ECTA's comments on the ERG Draft Common Position
'Next Generation Networks Future Charging mechanisms/ Long term termination issues'

Executive Summary

ECTA welcomes the ERG's continued thorough work on IP interconnection and the opportunity to comment on the ERG's draft Common Position.

There is a divergence of opinions within the ECTA membership. Some members are positive about BaK or favour termination regimes which could lead to its voluntary adoption in the near future, while others oppose it or believe that consideration of BaK is premature. This position paper will reflect the different views where these exist within ECTA's membership.

Most of ECTA's fixed only consumer broadband and triple play competitor members agree with the main conclusions of the ERG and could envisage a glidepath leading to Bill & Keep (BaK) already in the currently ongoing or next round of termination markets' analyses as the alternative to the currently existing regulatory regime for setting termination charges. Their preferred solution would be, however, a glidepath to a regulated and minimal termination rate that is symmetric between mobile and fixed operators. This symmetric termination rate would not be intended to cover all of the incremental costs of termination but to maintain a monetary value attached to the termination service and therefore should be very close to zero. In such circumstances BaK could emerge on a voluntary basis.

Other ECTA members would like to see the Termination Recommendation effectively implemented across Europe as a matter of priority and mostly would like to have BaK considered only after genuinely cost based termination rates will have been achieved.

All ECTA members agree that if BaK is introduced as the charging mechanism replacing Calling Party Network Pays (CPNP) it should be done in a harmonised manner across all Member States including a harmonised timeframe in order to avoid distortion of competition and divergent implementation.

After symmetric and very low termination rates are reached (either minimal or cost based) and there remains an obligation on operators to interconnect, BaK could be expected to evolve on a commercial basis similarly to the development of the mobile termination regime in the United States.

In case, however, BaK is refused by dominant operators with a high share of subscribers and BaK is considered appropriate, under such circumstances it might be necessary for NRAs to mandate BaK and define the criteria for operators wishing to benefit from mandated BaK.

It is reasonable to define the eligibility criteria for mandated BaK as interconnection at a minimum number of Points of Interconnection (PoI) set by the NRA according to the location of the termination bottleneck.

Transit, information and other premium services should be excluded from the BaK domain.

The impact of BaK on operators' businesses largely depends on their current business models. For many operators the most significant impact is expected, however, from the reduction of termination rates to genuine cost base rather than the move from CPNP to BaK after cost based termination rates are achieved.

Responses to the ERG's questions

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?

ECTA agrees that in the transition from traditional networks to IP-based networks and also afterwards in an NGN environment different interconnection arrangements might lead to arbitrage problems, for instance between regulated and non-regulated services. However, this is not certain.

As the 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 to offer unmanaged voice over IP services at a national or even international level, in competition with voice services provided by network operators exploiting the price differential between traditional PSTN interconnection and IP interconnection and profiting from arbitrage in order to provide voice services on a global scale. Currently, 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 network operators and in the future through end-to-end off-net managed VoIP services.

In light of this, NRAs should not hamper the possibility for network operators to offer higher QoS in the provision of VoIP services. In this context mandated BaK could potentially increase arbitrage problems described above by preventing the collection of QoS payments. It might also prevent the rise of a virtuous circle towards the adoption of higher QoS standards in managed VoIP service provision by network operators. Indeed, as affirmed by WIK,(2008) "*implementation of QoS between network operators probably depends on non-zero payments, which are best determined by the operators themselves*".[1]

Set against this, there is still a bottleneck with respect to ownership of the number, i.e. this inherently terminates to a single network termination/operator. This means that any

[1] See WIK Report "*The Future of IP Interconnection: Technical, Economic, and Public Policy Aspects*", Report for the European Commission, 2008, p. 130, available at: http://ec.europa.eu/information_society/policy/ecomm/doc/library/ext_studies/future_ip_intercon/ip_interc on_study_final.pdf.

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

arbitrage will either involve a modification of calling customer behaviour to call an alternate number/address to exploit the lower unregulated termination charge, or a mechanism (such as ENUM) by which calls to a given number can be routed via alternate termination route. Incumbent operators are unlikely to co-operate in such mechanisms, though, meaning it would be consumer-led and this will constrain take-up.

A minimal and symmetric termination fee for all operators (both fixed and mobile) that is not intended to capture the costs of termination but to maintain a value attached to the termination service might prevent the arbitration and adoption problems described above.

However, the main anti-competitive issue related to the current and future interconnection regime is the incentive for network operators to raise rivals' costs by levying on the termination monopoly, which we expect to persist also in the transition towards NGA networks and the development of an all-IP interconnection model.

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?

In an all IP world, voice traffic will be only a fraction of all traffic, which could make minute based pricing less relevant. Therefore, it can be expected that another charging mechanism will emerge, especially after termination rates become very low.

The alternative charging mechanism could be BaK or for instance capacity based charging. Currently capacity based charging co-exists with per minute charging in Spain and Portugal. If capacity based charging is introduced, careful consideration will be required as to the unit of charging : for example although bandwidth is frequently considered, in fact an equally important cost driver in NGNs is callserver capacity, which is driven by peak call attempts and delivering calls to the correct callserver as well as correct media handover.

The advantages of capacity based charging compared to time based charging are that it allows more flexibility in retail pricing and could be applied one-way only as well.

At the same time NRAs would need to deal with the same pricing problems as today and presumably need to set cost based and symmetric termination rates. The unit of the capacity would also need to be defined.

Capacity based charging might also advantage operators with a large customer base aggregating a lot of traffic, unless there is a pooling arrangement in place.

Since the termination monopoly is not eliminated, the terminating operator might apply technical conditions that are generating more termination revenues for instance by requiring the use of a greater bandwidth protocol then necessary, which needs to be prevented by NRAs.

Regarding the relationship between NGN and the choice of wholesale charging mechanism for termination, it will be certainly a challenge for NRAs that it is more difficult to define the costs of voice termination in an NGN context, which makes cost

based pricing increasingly burdensome for NRAs whilst voice traffic will be only a fraction of all traffic. .. BaK is one of the charging mechanisms that does not require the establishment of incremental termination costs by NRAs, but it should not be linked to NGN, since it can be applied also in a PSTN or 2G mobile context.

BaK would be preferred by most of ECTA's fixed only broadband and triple play competitor members over the current termination regime. Their preferred solution, however, is regulated, minimal and overall symmetric termination charge that is not necessarily intended to cover incremental termination costs but to maintain a certain monetary value attached to termination services. Such a solution would not require NRAs to continue carrying out the currently required BU-LRIC modelling exercise but could address some of the issues of concern associated with BaK.

Question 3 (Section 3.2): How would you define the boundary for the application of BaK and where should it be located (i.e. points of interconnection where BaK is applicable)?

ECTA agrees with the definition proposed by the ERG for the boundary of a regulated BaK domain. The boundary should be the set of minimum number of PoIs at which BaK applies only if an operator connects to all of these PoIs and delivers calls to the correct PoI.

If BaK is applied as a regulatory obligation, NRAs should define the boundary where BaK is applicable. This could be defined by setting eligibility criteria for operators to benefit from BaK by requiring interconnection at a minimum number of PoIs.

The minimum number of PoIs to qualify for BaK should be set according to the location of the bottleneck, i.e. the non duplicable network element. This should be defined by the NRA and should serve as an eligibility criterion as well as the maximum number of PoIs the SMP operator may require.

If an operator is not able to interconnect at all of the required minimum number of PoIs BaK with a transit surcharge for instance could still be possible. Equally, the SMP operator (operator with the largest customer base and/or traffic) might wish to offer interconnection at more points than the minimum number of PoIs on a voluntary basis, but should not be able to require interconnection at all of these points.

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

It is difficult to draw a conclusion on the relationship between BaK and penetration in the context of its introduction to the European market. Mobile penetration is already very high in Europe, on average 123%, and it seems that the level of mobile termination rates is not very strongly correlated with penetration but has a significant impact on the minutes of use.

In the US, BaK is used as the predominant charging mechanism for mobile termination and mobile penetration is lower than in Europe. On the other hand mobile penetration is

at similar levels to the EU average (slightly higher) in Singapore and Hong Kong, although these are very densely populated, urban areas
Even if the level of MTRs and penetration rates are considered to be reasonably correlated, the major impact on penetration can be expected from the reduction of MTRs to genuine cost base according to the Termination Recommendation. Once MTRs are at a very low, symmetric level across Europe the move to BaK should not be expected to have a significant impact on mobile penetration.

In terms of welfare properties, BaK seems to be a more efficient way to cover costs in the presence of call externalities. The price of outgoing calls is reduced, while costs are recovered mostly via increased fixed fees and possibly but not necessarily, via the introduction of recipient charges.

However, the exact structure of the prices is a marketing and business strategy question and can be driven by various factors. Nevertheless the current trend towards retail bucket pricing and retail flat rates or quasi flat rates both in the fixed and the mobile sectors seems to point in this direction. Therefore under the BaK regime competition is likely to shift to the provision of network access to customers. Instead of generating revenues from charging for usage (which is inefficient, both because marginal costs are very close to zero and because even if the termination rates were set at the marginal costs, call externalities would still be unaccounted for), revenues would stem from providing access to the network.

An example is the US BaK system, which makes calls cheaper for end users. As a result, consumers make many more calls in the US (MoU) than in Europe. Consumers buy bucket plans, a bundle of inclusive minutes (both for making and receiving calls). The allowance is typically very generous so that customers use their mobile phones according to their needs and are prepared to pay reasonably well to access the mobile network. This is why ARPU in the US is actually higher than in other countries. Bucket plans with lots of inclusive minutes seem to be very successful in alleviating any consumer reluctance to pay for receiving calls: people do not actually pay for receiving calls ex post but ex ante to get access to the network.

On the other hand there is a potential for a ‘waterbed effect’ in Europe, which could imply an increase of retail prices by operators in order to be able to recover their costs.

It is a possibility that BaK at the wholesale level will lead to the introduction of Receiving Party Pays (RPP) at the retail level. Taking the US example, however, the primary driver of usage is the certainty of a flat rate for a large number of minutes that the user is unlikely to exceed and in case of exceeding the bucket minutes the certainty of low per unit additional retail tariffs.

In conclusion, BaK facilitates flat-rate or bucket offers including large amounts of voice minutes, which tends to drive up usage and decrease significantly the per unit price.

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

It is not the choice of a certain charging mechanism that affects regulatory and legal certainty but how effectively it is put in place, regulated and if necessary enforced by

NRAs. In the long term, however, it can be expected that a permanent zero termination rate would lead to increased regulatory certainty regarding termination costs and revenues.

If BaK is introduced, a harmonised approach across Europe including a harmonised timeframe and migration process would decrease regulatory uncertainty by reducing the possibility of diverging regulation.

The most high risk period in terms of certainty is the transition period, therefore it is key that migration processes and timeframes are defined and are also harmonised. The most likely contentious issues are minimum QoS, tromboning and perhaps the exact location and number of PoIs required in order to benefit from BaK. Other dispute areas could be the refusal to provide interconnection, discriminatory treatment of QoS and blocking because the originator is perceived as a source of SPIT.

The advantage of a minimal, symmetric termination charge is that it would make quality of service requirements/undertakings more easily enforceable.

Question 6 (Section 5.2.1.3): How do different wholesale charging mechanisms impact on the number of unwanted calls? Do you expect (other) effects on consumers/consumer groups? Where possible, provide a quantitative assessment of the expected effects.

It seems reasonable to assume that BaK could lead to a higher level of unwanted calls, especially if it becomes possible to originate bulk calling at very low cost, which may be commercial or non-commercial calls.

This would be a particular problem in relation to automated calling from computers based outside the European Union, in countries where the use of such machines is permitted (or indeed where they're not permitted but finding the source of such calls is a problem).

The issue of unwanted voice calls should be carefully examined, based on available international experience in voice and e-mail.

SPAM text messages used to be a significant problem in Europe prior to the introduction of SMS termination charges and email SPAM is a good illustration of the dissatisfaction and irritation SPAM can cause to end users.

An analysis of the experience with SPAM in the currently existing US BaK domain and the previous BaK system in France would be useful to understand better the significance of this problem.

Question 7 (Section 5.2): How do you assess the quantitative relevance of call and network externalities?

ECTA has no comments on this question.

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.

The most significant impact on telecoms operators' businesses is expected from the reduction of termination rates to very low (close to zero) levels according to the Termination Recommendation.

A move from CPNP to BaK after termination rates will have been decreased to genuine cost levels is not expected to have a radical impact on businesses. If a glidepath is set, however, from currently prevailing MTRs to a zero termination rate that would have a serious business impact.

The retail business model of operators would be affected by significantly reduced or zero termination rates depending on their current retail products and retail charging mechanisms.

Competitive fixed residential broadband and triple play providers do not foresee a significant change in their retail products; they already offer predominantly flat rate bundles and buckets. With the reduction of MTRs to very low levels or zero the primary change expected is the inclusion of mobile minutes in the bundles, which currently can be afforded only by vertically integrated fixed and mobile operators for on-net calls.

All other types of operators currently charging their customers on a per minute basis would need to reconsider that retail business model and move to buckets and bundles.

With the reduction of MTRs to a very low level or zero on-net off-net discrimination would be less pronounced and smaller mobile operators could also include generous amounts of off-net calls in their buckets.

Mobile operators serving niche and primarily pre-paid segments of residential customers would need to rethink these products, the profitability of which is currently based on the termination revenue from incoming calls.

Many ECTA members expect that with zero or nearly zero termination rates the per unit retail price for voice services will also significantly decrease and flat rate or bucket offers including a large number of both fixed and mobile and on-net, off-net minutes will become predominant. This is likely to gradually increase the minutes of use by customers to the level of their actual needs.

Question 9 (Section 6.1): Do you agree with the conclusion that operators/users in the BaK domain will subsidise traffic coming from outside the domain (regardless of the legal aspect)? Are there any mechanisms to prevent this and how will they work in your view, in particular to avoid arbitrage?

It is most likely that there will be a certain amount of subsidy to traffic coming from outside of the BaK domain. Subsidisation and arbitrage problems are likely to be more pronounced if BaK is applied in only one or few isolated countries. Should one Member State move to BaK alone, which is a scenario that is recognised by the ERG as possible, there will be a subsidy from that Member State to the rest of EU countries applying the

cost based termination fee regime. This is one of the reasons underpinning the argument that if BaK is introduced it should be done so in a harmonised manner across Europe with a harmonised timeframe and final deadline.

In case BaK is applied in all EU Member States there will still be a subsidy to countries outside the BaK domain. For those countries that have experienced large amounts of off-shoring of call-centres, this could be significant.

Question 10 (Section 6.3): Do you see any implementation problems for a migration period towards BaK? How could such problems be addressed?

If BaK is implemented it should be synchronous across Europe with a pre-defined and harmonised timeframe and migration process.

As regards the length of the glidepath, most fixed consumer broadband and triple play competitors could envisage a glidepath leading to BaK already in the currently ongoing or next round of market analyses as the alternative to the current regime of termination regulation.
Their priority, however is a glidepath to a minimal termination rate, very close to zero and applying symmetrically to fixed and mobile operators in order to maintain a monetary value attached to the termination service within the same timeframe.

Other ECTA members would like to see the Termination Recommendation effectively implemented across Europe as a matter of priority according to the timeframe foreseen by the Recommendation and mostly would like to have BaK considered only afterwards.

In case termination rates are reduced to a minimal or genuinely cost based level BaK could evolve on a commercial basis.

Other Issues

- Hot potato routing
  In addition to the definition of the minimum number of PoIs, NRAs should also set routing requirements so that traffic is handed over at the right PoI and inefficient routing practices are avoided.

- Quality of Service (QoS)
  We agree with the conclusion of the ERG that dominant firms offering termination are able to and may have incentives to degrade the quality of incoming traffic, therefore in a regulated termination regime minimum QoS requirements are necessary.
  The enforcement of non-discrimination with regard to QoS is likely to be a significant task for NRAs as detection/proof will be difficult.
  The precise content of QoS requirements should be defined by NRAs rather than imposing only a generic non-discrimination obligation.

- Carrier Pre-Selection
  The obligation on incumbents to provide CPS should be maintained and the right to terminate traffic should be available to all service providers.

Under BaK CPS operators would pay for origination as they do today and cost modelling for origination would remain necessary.
The charging mechanism for termination should be non-discriminatory and the price should depend on the PoI where the traffic is handed over and not the type of the operator handing over that traffic.
ECTA broadly agrees that the charging method for CPS should ensure a fair cost recovery for incumbents, but the charging method chosen by NRAs should prevent double recovery by the incumbent.
There will be a continued need therefore to regulate any cost recovery mechanism for CPS (including potentially a mark-up approach) by NRAs, which is likely to result in an ongoing cost modelling exercise.

Question 11 (Section 7): Does the draft CP miss any other relevant issues?

An underlying assumption in the ERG paper seems to be that BaK will considerably simplify the requirements for traffic measurement and recording. However, there would still be a requirement for operators to measure traffic to enable charging for CPS, NTS and PRS, and for network management and dimensioning. Call records will still be required for security purposes. We suggest therefore that further study should be conducted into this aspect.

In particular, the review of the interconnection regime in the context of the gradual switch to an all-IP environment (regardless of the underlying infrastructure) should be used by the ERG and its members as an excellent opportunity to ensure that charging mechanisms allow all Electronic Communications service providers to have control over the retail prices invoiced to the users of their services; A specific illustration is that of directory service providers, which have the status of ECS (contrary to all other PRS providers) and are recognised as delivering a service of social value, but find themselves incapable of controlling the price charged at retail level to their customers and simply buying the wholesale interconnection inputs required to deliver this service. This makes it impossible to offer a homogenous price across all networks for the benefit of consumers. Surely such a regime cannot continue to be maintained going forward, both in terms of economic logic and consumer benefit?

It is a challenge for mobile operators, in particular for later entrants to the mobile market with a smaller amount and/or worse part of the spectrum to maintain the quality of their voice termination services in light of the rapid growth of mobile data traffic.