

**ERG Draft Common Position on
Next Generation Networks Future Charging Mechanisms /
Long Term Termination Issues**

- QSC AG; Germany response December 2009-

General Remarks

QSC does welcome the ERG Draft Common Position above and supports its findings entirely. We see BaK as a very promising development some important competitive problems. As a necessary first step we envisage a glidepath leading to Bill & Keep (BaK) already in the next round of termination markets' analyses by first achieving symmetry between FTR and MTR. After symmetric and low termination rates between fixed and mobile operators are reached (up to 1-2 eurocents per minute) and there is 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.

We think that should BaK be 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, whereas symmetry between MTR and FTR can be introduced in each member state as soon as possible. Due to regulatory protection, mobile operators and therefore integrated operators are exempted from competitive pressures in the fixed markets, but are able – at will – to dominate business models in the fixed environment due to extra margins from MTRS (above marginal cost) and cross subsidization of fixed-to-mobile product elements. Only symmetric termination rates and later BaK are able to remedy this situation

In case of market dominance, especially in the case of operators integrating fixed and mobile networks, it might be necessary for NRAs to mandate BaK and define the criteria for benefiting from BaK.

The impact of BaK on operators' businesses largely depends on their current business models and the dependence on regulatory protection (i.e. MTR). The most significant positive impact is expected, however, from the achievement of symmetric termination rates rather than the move from CPNP to BaK after symmetric termination rates between fixed and mobile operators are achieved.

While examining the properties of BaK concerning its influence on penetration and usage, the ERG has overlooked one additional important contributor. By removing the financial basis (and incentive) to define mobile retail competition mainly as a mobile handset competition, BaK serves as an important facilitator for environmental purposes. The ERG mentioned already the doubtful effect of "handset competition" on public welfare, the environmental impact of electronic waste and mining rare earths being an additional benefit of reduced handset competition.

Concerning the proposed solution for CPS we see the almost only faulty analysis in this document. With the solution proposed, CPS operators will face a worse competitive situation than today, whereas the situation of the incumbent operator will be improved. (s. Question 11). In our view, leaving the origination payment unchanged and including CPS operators into BaK arrangements will provide an unchanged playing field, as otherwise CPS operators are not able to compete with integrated operators (incumbents) due to falling market prices for calls.

QSC does support the response by ECTA, of which QSC is a member.

Detailed Remarks

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?

In a multi-service NGN environment, different interconnection regimes for different services may give host to arbitrage problems only, when an attempt is made by the NRAs to determine corresponding termination rates by (efficient) cost. As long as there is for instance a symmetric low termination rate for every operator, these arbitrage problems will not occur.

An interesting thought experiment can be made by assuming the impact of voice termination fees on the development of – competing – video telephony services. While voice operators may be reluctant to offer these services not to erode their income stream from voice telephony, video telephony may bring cost savings for consumers into the game (due to non-existence of termination rates). So existence of – simple and symmetric – termination rates for voice in an NGN environment will not lead to arbitrage, but may facilitate the development of new services and exert competitive pressures on voice operators.

BaK on the other hand will prevent any arbitrage from occurring if it is designed the way ERG envisages in this paper, as it does not create incentives to maximize traffic inflow or incentives to signal a higher quality (to achieve higher per-minute termination revenues if these are QoS-related).

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?

As QSC is already operating a fully developed NGN in PSTN and NGN worlds, we have two observations from our experience.

Firstly, we do not see the separation of transport and service for the interconnection regime generating such a profound distinction in the interconnection regime. As the aspect of network and customer communication security has not been discussed extensively, we would like to highlight this point. In our NGN concept, interconnection with outside networks is always done via session border controllers which protect our network and our (business) customers. So we'll see the session border controllers as the single point of entry into our network for service as well as transport interconnection.

In theory or for non-security sensitive applications a distinction between these two types of interconnection might be made. In that case, different termination rates for service interconnection (one-time fee for look-up of information concerning the IP address of the destination) and transport interconnection (data charge? structured like IP peering?) have to be set by the NRA. In this case BaK is the only viable alternative for establishing a workable interconnection solution.

Secondly, BaK is not necessarily limited to NGNs but displays its positive properties also in today's PSTN and mobile networks. So it shall and must not be confined to NGNs.

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)?

QSC agrees with the definition proposed by the ERG for the boundary of a regulated BaK domain. BaK should apply only if an operator connects to all of the Poles defined as this boundary. The minimum number of Poles 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 criteria as well as the maximum number of Poles the SMP operator may require.

For example, in today's fixed networks this may be all the POI with the incumbent network, where the local termination charge applies, in mobile networks the maximum number of switches, where interconnection services are offered.

If an operator is not able to interconnect at all of the required minimum number of Poles voluntary BaK with a transit surcharge for instance should still be possible. Equally, the SMP operator might wish to offer interconnection at more points than the maximum number of Poles on a voluntary basis, but should not be able to require interconnection at these points.

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

We fully support the findings of ERG at this point. Nevertheless, a lot of the positive potential of BaK concerning increased usage, stronger introduction of buckets etc. can also be achieved by establishing symmetric FTR and MTR. By way of enabling fixed operators to include bucket or flat plans including mobile into their product portfolio, such a move will increase usage especially in mobile network, driving down per-unit costs and competitive imbalances at the same time. It will also increase the competitiveness of the smaller mobile operators as the size of the network (quantity of customers) will no longer determine the calculation of flat rate or bucket schemes. The development of the French mobile market until the advent of CPNP may serve as a case in point.

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 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. The same would apply if a symmetric low rate for mobile and fixed would be enforced. A symmetric but low termination rate would slightly increase not legal certainty but the effectiveness of legal and regulatory regimes, as QoS will not be solely reliant on the impact on the customers of the terminating carrier, but can be enforced more easily by withholding termination payments in case of insufficient quality.

A harmonised approach across Europe including a harmonised timeframe and migration process would decrease regulatory uncertainty by reducing the possibility of diverging regulation.

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.

With a reduction in termination rates (to zero in case of BaK) the possibility of unwanted calls may rise. In any case, there are effective legal instruments counteracting this move. Whereas in case of SPAM the originator of the offending mail cannot be easily traced, today's system of number allocation provides a much better system of tracing offenders and enforcing rules of behaviour. So there is a significant difference between SPAM and SPIT, which does not allow easy conclusions.

Once sanctions for unwanted calls are stepped up in case of a significant increase in SPIT, this will lead to much better results than with SPAM.

In any case, low symmetric termination rates will decrease the incentive for unwanted calls.

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

In general, QSC does support the ERG analysis in this case. As BaK better approximates the distinct utilities of caller and called person, it shall lead to an increase in usage. With BaK calls will be made, that would have been skipped in a CPNP case due to the fact that the caller is only responding to a previous call and might be uncertain about the utility of this call.

The effect on network externalities can be discounted as penetration rates soar well above 100%. Competitive imbalances and a massive money transfer from fixed to mobile networks in the current system combine to create substantial negative network externalities. This is especially the case when massive handset subsidies and cross subsidies aimed at discontinuation of the fixed network connection serve to decrease usage of the fixed network, thereby idling capacity (ULLs) that could have served customers. The discontinuation of the fixed connection will then force every caller of the said person to terminate the calls onto a mobile network, increasing the costs of the call, decreasing the usage and generally shifting income from users of other networks to mobile network operators.

Therefore CPNP with asymmetric termination rates between fixed and mobile today has a significant negative impact on network externalities by artificially reducing the usage of fixed networks and redistributing income towards a restricted group of carriers.

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.

Unfortunately, this calculation cannot be delivered in the short period allowed for. The calculations are especially complex, as a move from CPNP to BaK will affect all players in the market and provide feedback loops for the own situation.

Looking into couple of scenarios one can establish a general trend, however. Under the assumption, that BaK will only be introduced between fixed networks and between mobile networks, but not between fixed and mobile networks, the out come is quite clear. Fully integrated operator with fixed and mobile networks will be the only survivors in the short term, as they will be able to play in both worlds and secure zero termination costs with parallel substantial termination revenue streams. This situation will be even worse than the current situation, where these integrated operators will internally subsidize resp. take advantage of low marginal mobile termination costs to offer fixed-mobile integrated products which cannot be replicated economically and technically by other non-integrated operators.

As the number of mobile operators is restricted in most member states to frequency holders (no full MNVOs), this will automatically reduce fixed network competition to these operators, too. Therefore, BaK only within fixed and mobile networks is a recipe for even faster disaster for competition as today's CPNP with asymmetric rates.

Assuming in contrast an implementation of BaK over all networks irrespective of reciprocal traffic volumes, the impact on QSC will be much more favourable. In the short term, termination revenues from or own fixed business will disappear. In addition, revenues derived from other voice services will fall, too, due to disappearance of MTR especially. On the other hand. In the medium and long term, this fall in revenue derived from voice will be replaced by a more sustainable revenue stream from broadband connections, VPNs and additional services, as QSC will no longer be required to adjust its products and calculations for MTR-subsidized offers from fully integrated competitors. We do not foresee a significant change in our 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.

In case a low symmetric termination rate between fixed and mobile operators is set, QSC will not experience a significant reduction in termination revenue as fixed termination rates are already very low. On the other hand, the positive effect of removing the capacity of subsidization from MTRs will also be encountered in this scenario, as the out payment towards mobile operators will be significantly reduced. Also in this scenario as in BaK above, new products combining fixed and mobile networks can be launched by fixed operators, increasing the competitive pressure in telecoms in general.

Under the assumptions described above, the move from CPNP (with asymmetric rates) to CPNP (symmetric rates) and especially BaK will provide long term beneficial effects for QSC.

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. Increasing the size of the domain will diminish this effect already. Additionally, the out payment for termination services is only one aspect, if the results for users of different states and the respective economy are to be analyzed. The existence of a more efficient way of structuring termination services may also lead to the development of

innovative services within the BaK domain, offsetting the slight “subsidy” in its economic importance.

Subsidisation problems are likely to be more pronounced if BaK is applied in only one or few isolated countries. 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.

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. The process can easily start with the next round of market analyses by introducing symmetric rates between fixed and mobile networks, providing a glidepath that may lead already to voluntary BaK arrangements.

Nevertheless, with this first step NRAs will reap a significant part of the beneficial effects of BaK concerning competition and network externalities, providing a breathing space for the harmonised migration process across Europe.

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

As mentioned above under question two, the element of network and customer security and its influence on network design and therefore interconnection design has not been analyzed so far. Nevertheless it might reveal certain insights, especially concerning transport and service interconnection.

Concerning CPS, QSC is not able to support the analysis of ERG. A net-cash examination is not sufficient to capture the necessary implications. In our view, BaK will entail a movement to bill certain parts of network cost (for termination) on the end customer. As CPS operators do not have this ability, they do only have the “sticker price” for their services. In a BaK world, integrated operators will – due to non-existent termination costs – reduce the costs for outgoing calls, thereby increasing usage (and reducing cost-per-unit). If CPS operators have a surcharge imposed on the origination fee, they will not be able to reduce the price for outgoing calls (their only product), so they will be at a significant disadvantage. On the other hand, the incumbent operator will not only receive the current origination fee, but in addition to the fees billed towards its own (termination) customer a significant extra amount of income. With this extra cash not accessible it will be able to tilt the playing field against other integrated operator, which do not have access to this extra revenue.

In analyzing the correct response towards CPS operators, it is absolutely necessary to be clear about the assumptions. If, on the one hand, BaK implies a certain shift of revenue generation from termination services from other carriers towards the own subscriber, the effect of a surcharge on originating calls will disastrous for CPS operators and negative for alternative integrated operators. If, on the other hand, the simple setting of termination fees to zero is not offset by increased revenues from subscribers but increased prices for outgoing calls, then a surcharge on originating calls is necessary. But only then.

About QSC

Cologne-based QSC AG (QSC) is a nationwide telecommunications provider with its own broadband network, offering businesses of all sizes and premium residential customers a comprehensive portfolio of high-quality broadband communication options. QSC implements complete enterprise networks (VPNs), including managed services, operates voice and data services on the basis of its Next Generation Network (NGN) and provides leased lines in a wide variety of bandwidths - ranging all the way to 400 Mbit/s via microwave technology. In the Wholesale line of business, this network operator additionally supplies national and international carriers, ISPs as well as strong marketing partners in the residential customer market with unbundled DSL upstream products. QSC operates on a nearly nationwide scale, connects over 200 German cities with populations of more than 40,000 and currently employs a workforce of 700 people. QSC is listed on the TecDAX.