

Fastweb's comments on the ERG Draft Common Position

'Next Generation Networks Future Charging mechanisms/ Long term termination issues'

Executive Summary

Fastweb welcomes the opportunity given by ERG to comment on the crucial issue of designing appropriate regulatory policy on interconnection charging mechanism in an all-IP world. Although it may prove as an effective solution to solve current issues connected to the distortive asymmetric termination fees between mobile and fixed network operators – a critical issue for the future development of the telecommunication markets in EU - Fastweb believes that the introduction of a pure B&K model not taking into account of the current and future structure of the IP ecosystem may raise some critical issues.¹

In fact, by completely eliminating termination fees, a pure B&K regime may cause other distortions deriving from incorrect economic signals on the value of the network and not allow operators who invest in networks to recover their costs. In general, traffic between two telecommunications operators with direct access to customers is balanced (a customer generally generates the same amount of outgoing and incoming traffic).

Thereby, in this scenario, a B&K mechanisms would prove to be effective to eliminate distortions deriving from termination rates of one operator which may not be cost oriented (as is currently the case for mobile operators). Nevertheless, in today's scenario of convergent voice and data offer made possible by the VoIP protocol, there are pure service operators providing over the top VOIP services (eg. Skype, Vonage) to consumers who would terminate their traffic over infrastructures built by other network based operators basically for free.

Currently (and this is the case also for IP networks), termination services still imply a cost for the receiving network, especially in terms of capacity allocated to allow the traffic to reach the end-customer. Therefore, in situations where traffic exchanged between two operators is more or less balanced (ie. the benefit received for outgoing traffic is compensated by the costs borne for incoming traffic), a "pure" B&K mechanism without compensation for traffic imbalances would be perfectly efficient.

On the contrary, when there is a significant imbalance of volumes, the B&K scenario would determine competitive distortions, Fastweb fears that by not taking into account such existing traffic imbalances and the different types of operators providing services in an IP environment may send wrong signals to operators in the market, thereby creating allocative inefficiencies.

¹ Detailed motivations for statements at point a) are extensively treated in answers to Question n. 1 and 2, while on point b) see answers to Question 4 and 5.



At the same time, Fastweb believes that in turn, this is likely to weaken incentives for operators to develop QoS guaranteed voice services over IP, with further damages to consumers.

In principle, Fastweb believes that the positive effects in terms of level playing field and consumer welfare that may derive from the implementation of a B&K regime may be equally reached through the harmonization of the methodology adopted by NRAs to determine truly cost-oriented termination rates based on adequate efficiency parameters for both fixed and, even more importantly, mobile operators. In particular, the distortions deriving from excessive mobile termination fees must be eliminated rapidly.

If these distortions are eliminated, the maintenance of a value for termination creates the right incentive for operator to invest for the delivery of guaranteed QoS service in the IP environment.

Therefore, should a B&K model be opted for, it should be implemented:

- a) rapidly, i.e. without waiting the process leading to symmetry among fixed and mobile operator termination rates, in order to promptly and efficiently address the fixed-mobile distortive subsidization.
- b) solely among infrastructured network operators, whereas a value for termination should be kept for non-infrastructured service operators wishing to terminate their services on traditional network;
- c) taking into account existing traffic unbalances between different types of operators, envisaging a compensating mechanism through which operators which are net receivers of traffic would be able to charge capacity-based fees only for exceeding volumes for exceeding volumes through a capacity-based .



Introduction

Today, interconnection agreements for voice services are in place between telecommunications operators (fixed and mobile) who have their own network with direct access to end customers to allow their customers to call users connected to a different operators' network as well as to allow users on other networks to call their own customers. Typically inbound and outbound traffic to/from a single customer is balanced in terms of volumes, therefore should termination fees be symmetric we would have a "de facto B&K" in place as what each operator pays to other operators would more be balanced by the fees it receives. Under the current regime though, given the lack of cost orientation of termination fees and the different methodologies in place for determining the value of termination of different categories of operators, we face the situation in which some operators (typically mobile operators) are able to not only to fully recover their costs but also make unjustified extra profits whereas other operators (typically fixed alternative operators) are not even allowed to recover their costs.

In this context we recognise that Bill & Keep may provide an effective and simple solution to solve these competitive distortions and allow for a more effective level playing field between operators as it would avoid situations in which, due to mobile termination fees being far above underlying costs, fixed operators end up "financing" mobile operators, introducing relevant distortion and jeopardising the development of sustainable competition. Setting terminations fee to zero appears as a straightforward and effective solution that would immediately solve any disparity of treatment between fixed and mobile operators in the level of cost recovery allowed eliminating the need for NRAs to verify termination charges

Nevertheless, this approach makes sense and is applicable to situations where traffic exchanged between two operators is balanced (ie. the benefit received for outgoing traffic is compensated by the costs borne for incoming traffic).

On the contrary, in situations where there is a significant imbalance of volumes, the B&K scenario would introduce different competitive distortions, since network operators who receive more traffic than they send would bear costs without receiving a correspondent benefit. On the other hand, operators who generate the traffic receive a benefit without bearing in exchange any cost. We believe that such traffic imbalances may actually become more relevant in the IP environment and as such, a pure B&K regime may lead to dangerous market distortions.



Question 1 (Section 1): Do you agree that in a multi-service NGN environment, in which different services use a shared transport layer, different interconnection regimes for different services could create arbitrage problems? If yes, could you describe the problems that you foresee or that have already occurred. If no, what prevents these arbitrage problems in your view?

Fastweb agrees that in the transition from traditional network to the IP-based network different interconnection arrangements might favour arbitrage phenomena between regulated and non-regulated services, such as unmanaged VoIP. As ERG recognises, the main feature of an IP network is the separation between the infrastructure and the service layers. Unlike traditional networks, where only network operators were able to provide voice and other services, the IP environment allows independent third party operators that, with little or no infrastructure, taking advantage of existing peering agreements, can offer unmanaged voice over IP services at a national or even international level, in competition with voice services provided by infrastructured network operators. **Therefore, operators such as Skype and Vonage are able to take advantage of network deployed by other operators for terminating voice calls at zero cost. Since the cost of the network deployed to allow direct access to the end customer is obviously higher than zero, it means that these “service” operators rely on investments made by third parties to provide their services.**

However, Fastweb believes that focusing on the above-mentioned arbitrage phenomena in order to identify the most efficient charging mechanism in an all-IP context may lead to the wrong conclusion. In fact, whereas the impact of arbitrage implemented by VoIP operators is substantially limited by the different quality provided by unmanaged services *vis à vis* the quality provided by Telcos on traditional networks and, in the future, through end-to-end off-net managed VOIP services, the main anti-competitive issues related with interconnection regime in existing and future NGA networks remains the network operators' incentive to raise rivals' costs by leveraging on the “termination monopoly.”² In this context the current asymmetry between fixed and mobile operators termination rates introduces further distortion representing a “de facto” subsidy flowing from fixed operators to mobile networks.

B&K, free riding and development of “guaranteed quality” VoIP services

As highlighted above, although Fastweb recognises that the adoption of a B&K charging mechanism would certainly address arbitrage phenomena as well as the more relevant competitive distortion highlighted, it should be taken into account as it might also pave the way for “free riding” behaviours by unmanaged VoIP service providers. Indeed, in a B&K scenario, VoIP service providers would be able to interconnect with network operators terminating calls on traditional networks or through managed services at “zero charge”. As such, VoIP service providers would be able to deliver quality services in direct competition with network operators at a lower price, exploiting the investments borne by the latter and leaving the infrastructure operator to bear all the costs of deploying and maintaining the network. The free riding phenomenon would put service providers in the situation of enjoying an unjustified advantage *vis-à-vis* network operators.³

² See WIK on the persistence of termination monopoly.

³ See WIK Report “*The Future of IP Interconnection: Technical, Economic, and Public Policy Aspects*”, 2008, p. 117-



Moreover, in a forward-looking perspective, a pure B&K may end up discouraging the development the provision of services at guaranteed quality across networks.⁴ Under a B&K regime, non infrastructured VoIP operators would be able to terminate their calls at zero cost on managed VOIP developed by network operators. The relevant investments borne by infrastructured operators would generate the same advantage for the operators that makes the investment as well as the others. At the same time, the non-infrastructured VoIP operator, not having any investment to recover, would be able to set an extremely low price for voice services, putting pressure on the retail price of the infrastructured operator, who would not be able to recover its investments in the retail market. In such a scenario it is likely that unmanaged, low quality, voice over IP services will become the *de facto standard*.

Therefore, should a “pure” B&K regime be adopted without taking into account the context described above, it might generate negative effect on the capability of network operator to invest as well as on future development of VoIP services market. Under the conditions described above, **maintaining a value to the termination** on traditional as well as IP networks appears the most appropriate tool to determine a level playing field between VoIP service providers and vertically integrated PSTN/PLMN/managed VoIP operators, and to allow the development of higher quality voice services for the benefit of end users.

In such a scenario, **a rapid transition towards termination rates based on effective “incremental costs”** so to reach a “symmetric model” of interconnection charges between all kind of operators as indicated by the European Commission in the “Recommendation on the Regulatory Treatment of Fixed and Mobile Termination Rates in the EU” **appears to be the most effective answer to regulatory issues raised by the termination model, e.g. the fixed-mobile subsidy as well as the “raising rivals cost” issue**⁵. Moreover, as maintained by the European Commission, the implementation of a tight regulation both on fixed and mobile operators will probably result in “*a significant reduction of termination rates from current levels [which] might create appropriate incentives for voluntary inter-operator agreements and consequently Bill and Keep type arrangements could evolve naturally*”⁶.

⁴ See WIK, Net Neutrality implications for Europe) on the adoption hump of a differentiated QoS business model.

⁵ EVIDENCE (INDIA – art. Scott Markus from WIK).

⁶ See the “Commission staff working document on the Regulatory Treatment of Fixed and Mobile Termination Rates in the EU “, pag. 29, available at:

http://ec.europa.eu/information_society/policy/ecom/doc/implementation_enforcement/article_7/explanatory_note.pdf.



Question 2 (Section 1 & 2.2): What is the influence of the separation of transport and service for the interconnection regime and in particular the charging mechanism and in what way are NGNs and BaK related?

Fastweb shares ERG's view that the evolution towards NGA will be crucial for the insurgence of "service aware" and/or "service agnostic" network. In particular, we agree that this evolution will have a relevant impact on the definition of "service interconnection" and its charging mechanism.

As recognised by ERG, "service interconnection" (i.e. the capability to deliver end-to-end "QoS guaranteed" services across networks) is a much more complex environment than "transport interconnection" (the simple, "best effort" IP connectivity) since it involves technical and commercial agreements between network operators as well as between a content/service/application provider and a network operators on SLA, economic conditions and logical interfaces. Indeed, in the IP environment such service interconnection will result critical to allow the development of those services for which - like voice - users will expect the same quality experienced in the traditional environment.

Positive impact of maintaining QoS management for VoIP has been analysed in the WIK study "The Future of IP Interconnection", which has concluded that guaranteeing quality and prioritization in the provision of VoIP will work well for consumers and service providers. Indeed, as pointed out in the report: *"the degree to which non-voice traffic is likely to be slowed by prioritised voice traffic is not likely to be a concern; moreover, the benefits for the voice traffic (reduction of the risk of momentary overload of some circuit along a long path) are clear"*.

In order to guarantee the capability to manage end-to-end VOIP services across networks, specific investments will be necessary. Therefore, the interconnection **pricing mechanism in an all-IP environment should recognise a specific remuneration for the additional investments carried out by operators for implementing service interconnection and "QoS guaranteed" services in order to** minimize both end-to-end delay (reflecting both the average and the variability of delay) and packet loss, enabling on IP the same quality that users are accustomed to on traditional PSTN networks..

As recognised by WIK *"implementation of QoS between network operators probably depends on non-zero payments"*⁷ On the other end, as highlighted above, eliminating the possibility to charge termination fees for the provision of QoS IP voice services will discourage **QoS differentiation preventing the improvement of current VoIP service standard, the development of innovative services and the development of a two-sided business model that can contribute to the sustainability of NGA business model**⁸.

⁷ WIK signals that the spirit of this suggestion comes from the work of Laffont and Tirole "Competition in Telecommunication" (2000), who proposed that if regulators were to set broad overall caps on profitability, operators would be motivated to implement efficient Ramsey-Boiteux pricing structures, namely pricing structures that reflect the degree to which demand is elastic in response to price, by themselves.

⁸ On the factors which can lead to the adoption of a "differentiated QoS model" beneficial for consumers see Marcus, J. Scott (2006) "Framework for Interconnection of IP-Based Networks, Accounting Systems and Interconnection Regimes in



Question 4 (Section 4.2): What is your conclusion on the relationship between the charging mechanism and penetration, usage and price level?

ERG claims that the introduction of B&K would lead to “significant higher usage and lower price per minute that, with possibly higher prices of low usage offers and slightly lower mobile ownership, overall will lead to higher consumer and total welfare”⁹.

We believe that, **effective cost-oriented termination charges and symmetry between fixed and mobile operators would lead to similar results in terms of consumer welfare, without the distortions introduced by a pure B&K model.**

If B&K allows to reduce the price of outgoing calls, it is also true that costs will be likely recovered by operators via increased access fees. In other words, as the voice services increasingly become a commodity, the value of accessing the network increases and is charged for. On the other hand a B&K solution for balanced volumes may effectively lead to higher benefits for consumers by eliminating current distortions deriving from non cost oriented mobile termination rates and creating a more level-playing field between fixed and mobile operators in offering fixed-mobile services. Nevertheless, incentives to invest and adequate remuneration of networks should be maintained as a principle. This commoditization of voice services would be accelerated by the free riding phenomena described earlier, as user would shift from services offered by the network operators at a cost to services provided for a lower cost or for free by unmanaged VOIP operators.

This would ultimately reduce the capability of operators to apply price discrimination between customers only interested in access and broadband services and customers willing to pay an extra price for additional voice services as well as to maintain cheap access rates for low-end users interested in receiving rather than making calls, therefore leading to a generalised increases of access prices and a loss of consumer welfare.

The same positive result in term of lower outgoing calls prices, without the competitive distortions described above, would be achieved through symmetric and cost-oriented termination rates, as it is currently being experienced in several EU markets, following the regulatory reduction of MTR and FTR¹⁰. In the USA, where a B&K system is in place, fees to access mobile and fixed networks are relatively higher than in Europe as well as the ARPU which operators are able to extract from consumers.

the USA and the UK” Report for the Bundesnetzagentur, Bad Honnef, 2006., available at: <http://www.bundesnetzagentur.de/media/archive/6201.pdf> .

⁹ ERG Draft, p. 9.

¹⁰ See OFCOM, *Wholesale mobile voice call termination, Preliminary consultation on future regulation*, May 2009, available at <http://www.ofcom.org.uk/consult/condocs/mobilecallterm/summary/>.



Question 5 (Section 5.1.3): How does BaK affect regulatory certainty and the risk of legal disputes?

We recognise that a pure B&K approach could in theory guarantee a regulatory simplification by eliminating the complex process of calculating and approving termination rates. Nevertheless, as highlighted in the Draft, setting the interconnection price of any service at zero may ultimately introduce other kind of market distortion, bring arbitrage opportunities (between countries in which B&K is adopted and countries with traditional CPNP termination models), lead to inefficient traffic routing and inefficient network utilisation. On those matters, **regulatory intervention would naturally increase.**

Most importantly, it is not clear, given the current framework, **which legal basis might allow the introduction of a B&K in EU**, as existing regulation is firmly grounded in established concepts of cost-orientation of call termination prices. Therefore, the adoption of pure B&K would formally introduce a new form of price control, currently not envisaged in the European Framework, which can be easily exposed to legal challenges.¹¹ On this matter, Fastweb believes that imposing a B&K with a “correction” for imbalanced traffic would be more consistent with EU regulation and underlying economic rationale of allowing cost recovery and non discrimination.

It should also be noted how it is not certain that to the possibility for pure B&K regime to sustain the **“proportionality test”** needed by the European Framework. Indeed, as stated above, a generic B&K interconnection regime would imply would on QoS differentiation *only on voice services* which might prevent the amelioration of current VoIP service standard, the development of innovative services and the adoption of a widespread system of QoS differentiation. “Proportionality” issues are likely to increase as the the reduction of termination rates requested by the EU Commission is completed. On this matter, Fastweb thinks, consistently with the position held by the European Commission, that *“a significant reduction of termination rates from current levels might create appropriate incentives for voluntary inter-operator agreements and consequently B&K type arrangements could evolve naturally”*, thereby avoiding possible legal challenges to regulators.

Question 8 (Section 5.3.5): How would your business be affected by a move from CPNP to BaK? Please explain the expected impact on prices, volume of supplied services and profit.

As a fixed operator non integrated with mobile services, the most relevant advantage introduced by B&K would be the elimination of the fixed-to-mobile subsidy currently in place.

In order to be effective though, **B&K for balanced volumes should be implemented rapidly, possibly within the current round of market analysis**, so to reach immediate benefits for competitive market players and consumers. As an alternative solution, the same positive results would be achieved through the achievement of symmetry between fixed and mobile termination

¹¹ See J. Scott Marcus, “IP-based NGNs and Interconnection: The Debate in Europe”, Communication and Strategies, no. 72, 4th quarter 2008.



rates, making it unnecessary to introduce a mechanism such as a pure B&K that, as explained, may introduce further distortions.

As explained earlier, a pure B&K mechanism, would basically remove any value for use of networks to provide voice services and would remove any economic signal for additional investment on networks and the discrimination in terms of usage of the network (meaning that if an operator has a greater usage of the network it should sustain a greater cost). Also, current pricing packages based on standalone access with pay per use voice services (or additional charge for voice services) would disappear leading inevitable to bundled offers of access plus voice. This may lead to less customer choice and increased prices for customers who, for example, are not interested in voice services bundles. In the exiting scenario it is still possible to offer differentiated prices for standalone access and for access bundled with voice services – therefore offering lower access prices to customer not interested in voice services or to low-end customers. Should a B&K regime be introduced, the competition with non infrastructured VOIP operators would make it impossible to attach any value to voice, therefore leading to increased prices for access services for all the users.