

Wholesale mobile voice call
termination – preliminary
consultation on future regulation

UKCTA Response to Ofcom Consultation

Submitted to Ofcom: 30th August 2005

UKCTA is a trade association promoting the interests of competitive fixed-line telecommunications companies competing against BT, as well as each other, in the residential and business markets. Its role is to develop and promote the interests of its members to Ofcom and the Government. Details of membership of UKCTA can be found at www.ukcta.com.

Introduction

The price of mobile call termination has been a major issue in telecommunications for years. Historically mobile termination rates have been much too high and operators have used the revenues from these to cross subsidise their retail rates. While this may not have led to supernormal profits for the mobile operators it has resulted in an inefficient transfer of economic resources from the fixed to mobile sector. It has taken many years to implement regulation to reduce the extent of the problem but Ofcom must not stop here; a regulatory policy must be implemented that continues to address the issue of high termination rates and in particular prevents the issues getting worse as we move to 3G technologies.

UKCTA support Ofcom in its desire to find a structural solution that would remove the underlying causes of SMP in this market. If such a solution meant that competitive forces provided an effective control on termination rates that would be preferable to the complexities of Ofcom setting charges. We believe that there may be a structural solution that could work at some point in the future but all those considered here have major implementation issues associated with them. Ofcom is right not to attempt to implement such solutions as this time.

The implementation issues associated with these solutions are such that the best chance of success would be if the mobile network operators (MNOs) themselves support the solution. Currently the incentive for them is not there, they still enjoy vast income from excessive mobile termination rates. If Ofcom wants the MNOs to

be proactive in the development of a structural solution then they must first remove the benefits from the existing structure.

The alternative to a structural solution is continued regulation; at least for the medium term we believe that this is required. In view of the history of mobile termination in recent years and the complexity involved in allocating the costs we believe that this must include a formal charge control. That charge control needs to cover call termination on 3G networks as well as 2G.

The justification for the introduction of 3G networks is primarily the ability to provide new services using the increased bandwidth available rather than to simply carry basic voice calls more effectively. Many of these new services are not yet defined and yet the key to any cost modeling exercise required to support a charge control would be the way that costs are allocated to different services. This makes the development of such cost models an extremely difficult task.

In the long term we expect that the greater volumes, particularly driven by data services, will result in the costs of voice on 3G networks being less than the costs using 2G networks. However, in the short term the requirement to operate two networks will introduce much inefficiency and this can be considered part of the implementation cost of 3G. It is important that such costs are not allocated based upon short-term volumes on the network; to do so would almost certainly result in voice bearing an unjustifiably large portion of the costs. Instead these costs need to be allocated based upon where the anticipated benefits of 3G lie.

The exact nature of the charge control and in particular the way it deals with the migration from 2G to 3G is likely to be very complex and result in much debate. Therefore we welcome this opportunity to discuss the issues within the industry. We would also welcome the opportunity to discuss some of the cost allocation issues further while the 3G modelling exercise is in progress.

Answers to specific questions

Question 1: *Could RPP principles be made to work to the advantage of consumers in the UK? If so, how?*

We believe that RPP could be an effective structural solution but it does have several drawbacks. There is the possibility for different forms of RPP, the most obvious is the scenario where subscribers explicitly pay for received calls. However it is also possible to have a scenario where the cost of incoming calls is recovered in the price of outgoing calls, sometimes referred to as 'bill and keep.' Such a scenario may come about as a result of market forces but it could cause significant issues if it results in customers choosing to use their phones for receiving calls only.

One of the common problems cited is that explicit RPP discourages people from keeping their phones switched on, or answering calls, because of the cost to them of receiving calls. Clearly the person making the call can judge the value of the call in advance and decide whether it is worth the cost. However, the recipient will typically not be able to value the call even if they know who is calling. This is a drawback and it is very likely that it has slowed the take-up of mobile telephony in some markets. The fact that mobile usage is so established in the UK and the scale and competition gives the potential for relatively low call charges suggests that maybe the issues would not be as significant if adopted here however they would still be present. Whilst some people are likely to consider that the person benefiting from being contactable wherever they are located should pay for this flexibility others will clearly prefer the existing system.

Implementation of RPP would require some co-ordination in terms of the timing as if one operator chose to start charging for received minutes they would be at a significant competitive disadvantage to those that did not. Currently, as Ofcom's research has shown, people are not particularly sensitive to the cost of calling them and so if MNOs started charging them for incoming calls it would be seen as a price

increase. Implementation could be via a 'big bang' approach or a more gradual approach where Ofcom tightens the charge control over time. While the latter may appear more attractive it could result in a very long period of disruption and confusion whereas the former may be too complicated to be practical.

Whatever the implementation approach we think it likely that any move to RPP would be unpopular. Mobile users would be likely to see such a move as causing them to have to pay more and it would be difficult for them to reconcile that with the benefit of Ofcom no longer having to set mobile termination rates.

Question 2: *Is it realistic to believe that a competitive market for wholesale termination of voice calls could be made to operate successfully. How might such arrangements work?*

An alternative to the RPP concept would be to open up mobile handsets so that any of the mobile operators could use their own network to terminate calls to any mobile handset. Mobile handsets can communicate with multiple networks as they do when the user is roaming abroad but in that example the control of the call still remains with the particular customers 'home' network. For this to be effective the HLR would have to either be opened up or duplicated by each network.

If it were practical to do this and then any mobile network could terminate a call to any handset then other communications providers could negotiate with all the network operators for the termination of all their mobile traffic. This could result in a competitive market for call termination if the mobile operators chose to embrace it.

A technical study would be required to understand the possible solutions and issues in more detail. However, we doubt that such a solution would be practical with current technology as a handset can only be associated with one network at a time in the roaming scenario. There would be other issues including: the impact upon

other services such as call diversion or in-call functionality, whether the arrangement would be extended to outgoing calls too, how multiple networks would monitor the state of the handset and the impact on handset battery life. We think that it would not be practical to overcome these issues but Ofcom may wish to consider commissioning an independent technical study to investigate them further.

Even if such a solution is practical it would not work for all calls, if the user is abroad or unavailable and the call needs to go to voicemail the call would still need to be handed to the users' 'home' network. The potential for SMP would still exist for these calls, but now the negotiation for charges would be between two MNOs, each with the requirement to terminate calls on each other's networks. This should provide enough leverage to ensure charges are reasonable but there would still be the potential for problems if volumes were not reasonably balanced.

Question 3: Is VoIP likely to have a significant impact on the market for mobile voice call termination during the period to 2010? What are the possible obstacles to this outcome and how might industry or Ofcom overcome these?

The transfer of data over mobile networks has now started to become more popular and typically the commercial structure for this looks much more like RPP where the user pays for bandwidth used, irrespective of whether it is incoming or outgoing. This, coupled with the fact that voice communication can be achieved using relatively little bandwidth compared with many other applications means that VoIP does have the potential to offer a structural solution.

For VoIP to become an effective solution to the problem a number of things would have to happen:

- Applications would have to be available that made VoIP as easy to use as normal telephony and that offer an appropriate level of quality

- substantial take-up of 3G services with devices capable of supporting the applications would be required
- the cost of VoIP would have to be sufficiently attractive to encourage its usage instead of traditional mobile telephony. We note that the transmission of 'presence' information by many existing VoIP applications adds an overhead that means currently VoIP is not as cheap as it might appear

These factors are inter-related and they are clearly a long way off, we think it highly unlikely that VoIP could have a major impact much before 2010. These issues also relate to the general take-up of VoIP rather than that specifically aimed at bypassing call termination. As Ofcom's research has shown we do not believe that, in general, mobile users are sufficiently concerned by the cost of calling them to take the necessary steps to enable others to use VoIP purely as a means of calling them.

However, it should be noted that it is not in the MNOs commercial interests to allow VoIP to be used to bypass traditional voice and hence their voice revenues. There are several options at their disposal to prevent such usage:

- MNOs are able to identify VoIP packets and block or degrade the quality, they could for example do this for customers on packages that only contained a small volume of minutes
- MNOs could price their data rates such that they are cheap within their own 'walled garden' but more expensive beyond that – and hence for VoIP calls
- MNOs could price different classes of data differently so that in order to guarantee voice quality bandwidth users need to pay higher rates than for download services

It is likely that Ofcom would have to implement other specific regulation to ensure that VoIP services are able to put effective pressure on mobile call termination rates.

Question 4: *Are there other options, not considered elsewhere in this consultation document, for removing the underlying causes of SMP?*

Ofcom identifies various other potential solutions to overcome the source of SMP in mobile termination but we do not think any of the others offer serious potential. We are not aware of any other solutions.

Question 5: *Do you believe, on balance, that a retail-minus approach to setting wholesale prices would be advantageous?*

In theory retail prices form a useful benchmark for setting wholesale termination rates as to do so would prevent the MNOs from using termination revenues to subsidise retail rates. The rates would then be subject to the same competitive pressures as are already seen in retail tariffs.

In particular it would help correct some of the economic distortions resulting from the disparity between some retail charges and the mobile termination rate. The most serious of these distortions existing today are:

- The incentives to make mobile-to-mobile calls when fixed-to-mobile calls would be more efficient;
- The incentives to use GSM gateways to reduce call termination charges (which is both an inefficient use of resources and penalises law abiding operators);
- The use of MVPNs for fixed-to-mobile calls when in fact regular fixed-to-mobile calls would be more efficient.

However, before this option can be recommended, a number of details require consideration. The most important are 1) the choice of retail tariff on which to base the price control; and 2) the level of the 'minus'

With regard to the choice of tariff, one option would be to use the lowest on-net retail mobile-to-mobile tariff. However, on its own this would ignore the fact that in a properly functioning market, wholesale mobile call termination charges would be significantly below the retail on-net charge because the costs of an on-net retail service involve both originating and terminating legs and a contribution towards the costs of providing retail service. Therefore the adjustments required to turn this rate into a wholesale call termination rate, either through the use of an appropriate 'minus' or breaking down the retail rate into various hypothetical constituent parts, would be complex and open to much debate.

Another significant issue with the use of this or any other retail rate is the existence of bundled pricing where low rates on specific call types are offset by the usage of other more profitable services such as SMS, roaming or other call types. Once again this complicates the selection of the appropriate tariff and any subsequent adjustment to take account of bundled pricing would inevitably be subjective.

Therefore, the variety of retail rates and opportunities to package additional services mean that in practice it is hard to see how it could be made to work. We would also be concerned that an approach could be found that would effectively circumvent the control.

Question 6: *Do you agree that asymmetric regulation of voice call termination, which is applied only to termination on 2G networks, will cease to be effective as the proportion of calls terminated on 3G networks grows?*

The current regulation will cease to be effective, the commercial pressures of competition will cause MNOs to look at charging higher rates for wholesale termination if they are allowed to do so. It only requires one established operator to increase 3G termination rates and use them to cross-subsidise retail prices and the others will be forced to follow.

Currently H3G are not subject to a charge control and their termination rates are approximately twice those of Vodafone and O2. The other MNOs are likely to think that it is 'fair and reasonable' for them to charge similar rates to H3G for 3G call termination. Regulation to deal with this issue is required.

Question 7: *Do you believe that asymmetric regulation of mobile voice call termination, which applies only to termination on 2G networks, will create material incentives to terminate calls on 3G networks. If so, how easily could MNOs develop the technology necessary to follow these incentives?*

If the MNOs believe that their ability to charge more for 3G termination will endure then it is likely that it will influence their decisions, particularly relating to the extent of usage of 3G networks

The specific issue discussed by Ofcom, where operators programme the way handsets choose between 2G and 3G networks depending upon interconnect rates, could be an issue. However, it seems logical that 3G handsets make use of 3G networks where they are available so it is not clear that there would be regulatory distortion

Of more concern is that the ability to charge more for 3G termination may cause the MNOs to cross-subsidise 3G retail tariffs with termination rates in order to speed up adoption. Then, use the higher 3G termination rates to speed up the rollout of 3G base stations. While faster roll-out of 3G phones and base stations is not a bad thing it is not acceptable that it should be funded by artificially high call termination rates. The business case for 3G is based upon the higher bandwidths and additional services that it offers and so it is not appropriate to use basic call termination, that could be achieved just as effectively on existing networks, to justify the rollout. That would be regulatory distortion.

Question 8: *Would it be reasonable to require that charges for mobile voice call termination (2G or 3G) are no higher than the cost based charge for the more efficient form of termination? What are the risks and advantages of this approach? If that course of action was adopted, how should that be applied to an MNO with no 2G network of its own?*

Today's 2G mobile networks have proved to be perfectly adequate for the provision of mobile telephony, the case for 3G is not the ability to handle voice calls more effectively instead 3G is expected to support more advanced services in addition to voice. Such services should be the primary basis of the case for 3G investments. However, clearly it would not be sensible to retain two networks and so ultimately all customers, irrespective of whether they make use of advanced services, voice only or a combination will be supported by 3G networks.

If call termination makes no use of the enhanced capability of the new 3G networks then there is a strong case for the argument that the regulated charges for call termination should be no higher than the cost were the calls continued to be carried over the 2G network. However, there are some important points that should be considered. Firstly, it can be expected that eventually the cost of voice, as a relatively low bandwidth application, will be significantly cheaper using 3G than it currently is using 2G and other operators will want to take advantage of that. Secondly, although it is not possible in practice to split services between networks in a way that voice termination stays on the 2G network while retail services are on the 3G network such an arrangement would significantly reduce 2G volumes which would increase costs from those observed today.

It could be argued that if other operators are to receive the benefits of future efficiencies of the 3G networks then they must also contribute towards the costs of implementation. There is merit in this argument, but those costs would have to be apportioned according to the benefits. At this stage we do not understand how

significant those benefits will be or by when they will become relevant and so it is hard to see how much of the implementation costs should fall to call termination.

If only the most efficient technology is used to set charges without taking into account an appropriate share of implementation costs then the risk is that the deployment of 3G networks are held back by regulation. If too much of the implementation cost is allowed to be recovered in 3G charges then the result will be an economically inefficient transfer of funds from the fixed into the mobile industry.

Ofcom have recognised the need for new entrants to be given some assistance to allow them to achieve a position of strength upon which they can then compete effectively where there are long term advantages of that competition. For example H3G is not currently subject to price control. This is short term relief, at some point in the future it will be appropriate to regulate call termination to their customers too. The levels for those charges should ultimately no different to those for the combined 2G/3G operators.

Question 9: *On what basis could a single charge control, to apply to both 2G and 3G voice call termination, be calculated?*

One option is to use the costs of terminating calls on the most efficient network to set the charge control for all calls ignoring the practicalities of having to run two networks in parallel for some time. We believe that this option could artificially hold back roll-out of 3G networks and services behind the efficient rate.

A second option is to use the costs of terminating calls on the most efficient network to set the charge control for all calls but including an allocation of some of the implementation costs (i.e running two networks in parallel) as discussed in our answer to question 8. The calculation of the costs of the 3G network and, in particular, allocating implementation costs between voice and other services would

be very complex. However, if it could be achieved this would be our preferred option.

A third option would be to use a blended rate of 2G and 3G costs depending upon an anticipated efficient migration. In this scenario it would still be important to find an appropriate method of allocation of the costs between voice termination and other services. It would also be necessary to effectively apportion common costs between 2G and 3G networks as a number of the costs will be shared. Again this would result in very complicated cost modeling but it could also be an appropriate approach.

It is the allocation of implementation costs (such as dual running of networks) in the 3G network that is most crucial. If those implementation costs were allocated on the basis of revenue they would tend to be allocated mainly to voice services in the early years. Such a solution would make the third option unacceptable as it would result in basic voice termination subsidising the rollout of advanced networks that could then be sold by the MNOs to their customers only. It will also be necessary to consider the recovery of costs over time, the reality of 3G investments are that they are long term and it is future advanced services where the returns can be expected to be achieved. The allocation of the implementation costs of 3G must be done on the basis of where the benefit lies.

Question 10: *Should mobile termination of mobile originated calls be subject to lighter regulation than mobile termination of fixed network originated calls? If so, what form might that regulation take?*

Absent any mobile regulation the negotiation between MNOs for the termination of their traffic is very much a two way process, as each party has traffic to send to the other. Where all MNOs are of similar size it is likely that no regulation would be required. This is different to the fixed to mobile scenario where the fixed operators

are constrained by regulation on their own termination rates and hence are not be able to negotiate effectively with mobile operators.

In practice the five mobile networks are not all of similar size, and it cannot be certain that they will be in the future, therefore some level of regulation is likely to be appropriate. Given that, and the fact that effective regulation for the fixed to mobile scenario is essential, we believe that the most sensible and efficient solution is to treat them both the same.

Question 11: *Is it appropriate for Ofcom to forebear from considering the imposition of regulation on termination of data services?*

Most SMS services are charged on a CPP basis but as they tend to be originated and terminated on mobile networks the need for regulation is not as important as it is for terminating voice services. However, it could be argued that SMS services would be offered by far more service providers with greater consumer benefit if they had have been regulated. If non-mobile operators find themselves unable to negotiate agreements with the MNOs for the termination of SMS services that enable them to compete with the MNOs then there may well be a case for regulation.

Other data services such as those now offered using 3G networks are typically charged for on a RPP basis and therefore the underlying cause of SMP that we see in voice termination does not exist.

Ofcom needs to monitor the progress of non-mobile operators negotiations with MNOs for data services and it must be prepared to investigate if a problem appears to exist.

-End-