com Hem alone makes a very significant contribution to the fulfillment of the Swedish Government's goal of a 40 percent 100 Mbit/s coverage by year 2015, and contributes to the achievement of the Commission's Digital Agenda goal of a 50 percent 100 Mbit/s coverage by year 2020. Com Hem is also the largest infrastructure-based competitor to the Swedish incumbent Telia Sonera.

Com Hem is an active member of Cable Europe, the trade association that groups all leading broadband cable TV operators and their national associations throughout Europe. On some of the Commission's questions, Com Hem refers to the response Cable Europe is submitting on behalf of all its members.

2. General remarks and summary

Infrastructures for electronic communication are used for a wide range of services and applications. Some of these services and applications are distributed and made accessible to end-users via access to the public Internet, while others are distributed in other ways, e.g. from nodes within the operator's own network outside the public Internet. Any discussion on net neutrality must solely focus on services and applications distributed and consumed via access services to the public Internet.

Com Hem supports an open Internet that connects individuals, firms, public authorities and organizations in a global network which enables information, services and applications to be distributed, accessed and utilized under the conditions of the users' choice. From a societal perspective, an open Internet is invaluable to growth, innovation, job creation, welfare and to social and cultural development.

In the public debate on net neutrality, worry has been expressed by some stakeholders about an alleged conflict between an open Internet and the so called traffic management by network operators. Com Hem stresses that such conflict does not exist.

Traffic management is a prerequisite for a well-functioning open Internet and for the roll-out and maintenance of its underlying infrastructure. It is needed to guarantee security for both users and networks and it enables consumers to use affordable services and applications of their choice in a manner which corresponds with their expectations. In a time when broadband traffic double every second year and when network utilization varies considerably over the hours of the



day, traffic management is a tool not to block or hinder services, but rather to optimize the end-user experience.

Traffic management is also a key factor in the development of Quality of Service for Internet access services, which in turn facilitates the continuous innovation by Internet-based service and application providers.

Further, traffic management is a powerful tool in the differentiation of services, which ultimately benefits the customers. The more differentiated services on a market, the greater the customers' possibilities to find the service of their particular choice. In that way, traffic management enables more fair and value-based pricing.

Hence, traffic management is not only necessary from an operator's view, it's as necessary for end-users and service providers.

As in all industries and on all markets, actors on different levels in the value chain of the Internet might abuse their position. Network operators, providers of Internet-based services and applications and suppliers of both soft and hardware might act in ways which are detrimental to competition and run counter to contracts with users.

As is pointed out in the Commission's questionnaire for the public consultation, the competitive dynamic in Europe and the degree of competition in access networks have fostered an open approach to the Internet. As has been emphasized by the Swedish regulator PTS¹ and has been concluded by Price Waterhouse Coopers (PWC) in a recent study commissioned by the Swedish Government², fierce competition between Internet access providers and a situation in which customers can make informed choices, have a strong disciplinary effect on operators and result in a firm protection of the open Internet and the principles of net neutrality.

Com Hem strongly emphasizes that both the *most effective* and *least market intrusive* way to avoid undue practices possibly being used by any contributor to the Internet value chain – including network operators – is to maintain and strengthen intense competition.

With a "competition approach" to the issue of potential undue traffic management practices, one focuses on the effects of traffic management practices for users rather than on the practices themselves. The "competition approach" also expands the scope for new and innovative applications due to the flexibility in business models between network operators and service providers. Further, with a "competition approach", regulators need not enter in costly and highly complicated definitions of acceptable management practices that in addition would run a high risk of being incorrect and/or out-dated.

With regard to competition, Com Hem stresses that there is a *difference between infrastructure-based competition and service-based competition*. Infrastructure-based competition implies that customers can choose between Internet access providers that act on different access infrastructures and/or control their own active equipment. Since traffic management is carried out in the active equipment on infrastructure level, infrastructure-based access providers are capable of choosing different traffic management practices and can thus compete with traffic management policies.

¹ PTS, Net neutrality, PTS-ER-2009:6.

² PWC, Net neutrality for Sweden – a structured industry dialogue, June 2010.



Infrastructure-based competition makes it rational for network operators to use the most user-friendly traffic management since such a strategy can lead to a greater market share. Consequently, infrastructure-based competition raises the risks for operators that use traffic management techniques that customers could perceive as undue, since customers can choose a competing access provider that employs different traffic management practices.

On the contrary, service-based competition, which e.g. takes place in so called “open FTTH/FTTB networks”, implies that customers can choose between access providers that act on the same access infrastructure and use the same active equipment. Control over infrastructure and active equipment is vested in another operator than the access provider. In the business model for open networks developed in Sweden, active equipment is controlled by a so called communication operator, with which the end-user in many instances doesn’t have a contractual relationship.

Because of the technical aspects explained above, service-based access providers have no possibilities to compete with user-friendly traffic management. To conclude, infrastructure-based competition creates a much stronger support for reasonable traffic management than service-based competition. Policymakers and regulators, with the ambition to promote an open Internet and avoid undue practices by operators with regard to traffic management, should prioritize and encourage infrastructure-based competition.

Further, if operators would use undue practices – disregarding the risks such actions would imply in the face of intense infrastructure-based competition – the present EU regulatory framework for electronic communication would, as far as Com Hem can anticipate, together with national legislation be capable of dealing with such undue practices.

Com Hem’s general remarks can be summarized as follows:

- 1) Traffic management by network operators is a prerequisite for a well-functioning and affordable open Internet and for the roll-out and maintenance of its underlying infrastructure.**
- 2) Traffic management is not only necessary from an operator’s view, it’s as necessary for end-users and innovative service providers.**
- 3) As on all markets, actors on different levels in the value chain of the Internet might abuse their position. The most effective as well as least market intrusive way to avoid undue practices possibly being used by any provider on any level of the value chain, is to maintain and strengthen intense infrastructure-based competition. Simply put, infrastructure-based competition disciplines market actors.**
- 4) However, with regard to network operators and traffic management, service-based competition which takes place in so called “open FTTH/FTTB networks” has no disciplinary effect on access providers at all. Internet access providers in open networks have no control over traffic management, and can thus not compete with user-friendly traffic management practices.**
- 5) With a “competition approach” to the issue of possible undue traffic management practices, focus lies on the effects of traffic management practices for users rather than on the practices themselves. Such an approach is consumer-oriented, supportive of innovation and involves low risks of incorrect and costly regulation.**



- 6) Existing laws and regulations, including the EU regulatory framework for electronic communication and national competition and marketing rules, are capable of dealing with undue practices that network operators potentially might use.

Com Hem's proposals can be summarized as follows:

- 1) Com Hem asks the Commission to address the issue of infrastructure-based competition versus service-based competition in the light of net neutrality, as well as the apparent risks of local authority involvement in financing "open FFTH/FTTB networks", in its coming report to European Parliament and Council.

3. Answers to the Commission's questionnaire

***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?*

Answer 1: To this date, Com Hem has not detected any concrete cases of undue or incorrect practices by network operators with regard to net neutrality in Sweden or within the EU. Neither has Com Hem's attention been drawn by any third parties to such actions. This description is confirmed by the Swedish regulator PTS in its report on net neutrality³. The consultancy firm Price Waterhouse Coopers (PWC) also draws the same conclusion in its report on a dialogue with industry stakeholders on net neutrality in Sweden, which was commissioned by the Swedish Ministry of Enterprise. Operators, regulators, policymakers as well as consumer and civil society representatives took part in the dialogue⁴.

The absence of undue practices in Sweden can be explained by the competitiveness of the Swedish market. Simply stated, Internet access **providers are disciplined by a competitive market**, and the need to maintain existing customers and add new ones by responding to consumer demands prevents the use of undue practices that are harmful to consumers.

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

Answer 2: Actors on different levels in the value chain of the Internet might, just as in all industries and on all markets, abuse their position. Network operators, providers of Internet-based services and applications and suppliers of both soft and hardware might act in ways which are detrimental to competition and run counter to contracts with users and partners. However, **to try to list all possible undue actions that might be taken on the different levels of the Internet value chain does seem neither viable nor fruitful.**

Instead, Com Hem emphasizes that **the most effective as well as the least market intrusive way to avoid undue actions possibly being taken by any provider on any level of the value chain, irrespective of the possible action, is to maintain and strengthen intense infrastructure-based competition.**

With regard to traffic management and network operators, it should be emphasized, as is further elaborated in section 2 above, that infrastructure-based competition makes it rational for network

³ PTS, Net neutrality, PTS-ER-2009:6.

⁴ PWC, Net neutrality for Sweden – a structured industry dialogue, June 2010.



operators to employ the most user-friendly traffic management since such a strategy can lead to a greater market share. Consequently, infrastructure-based competition raises the risks for operators that employ traffic management practices that users could perceive as undue, since users can choose a competing access provider that employs different, and in the customer's view better, traffic management practices.

However, **service-based competition, taking place e.g. in so called "open FTTH/FTTB networks", has no disciplinary effect at all on operators with regard to traffic management.**

Service-based access providers act on the same access infrastructure and use the same active equipment. Control over infrastructure and active equipment, where traffic management takes place, is vested in another operator than the access provider. In the business model for open networks developed in Sweden, active equipment is controlled by a so called communication operator, with which the end-user in many instances doesn't have a contractual relationship.

To conclude, **infrastructure-based competition creates a stronger support for reasonable traffic management than service-based competition.** Consequently, policymakers and regulators with the ambition to promote an open Internet and avoid undue actions by operators with regard to traffic management, should prioritize and encourage infrastructure-based competition.

From this perspective, a net neutrality problem that might arise in the future is the decrease of infrastructure-based competition and the replacement of infrastructure-based competition by service-based competition. In such a process, the market's own disciplinary effect on operators, as well as the customers' ability to use their purchasing power, will be diminished.

Hence, from a net neutrality perspective, policymakers and regulators should with worry consider the development on the Swedish broadband market. In Sweden, housing companies together with city networks, **in whole owned and controlled by local authorities**, are investing intensively in so called "open FTTH/FTTB networks" for multi-dwelling buildings. In these FTTH/FTTB networks, several service-based operators are competing on the same infrastructure and use the same active equipment. The infrastructure as well as the active equipment is controlled by a communication operator, which has a contractual relationship with the municipal housing company. The tenants can easily switch between the service-based operators in the "open FTTH/FTTB network", while the communication operator usually has a long contract with the municipal housing company.

Yet, so as to guarantee a high penetration of broadband customers in the newly built FTTH/FTTB networks, **several housing companies, owned by local authorities, are limiting or even blocking existing infrastructures** that compete with the FTTH/FTTB network. In the long run, **such actions from local authorities will disable existing infrastructure-based competition and deliberately create a situation in which only service-based competition occurs** within an "open FTTH/FTTB network". As noted above, and because of the technical aspects described in section 2, such a development would **hamper customers' ability to "punish" operators engaging in undue traffic management and would be seriously detrimental to net neutrality.**



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

Answer 3: Again, Com Hem stresses that the most effective as well as the least market intrusive way to avoid undue actions possibly being taken by any provider on any level of the value chain, *irrespective of the possible action*, is to **maintain and strengthen intense infrastructure-based competition**.

If operators would use undue practices – disregarding the risks such actions would imply in the face of intense infrastructure-based competition – the present **EU regulatory framework** for electronic communication would, as far as Com Hem can anticipate, **together with national legislation be capable of dealing with such undue practices**.

Regarding the actions taken by **municipal housing companies**, which risk being seriously harmful to net neutrality, Com Hem concludes that policymakers and regulators on both national and European level to this date either have lacked the right tools or in other ways have been incapable of effectively addressing the issue.

Here, it should be noted that the Swedish Government, in its Broadband Strategy issued in late 2009, specifically advises municipal housing companies to refrain from limiting infrastructure-based competition. Despite this clear recommendation, several municipal housing companies have continued to deliberately dismantle infrastructure-based competition.

Therefore, **Com Hem asks the Commission to address the issue of infrastructure-based competition versus service-based competition in light of net neutrality, as well as the apparent risks of local authority involvement in financing “open FFTH/FTTB networks”, in its coming report to European Parliament and Council.**

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?*

Answer 4: Traffic management by network operators is a **prerequisite for a well-functioning and affordable open Internet and for the roll-out and maintenance of its underlying infrastructure**. Traffic management is needed to guarantee security for both users and networks and it enables consumers to use the services and applications of their choice in a manner which corresponds with their expectations. For example, traffic prioritization during extreme peak loads enables operators to uphold the expected service quality for all users sharing the same network resource. In its report on net neutrality, **Swedish regulator PTS concludes that traffic prioritization often contributes to the consumer good, as long as it's carried out on a competitive market**.⁵

More, **traffic management is necessary for the continuing development of Quality of Service offers** (QoS-offers), upon which many electronic communication and media services, such as IP-telephony and video streaming, depend today. At present, QoS for Internet access services is most frequently used on the business user market, but could be further developed for private users. The possibility of an increased use of tailored Internet-based QoS-services on the private market effectively **enlarges the innovative scope for service and application providers**.

⁵ PTS, Net neutrality, PTS-ER-2009:6.



Traffic management is furthermore a prerequisite for the differentiation of services to end-customers. The more differentiated services on a market, the greater the customers' possibilities to find the service of their particular choice. In that way, traffic management enables more **fair and value-based pricing**.

From such a perspective, **traffic management is not only necessary from an operator's view, it's as necessary for end-users and service providers.**

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?*

Answer 5: Transparency is a central component of a competitive market. With transparency, customers can make informed choices, which mean that they can choose the operator that provides the services of their choice and that acts and behaves in accordance with their preferences.

Yet, it is important to emphasize that **for transparency to have its expected effect, there must be meaningful alternatives for the customer.**

With regard to traffic management and net neutrality policies, one can conclude, with reference to section 2 and answer 2, that infrastructure-based competition creates more relevant alternatives than service-based competition. Hence, **for transparency to be as effective as possible, it should be accompanied by infrastructure-based competition.**

It should furthermore be emphasized that the **importance of transparency applies to the whole value chain of the Internet**. Both providers of networks, services, applications and devices can influence the flow of packets on the Internet, and **the disclosure of relevant information on all levels of the value chain would contribute to the informed choices of the customers**. For example, it would be reasonable to require that providers of applications which demand significant bandwidth inform consumers about the effects of the usage of their services on other application that consumers might want to use simultaneously.

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

Answer 6: *If* principles governing traffic management **would be** developed and decided upon, those principles should be **technology neutral** and hence be the same for fixed and mobile networks.

Question 7-10: *See Commission questionnaire.*

Answer 7-10: Com Hem refers to Cable Europe's response to the Commissions consultation.

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?*



Answer 11: Com Hem questions the need for a regulated minimum quality of service requirement. Reasonably, the minimum quality of service for Internet access services is defined by the end-users, and is expressed in their consumption behavior. **Internet access services that deliver a quality of service that lies below the end-users minimum demand will not be consumed and hence not offered on the market** – as long as there are several alternatives on a competitive market.

As is expressed in Cable Europe's response, **vigorous competition vouches for minimum quality of service levels of Internet access services not falling short of end-users' demand.** And again, transparency in both offers and actual down- and up-loading speeds are central to consumers' abilities to both punish and reward network operators based on the operators' performances.

In some member states, practices and tools for comparison have already been developed to strengthen the effects of market mechanisms. In Sweden most of the major Internet access operators use "**interval contracts**" that clarify which minimum and maximum down- and up-load speeds end-users should expect. For example, an "interval contract" for a 24 Mbit/s service often guarantees down-load speeds between 12 and 24 Mbit/s. If the down-load speed falls short of 12 Mbit/s, the end-user can cancel the contract.

To facilitate end-users' examinations of the quality of their services, the independent foundation .SE, the Swedish Consumer Agency and the Swedish regulator PTS jointly have developed the "Broadband Check", with which **end-users can run independent trials** of their Internet access services. **In the light of such practices, Com Hem questions the need for further regulation.**

Question 12-15: See Commission questionnaire.

Answer 12-15: Com Hem refers to Cable Europe's response to the Commissions consultation.

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